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#### ARTICLE

# The Power of Racial Mapping: Ellsworth Huntington, Immigration, and Eugenics in the **Progressive Era**

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### Abstract

Racial mapping during the Progressive Era played into the political narratives of eugenic intervention and immigration restriction. This article argues that the racial cartographic work of the Yale geographer and prolific eugenicist Ellsworth Huntington was both developed within and contributed to this racist milieu. Huntington's middle-class and educated upbringing, his familial history, and his expertise as a well-travelled geographer all conspired to shape his views on eugenics, race, and immigration. By applying the critical cartographic theories of John Brian Harley, Denis Wood, Heather Winlow, and others, I show that Huntington's racial maps were a product of his cultural and political environment. The success of a map's impact was often due to maps being seen as objective depictions of spatial variation. Indeed, for Huntington they performed an essential role in communicating and portraying racial information. But, as I argue, they were susceptible to bias, misunderstanding, and intentional manipulation. I show that Huntington's maps are not accurate snapshots of reality, but rather cultural texts or rhetorical images intended to create a narrative and convince the reader of a particular subjective point of view.

Keywords: Ellsworth Huntington; race; eugenics; immigration; cartography

Ellsworth Huntington's legacy within geography's history has been firmly established.<sup>1</sup> His geographical, climatological, and cartographic studies influenced a generation of geographers, while his eugenic and racial studies, now completely discredited, were widely read.<sup>2</sup> It is this intersection of his geographic and eugenic work that is of interest in this article. Victorian polymath and half cousin of Charles Darwin, Francis Galton coined the term eugenics, meaning "good in birth," in 1883, though his eugenic ideas stretched back to the 1860s. Although his definition was fairly nebulous, he intended that eugenics would encourage "judicious mating" in order to "give the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable." 3 Galton

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separated eugenics into two distinct programs. Positive eugenics was the process of increasing the number of highly talented offspring, while negative eugenics discouraged the reproduction of so-called "undesirables."

For many eugenicists "undesirable qualities" fell within their shifting racist, classist, and nationalist anxieties.<sup>5</sup> The hereditarian basis of the eugenic doctrine meant that not only were physical characteristics thought genetically determined, but so, too, were many psychological, moral, and intellectual traits. As such, undesirable populations included, but were certainly not limited to, the poorer classes, people of color, criminals, and those suffering from mental and physical disabilities. A convenient target group for Progressive Era eugenicists were immigrants who they often negatively portrayed as bringing with them these undesirable traits.<sup>6</sup>

Eugenics was an early, scientifically supported attempt at large-scale social engineering, and it had the support of a diverse range of respected scientists, prominent intellectuals, and political leaders. In Britain, then Home Secretary Winston Churchill was vice president of the First International Congress of Eugenics in 1912; W. R. Inge, the Dean of St Paul's, thought that "degeneration" could be halted by the application of eugenics; and geneticist Ronald Fisher was the Galton Professor of Eugenics at University College London. In the United States, Alexander Graham Bell was a member of the American Breeders' Association (often recognized as the first eugenic body in the United States); paleontologist and president of the American Museum of Natural History Henry Fairfield Osborn presided over the Second International Congress of Eugenics in 1921; physician and businessman John Harvey Kellogg cofounded the Race Betterment Foundation; and founding president of Stanford University David Starr Jordan served on the Committee on Eugenics of the American Breeders' Association.8 So to refer to eugenics simply as a pseudoscience is, as the British historian Nancy Stepan convincingly argues, "a convenient way to set aside the involvement of many prominent scientists in its making and to ignore difficult questions about the political nature of much of the biological and human sciences."9

Huntington was a member of this elitist coterie, and by scrutinizing his cartographic work, I situate his use of cartography in the broader context of the American eugenics movement. I search for the social, intellectual, and political influences that shaped its conception, construction, and circulation. Drawing on the works on John Brian Harley, Denis Wood, Heather Winlow, Jeremy Crampton, and others, I show that racial maps—Huntington's in particular—should be understood as more than objective spatial depictions of human variation. Rather they are, as the American Geographical Society librarian John Kirtland Wright (1891–1969) noted, "a reflection partly of objective realities and partly subjective elements," and thus should be viewed as culturally embedded images, reflecting the time and place of their construction.

Many racial maps similar to Huntington's are still in dusty university archives or in recently digitized books, and some may adorn the walls of cartophiles or enthusiastic historical geographers. As material artifacts they capture a historical *zeitgeist*, providing the historian with the opportunity to delve deeper into the *leitmotif* of the Progressive Era: racial essentialism. Progressive Era racial geographers and eugenicists believed that maps helped them structure their arguments in material format to strengthen their subjective narratives of racial delineations. <sup>12</sup> Indeed, as David Harvey has noted, maps were historically a prerequisite to the spatial structuring of knowledge, particularly within academia. In this sense, they are more than simple articulations. They are a method of knowledge transfer, the movement of intellectual capital between hegemonic platforms for the purpose of either maintaining the status quo or advancing a particular ideology. <sup>13</sup>

Maps in this regard provide geographers with useful examples of historical embedded practices—an issue addressed by the Historical Geography Research Group in 2015. While for their creators, maps acted as mediators "between an inner mental world and an outer physical world," for the geographical historian these maps, relatively untapped as historical sources, shed light on the political, cultural, and scientific contexts of their creation. <sup>14</sup> Indeed, as Denis Wood notes, maps "facilitate the reproduction of the culture that bring them into being." <sup>15</sup>

This article begins by providing a brief biographical background of Huntington, shedding light on the cultural and scientific origins of his intellectual pursuits. Then, after reflecting on how human racial and ethnic differences were interpreted and represented by some of Huntington's contemporaries in the Progressive Era, the article interrogates Huntington's racial mapping in particular. That being said, the main contribution of this article is not archival; it does not bring to light some never-beforeseen map to be scrutinized. Instead, it is perspectival; it shows a relatively familiar history in a new light by situating Huntington's maps within the social, cultural, and political processes that impact their creation. As maps have always been a symbol of how we see our world, a careful unpicking of Huntington's cartographic depictions allows us to see the world through his eyes and via his motives. So I demonstrate how maps, as Harley puts it, "speak' about the social worlds of the past." Thus, Huntington's cartographic work provides us not only with an appropriate and intriguing insight into the intellectual connections between academic geography and eugenics, but also with the potential to reveal the degree to which his works were rooted in the socio-political climate of the Progressive Era. In addition, this paper discusses what meanings we can extract from cartographic artifacts. It analyzes the conception, construction, and circulation of these racial maps, and reflects on the cultural-political contexts, personal agendas, and the socio-scientific response. It shows that maps are at the same time essentialist and generalized, objective and subjective, artistic and scientific, symbolic and representative, detached and socially embedded.

## **Ellsworth Huntington**

Ellsworth Huntington was born on September 16, 1876, in Galesburg, Illinois. He was an eighth-generation English immigrant. His father, Henry Strong Huntington, was an ordained minister of the Congregationalist Church who maintained strong, unbroken ties with his East-Coast ancestry. After living in Gorham, Maine, and Boston, Massachusetts, he moved to Wisconsin to attend Beloit College to study geology, chemistry, and physics.<sup>17</sup> Graduating in 1897, he told his father that he wanted to travel to "the uncivilized parts of the world." Between 1899 and 1901, Huntington availed of every opportunity to explore Eastern Europe and the Middle East. He participated in an archaeological expedition to Armenia with the German historian C. F. Lehmann, a geological excursion to Lake Goljek in Slovenia, and a trip along the Euphrates River to map its course. 19 In 1902, he assisted the pioneering geologist and geographer William Morris Davis on the Carnegie-funded Pumpelly Expedition to Central Asia. That experience, along with an excursion through Tibet and India, fundamentally shaped his views on the impact of climate on the evolution of civilization. Before returning to the United States to enter a master's course at Harvard, he read James Geikie's book The Ice Age and its Relation to the Antiquity of Man.<sup>20</sup> Geikie aimed to trace out the history of great climatological changes, especially glacial epochs. This introduction to the study of climatic changes gave Huntington the intellectual ammunition to investigate more deeply the relationship between humans and their physical environment—a topic he expanded on in *Pulse of Asia* (1907).

In the same year that Huntington completed *Pulse*, he took up the position of instructor at Yale where he stayed for his entire career. When he arrived at Yale, he submitted several of his previous papers for consideration for his PhD. After failing his first attempt, he was awarded the degree in 1909—making him just the third person to be awarded a PhD in geography at Yale after Ruth Sawyer Harvey (1908) and Isaiah Bowman (1909). By this time, Huntington was a well-established geographer. *The American Geographical Society, The Journal of Geology, The Geographical Journal*, and *Popular Science Monthly* published many of his articles. The Royal Geographical Society awarded him the Gill Memorial medal and the Harvard Travellers Club the gold medal. Two other major publications followed in 1911 and 1912, both emphasizing his interest in the geography and racial history of Asia.<sup>21</sup>

To be sure, Huntington's observations during his travels through Europe and the Middle East forged his views on race and civilization. But so too did his upbringing in the wealthy Boston suburbs and his time at Harvard. Huntington's family history can be traced back to 1633, when Simon Huntington from Norwich, England, arrived in Boston, Massachusetts.<sup>22</sup> His pride in his Anglo-Saxon heritage was consistently reinforced during his time as a student at Harvard, partly because of "the institutional foundations of immigration restriction [that] was explicitly carved into the Harvard intellectual creed."23 Here, the influence of the racial and evolutionary work of Nathaniel Southgate Shaler was felt. Shaler, along with the climatologist Robert De Courcy Ward had become leading figures in the Immigration Restriction League of Boston, which employed eugenics and racism to contest the open doors immigration policy of the era.<sup>24</sup> Shaler, for instance, accepted the commonly held assumption that "American institutional democracy rested on Anglo-Saxon foundations."25 The changing patterns of immigration gave him pause for thought as he believed this "new wave" "lacked the racial credentials for making American citizenry."26 The university quickly became the "brain trust of eugenic thought."27 The garden-variety racism that was already deeply rooted in latenineteenth-century academia was, during the Progressive Era, given added intellectual clout by the growing scientific respectability of eugenics and race science.<sup>28</sup> Huntington's emerging interest in the evolution of racial character aligned to this.

It was at this point—from the 1910s onward—that Huntington devoted much of his time to bringing together his expertise in geographical investigation and his growing interest in racial history and eugenics. He depicted the movement and evolution of different races as contemporary issues for Americans, and he linked it to the new waves of immigration, the closing of the American Frontier, and the perceived overcrowding of urban areas.<sup>29</sup> His subsequent publications reveal a typical Progressive Era obsession with applying rationalist and scientific answers to perceived social questions of race, ethnicity, and immigration. Indeed, Huntington realized that in the first decades of the twentieth century the public were receptive to eugenic ideals. The progressive opposition to laissez-faire individualism provided the ideological groundwork on which the explanatory power of science and the legitimacy of social control through expert management could be built.<sup>30</sup> Eugenics, with its promise of social and biological betterment, found fertile soil. And eugenics and progressivism were complimentary, but the racist landscape exposed the very real tensions and ambiguities within progressive ideology itself.<sup>31</sup> While racism was by no means a progressive invention, the intellectual and scientific bolstering of racism,

and the advocation of state and national legislation based on race were very much progressive sentiments.  $^{32}$ 

# **Eugenics and Race**

William Zebina Ripley's (1868–1941) important *The Races of Europe* (1899) was one of the most influential and widely-read racial taxonomies of the period.<sup>33</sup> Ripley believed that race was a critical component to the understanding of human history. Using anthropometric data and the "mainstay of anthropometry" cephalic index, he classified Europeans into three distinct races: Teutonic, Alpine, and Mediterranean, each with distinct physical, cultural, and mental traits.<sup>34</sup> Huntington embraced this tripartite racial schema. Cephalic index (cranial measurements that were often used to classify physical and, indeed, psychological categories) as a measure of racial difference was also integral to British geographer Thomas Griffith Taylor's investigations into historical migrations, and the U.S. anthropologist Roland B. Dixon's work on racial history—both of whom influenced Huntington's opinions on immigration and racial type.<sup>35</sup> But it was Ripley's work, grounded in post-Darwinian thought, which added substantial weight and legitimate scientific credibility to the white-dominated scholarship on race, immigration, and social engineering.

In the 1890s, several immigration restriction groups sprang up along the East Coast. Perhaps the most influential was the Immigration Restriction League of Boston. Founded by a small group of Harvard elites, including the lawyers Charles Warren and Prescott Hall, and the geographer and climatologist Robert DeCourcy Ward (who incidentally was Huntington's PhD examiner), the league advocated and worked for "the further judicious restriction or stricter regulation of immigrants."36 Many eugenicists, Huntington included, believed that the "faraway" was transfiguring the "nearby"; that local values and biologies were being displaced and replaced; and that a national culture, indelibly marked on the souls of white Americans, was being slowly and insidiously erased. Often referred to as "race suicide," a term that stoked nativist fears over the "racial enervation of indigenous white Americans," this was typical of what the Northern Irish historical geographer David Livingstone calls the "racial neurosis that dominated New England minds."<sup>37</sup> The group grew in prominence in what was a hotbed of racist theories in the decades around 1900. Their concerns chimed with Huntington who, combining elements of racial essentialism with his understanding of geography and bioclimatology, fell in line with a number of eugenicists who were concerned with the current trends of immigration.

Though race was integral to eugenic thinking, it was, of course, not the only anxiety for eugenicists. The topics for discussion at the Second International Congress of Eugenics in 1921 provide an insight into the concerns of the international eugenic community. While French biologist Lucien Cuénot spoke on the topic of genetics and physical adaptation, Norwegian organic chemist Jon Alfred Mjøen discussed his work on the "disharmony" of "matings or crossings," and Mexican physiologist José Joaquín Izquierdo gave a talk on genealogy, other presentations focused on, among other things, the variation within plant types, the role of education, and the impact of war on birth rates.<sup>38</sup> Another point of interest for eugenicists was public health; historian Martin Pernick has shown that public health associations and eugenic societies often shared common goals and personnel.<sup>39</sup> But it was race, and its overtly aesthetic nature, that gained more notability and indeed political traction as it moved beyond the confines of the rather esoteric scientific texts. The

popularizing work of two of Huntington's contemporaries in particular did much to attract the public's attention: Madison Grant (1865–1937) and Lothrop Stoddard (1883–1950).

Lawyer, philanthropist, and former Yale student Madison Grant's work, *The Passing of the Great Race* (1916), which went through four editions and was widely taught in universities, built on the racist writings of W. Z. Ripley and Arthur de Gobineau. <sup>40</sup> Brian Regal argues that by using these works as authorities, Grant was able to cloak his nativism and outright racism in "anthropological respectability." <sup>41</sup> This early attempt at a biohistorical analysis of Europe resonated with Huntington since it was as much a polemic on immigration restriction as it was on eugenics. Indeed, Grant's racism was fundamental to Huntington's growing restrictionist anxiety. Grant's later publication "America for the Americans" made similar pronouncements. <sup>42</sup> Concerning this article, Huntington said, "I believe that by rigid restriction of immigration and the application of the best eugenic practices, America will not only benefit enormously but will do infinitely more good for the world than it can do in any other way." Ominously he continued, "If we can once show what can be done by the proper kind of racial selection, the rest of the world may begin to learn a lesson."

Historian, political theorist, and Ku Klux Klan member Lothrop Stoddard was one of the United States' leading proponents of Aryanism—the supremacist ideology that racists often used to discriminate against minorities.<sup>44</sup> His *Rising Tide of Color* (1920), warning of the supposed threat of the "colored races" to the supremacy of the white race, and employing maps as a way of delineating racial difference on a global scale, attracted Huntington's attention.<sup>45</sup> Stoddard advocated eugenics as the only palliative for this almost inevitable peril. After reading *Rising Tide*, Huntington wrote to the publishers saying, "I feel that the subject is one of the most vital which the world is called upon to solve, and that the author seems to have gone about it in the right way."<sup>46</sup>

While Huntington immersed himself in this racialized rhetoric of the Progressive Era, as an academic geographer he was keenly interested in the influence of the climate on human evolution. His work reflected this careful balance of racialized hereditarianism and, at times, quite stark climatic determinism. While his books The Pulse of Asia (1907) and Civilization and Climate (1915) were early elucidations of the connection between historical climatic changes and their possible impact on civilizations, his later work like The Character of Races (1924) attempted to shed light on how racial mixture, natural selection, and migration shape the "character of races or racial stock." <sup>47</sup> Indeed in his final major publication Mainsprings of Civilization (1945) he attempted to reconcile these ostensibly disparate branches by analyzing the role of both the physical environment and biological inheritance in influencing the course of history. 48 In this regard, as Livingstone argues, he was able to give the study of race a degree of academic respectability. 49 No doubt influenced by the polemics of Grant and Stoddard, and by the rising popularity of eugenics within academia throughout the 1920s, he began to realize that support for strict climatic determinism was fading. But he could never fully shake off his belief of environmental influences. In a letter to lawyer Rudolf Bertheau in 1940, he wrote:

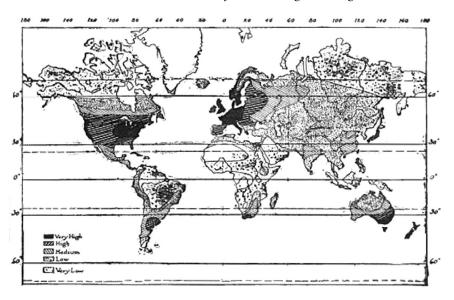
As a geographer I am a profound believer in the power of the physical environment to influence the occupation, vigor, character and achievements of nations. As a teacher and as one who eagerly desires to improve the conditions of mankind, I am an equally profound believer in the influence of education and other cultural surroundings. Nonetheless, years of studies have convinced me that heredity is just as important as either physical or cultural environment. The three are related in

much the same way as food, drink or air. All are essential. A civilization which spends billions of dollars on education but pays no attention to the heredity of its people is as senseless as a person who makes every effort to procure wholesome food, but continually drinks polluted water.<sup>50</sup>

Huntington consistently reinforced the connection between race, climate, and civilization—what Martin calls Huntington's "triadic causation of human progress."51 Drawing from the racial studies of W. Z. Ripley, the biometeorology of Edwin Grant Dexter, the anthropoclimatology of Robert DeCourcy Ward, the physiography of William Morris Davis, and the palaeoclimatology of William Diller Matthew, he sought to harmonize racial and climatic determinism. In his first major publication, Pulse of Asia (1907), Huntington concluded that "the strongest nations of the world live where the climatic conditions are most propitious ... most favorable to the progress of mankind."52 In other words, prosperity and progress occur only when facilitated by a favorable climate.<sup>53</sup> He historicized this assertion by claiming that "throughout the course of history, similar conditions of climate seem to have prevailed wherever a nation has displayed these qualities [high degrees of will-power and energy]."54 For Huntington, race, climate, and the physical environment operated hand in glove; thus, his use of cartography as a persuasive rhetorical device constituted a spatial representation of racial difference. As a result, Huntington was able to situate his racism within academic geography and evolutionary theory.<sup>55</sup> Physical anthropology and related disciplines went some way to legitimize many Progressive Era conceptions of race and racial hierarchies. The resulting measurement and classification of races allowed for the visual representations of racist constructions.<sup>56</sup> Often within immigration restriction rhetoric, geographers, race scientists, and anthropologists began to judiciously employ the stylish optics of maps as a means of presenting and reinforcing these perceived racial distinctions.

## **Huntington and Racial Mapping**

During the Progressive Era, Huntington's chief concern was that of immigration and the resultant mixing of races. 57 He warned that liberal immigration policy would lead to the "highest racial values" being "irrevocably swamped by those of lower calibre," and he bemoaned the mixture of "competent, selected stock with the incompetent, unselected stocks."58 Echoing the concerns of Stoddard, Grant, and the vocal members of the Immigration Restriction League, Huntington saw unrestrained immigration as a challenge to the established racial and cultural hierarchy. Partly as a response to this, and partly as a result of his geographical expertise, cartographic depictions of racial and cultural differences peppered Huntington's major publications. In figure 1, from Civilization and Climate (1915), later reprinted in World Power and Evolution (1919), he claimed that the contemporary centers of civilization are Central and Northern Europe, and much of the United States (dark shading). Continuing in the longstanding climatological tradition of valorizing the temperate zone, Huntington, through these cartographic representations, contended that the weather patterns of these locations were more conducive to the advancement of civilization than those in other zones.<sup>59</sup> High civilizations, such as those of the aforementioned locations, he argued, maintained certain distinguishable characteristics, such as the ability to dominate nature, to forge and disseminate new ideas, to develop political and philosophical systems, to appreciate art



**Fig. 1.** The distribution of civilization. Huntington's early attempt to display civilization spatially reveals the global and international character of his ambitions. His broad and unsubtle climatological and historical theories provided the basis for his sweeping racial generalisations. Huntington, *Civilization and Climate* (New Haven: Yale University Press, 1915), 295.

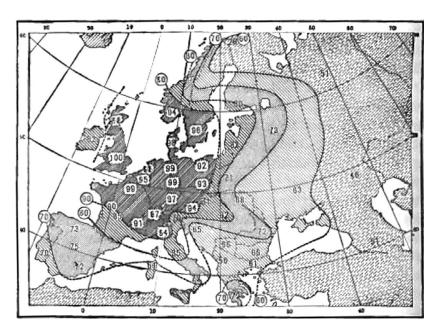
and literature, and, in an imperialistic tone, "to dominate less civilized parts of the world."  $^{60}$ 

Huntington further argued that there was a general resemblance between this map and maps that showed what he called "the distribution of energy on the basis of climate." His "faith in climate" centered on what he saw as a measurable relationship between climatic conditions and the development of civilizations. But he admitted that the "map simply gives an expression ... as to the general distribution of civilization." In that sense, it constitutes a rhetorical image, "a means for persuasion ... a discourse intended to convince." It is a white, western hegemonic understanding of civilization. Huntington paraded his maps denoting race or civilization as accurate snapshots of reality, but in truth they were subjective, reflecting the styles, opinions, and politics of their origins. This map was not simply a neutral or purely informative device; it "provide[d] the viewer with a point of view, a place in space." As John Short argues, maps of this kind are bias, partial, and selective—they are active instruments in the production of knowledge.

Huntington did not detach his views on the progress of civilizations from his racial preoccupations. He was fully committed to the notion of progress: that certain races, moral principles, or cultures are higher than those which they supersede. He tied the evolution of racial and ethnic groups, moral impulses, cultural advancement, and so-called higher civilizations to particular locations and climates; thus, inscribing them in place. Ultimately his thesis by 1920 was that "cool temperatures and variable weather promote the most advanced civilization," and that, while areas like the Nile River Valley may well have been a suitable environment for the initial growth of civilization, the climate of Northern and Western Europe was more conducive to the development of "high civilization."

His maps, like much of his work on the relation between climate and evolution, reflected the Progressive Era's obsession with codifying and essentializing racial variation. Huntington also did much to cement in the minds of his readers the interconnectedness of evolutionary history and contemporary racial politics. Indeed, his cartographics elicited a distinctly powerful narrative, in that they told of an evolutionary history that was both racial and spatial. Together with paleontologists Henry Fairfield Osborn (1857–1935) and William Diller Matthew (1871–1930), and geographer Thomas Griffith Taylor (1880–1963), Huntington was an active and influential member of what David Livingstone called the "cartographic quadrilateral" who were "united in their appeal to climate variability as the master narrative of humanity's evolutionary story." No more is this evident than in *Character of Races*, where Huntington drew distinct parallels between the distribution of racial groups and the distribution of civilization on the basis of climate. Just as different degrees of civilization had specific (although rather subjective or occidental) characteristics applied to them, Huntington characterized races too in terms of specific traits.

In figure 2 (below) Huntington ascribed quantitative values to the development of civilization across Europe. The British Isles, Central Europe, and Southern Scandinavia ranked highly, whereas the Balkans, Eastern Europe and parts of the Mediterranean ranked lower. Going to great lengths to provide data in support of his claims, he argued that the optimal conditions for physical and mental efficiency were 68°F and 80 percent relative humidity. Huntington's use of statistics to map socio-ethnic, biological, and economic variations over space was an attempt to reaffirm both history and geography's relevance to the study of people and place. Excited about Arnold Toynbee's *Study of* 



**Fig. 2.** The distribution of civilization in Europe. Huntington's immigration restriction argument rested on his belief that there was regional variation of climatological and physical conditions throughout Europe. This allowed him to quantify and rank the peoples of distinct regions. Huntington, *The Character of Races* (New York: Charles Scribner's Sons, 1924), 230–231.

History—which he later described as "a real synthesis of geography and history"— Huntington attempted to show the wider applicability of geographical study.<sup>71</sup> While receiving support from Griffith Taylor, Huntington's statistical framework, though, was not without its critics. Cultural anthropologist Alfred Louis Kroeber (1876-1960) thought that this approach might create "misleading results." 72 And W. Z. Ripley believed that applying "the geographic method to a compound of statistics and loose generalization" may be "a grave error." Nevertheless, it was images such as these that added discursive weight to ethnic and racial pronouncements. The sharp immutable lines delineating ethnic and racial groups, for instance, weren't just reflective of the national opinions concerning racial demarcation, but they often stimulated arguments against racial integration, and provided an effective visual platform from which to advocate immigration restriction policies. This was as much an effort by the map creators as it was a political or scientific statement. Christian Jacob argues that maps "project an order of reason onto the world and force it to conform to a graphic rationale, a cultural grid, a conceptual geometry."74 While critical cartographer John Pickles claims that the "cartographic gaze has coded subjects and produced identities."75 Indeed, the map's imaginary lines created socio-political realities, because to put a racial boundary on a map is to affirm the existence of such racial boundaries. And this indeed was an exercise in boundarymaking—by marking out spaces and marking out races Huntington and his cohort's exclusionary proclamations sought to maintain "strongly classified, purified space[s]."76 This perfectly captured the tension between the biological and socio-political articulations of racial difference. And it highlighted how race science during the Progressive Era often sat uncomfortably between the progressive thrust of the nineteenth and early twentieth centuries and the nativism espoused by the historical romanticists.<sup>77</sup>

Huntington, of course, was not alone in his pursuit. Some of his contemporaries embedded their geographical expertise into their interest in eugenics. Robert DeCourcy Ward, a descendent of New England Brahmins and founding member of the Immigration Restriction League of Boston, was the first professor of climatology in the United States.<sup>78</sup> In his seminal book Climate: Considered Especially in Relation to Man he elucidated the "broader facts of climate in such a way that ... the general reader may find it easier to appreciate them."<sup>79</sup> But more significantly, Ward sought to insert humankind within these climatological systems. Like Huntington's contemporaneous work on the evolution of civilization in Asia, Ward observed that within this story of climate and civilization "the racial element is often very potent."  $^{80}$  The cartographic component within his work was also persuasive. Dividing the world into climatic zones based on, among other factors, storm intensity, humidity, rainfall, and temperature, he discussed issues such as the "acclimatization of the white man in the Tropics," "the hygiene of the zones," and the impact of climate on physical and mental characteristics.<sup>81</sup> Much more of an expert in climate, Ward's work nonetheless aligns with Huntington's, not just because of the immigration restrictionist and eugenic implications that can be draw from it, but that it engages in the spatial depiction of cultural, racial, and ethnic types and their respective responses to climatic conditions.

But where Ward and Huntington gladly embraced the racist and immigration restrictionist conversations within the eugenics movement, professor of geography at Indiana University, and close friend of Huntington Stephen Sargent Visher was more concerned about the variation of intellectual ability. But as Huntington was content to quantify ethnicities and races, Visher applied a similar logic to his mapping of intelligence but on regional rather than international scale. Portraying what he called a "geography of notables," he used maps to argue that there was a definitive and measurable pattern of

intelligence.<sup>83</sup> Adopting a regionalist approach, he argued that land-use, weather patterns, and social conditions were important factors in shaping mental intelligence. Focusing primarily on the state of Indiana (incidentally the first state to pass eugenic sterilization laws), he recognized that cartography provided an attainable aesthetic for those "people who are not strongly imbued with the geographical idea."<sup>84</sup>

So Ward, Visher, and Huntington were not just connected by their geographical approaches but also by their eugenic preoccupations; all were at one point a member of the American Eugenics Society. Their liberal use of cartography was reflective of many scholars interested in the variation among humans, and they used it to reach new and receptive audiences. But, like the racial mapping of the nineteenth century, it brought with it bias, political motivations, and gross simplifications. Thus, the map as a codifier of the political state, and a rationalizer of racial difference played into the hands of the wielders of power.85 It acted as a device that made race both intelligible and manageable. Eugenicists, race scientists, and immigration restriction groups had the ear of many Progressive Era politicians and community leaders, and the political rhetoric was beginning to reflect this. Economist and president of the Massachusetts Institute of Technology Francis A. Walker relied on statistical evidence to argue that the new immigrants were replacing the older Yankees and that this was disastrous for America as a whole. 86 Later he said, "These people have no history behind them which is of a nature to give encouragement. They have none of the inherited instincts and tendencies which made it comparatively easy to deal with the immigration of olden time. They are beaten men from beaten races; representing the worst failures in the struggle for existence."87 Indiana Senator James Alexander Hemenway wrote a letter to the government on behalf of the Immigration Restriction League opining the impact of immigration on "the character of our citizenship and the standards of living of our people."88 In A History of the American People (1901), Woodrow Wilson, referring to the new waves of immigrants arriving from Eastern and Southern Europe, noted that those regions "were disburdening themselves of the more sordid and hapless elements of their population."89 And Theodore Roosevelt was of the opinion that "Laws should be enacted to keep out all immigrants who do not show that they have the right stuff in them to enter into our life on terms of decent equality with our own citizens."90 Often these dominant political and eugenic narratives were underpinned by cartography. 91 Piers Fotiadis argues that decision makers embraced cartography due to maps simplifying the territory that they depict. The dehumanization of the landscape and what he called the "sanitized simplifications of reality" invariably had significant implications on how political and academic leaders understood and depicted the people of these regions.92

Huntington's racist reading of history was both geographical and political in character. In *Living Geography* (which he cowrote with C. Beverley Benson and Frank M. McMurry) he sought to depict the "entire geographic environment together with many of the human responses." One case study concerned the heavily forested area of the Congo Valley—an area thought to be detrimental to the health and vigor of both the Black and white races. It was the particular climate of the region that caused the "uncivilized" native people to suffer from disease and encourage them to be "languid and inefficient." Indeed, "their laziness is due to the fact that the climate is never bracing." Tying race to place through cartographic representation, as the British human geographer Heather Winlow argues, was used to "manipulate, represent, and legitimate racial categories." It demonstrates that the creation of a map is not merely a technical act, but an interpretative and argumentative one—it conveys intentions and values. Thus, this combination of ethnoclimatology and anthropometric cartography gave Huntington if not a scientific method,

then certainly a rhetorical device to legitimize moral judgements on racial character—what Livingstone calls "climate's moral economy." Eugenics and race science, at least in Huntington's work, were intellectually bound with geographical investigation.

This interpretive account of spatial prejudice, part of what Alan Marcus has called the "geographical imagination," helped galvanize the legitimacy of eugenics partly through the effective use of "cartographic conceptualizations." But while eugenic texts and race science conferences judiciously employed anthropometric cartography, eugenicists knew that they needed to make their case to those outside of the scientific elite. So at the Second International Congress of Eugenics in New York in 1921, Huntington showcased a series of maps in what was called the *Eugenics Exhibit* which also included pictures, models, and scientific apparatus. A reviewer in the *Journal of Heredity* observed that the *Exhibit* had been "so arranged that anyone of ordinary education may appreciate." And because the public understanding of eugenic principles was an enduring aim of the American Eugenics Society, a similar exhibit formed part of the Third International Congress in 1932. Daniel Kevles rightly observes that American eugenicists believed that the public would have to be "eugenic-minded" if eugenics was to gain widespread political traction.

The effectiveness of these maps at popularizing a particular idea rested on the fact that racial maps rearrange and simplify otherwise complicated geographical and political realities. As Harley writes, they cause the world to be "disciplined" and "normalized." <sup>101</sup> In doing so, Huntington's maps successfully demystified the complexity of racial geographical arguments; and, given that the intended audience was white, upper middle class, and educated, also gave comfort to the viewer in their own identity. Creating and sustaining a national, ethnic, or racial identity by graphic delineations and by depicting stark immutable borders, both reassured and called-to-arms those of a nationalist or racist persuasion. Of course, many consumers of eugenic and race literature during the Progressive Era shared common cultural codes with the authors; and with maps being used to construct principles of "othering," ideologies of division were consistently reinforced. <sup>102</sup> As geographer Mark Monmonier points out, because of "the public's naive acceptance of maps as objective representations, cartographic generalization becomes an open invitation to both deliberate and unintentional prevarication." <sup>103</sup> And herein lies the crux of Huntington's eugenic geographical imagination.

## Conclusion

Cartographic depictions of races, the link between climate and social progress, and historical portrayals of migratory patterns placed geographical techniques at the center of eugenic discourse. During the Progressive Era, the popularity of eugenics facilitated geography's drive toward intellectual credibility.<sup>104</sup> Just a year before Huntington's election as president of the American Eugenics Society, Robert E. Dickinson and Osbert John Howarth argued that human geography built much of its conceptual framework on the assertion that there was an "interdependence of man's activities and physical conditions." It was the "systematic description of races, languages, religions, social organisation and cultures of mankind" that were of greatest concern to early human geographers.<sup>105</sup> Huntington's racial cartography epitomized this conceptual framework as it tied humanity to place, and provided an effective stage on which discussion of the cultural politics of racial difference were played out.<sup>106</sup> As David Livingstone explains, "Racial cartographies are thus carefully staged productions that discipline and direct

human imaginations through conveying the impression that they are simply mirror reflections of natural realities."  $^{107}$  Instead, Huntington's maps were more spectacle than science, capturing the viewer's attention more through aesthetics than fact. As such, his use of his cartographic license helped the concept of the racial map transcend the boundaries of the artistic and the scientific, the popular and the political.

Moreover, maps added to the growing visual representations of eugenics, which by the 1930s included pedigree charts, measuring apparatus, photographs, motion pictures, and vivid images in school textbooks. Despite Huntington's faith that his maps were scientifically accurate and objective, they were ultimately performances—artful renderings of a selective set of racist ponderings. Their purpose was to project a semblance of white dominance over people and place, to demonstrate that nature and her people could be brought under scientific scrutiny, and to show that just as there was a science of climate, so too was there, in Huntington's view, a science of racial demarcation. Race, immigration, and the growth and developments of civilization were for Huntington natural processes intelligible through geographical and historical study. Thus, these maps were not simply trivial artistic maneuvers, rather specific instances of his attempt to bring together his geographical imagination and his eugenic inspired distrust of biological heterogeny. As such, Huntington's cartography did much to cement the connection between climate and race; and his arguments helped shape eugenic discourse in the Progressive Era. 108

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