



bias. Follow-up work could valuably explore biases against other groups.

The evolving dynamics of comparative racial analysis can be demonstrated with two diseases that preoccupied 19th-century physicians, tuberculosis and insanity. Tuberculosis was a leading cause of death; insanity, little understood, fueled substantial speculation. New concerns emerged in the 20th century, including diabetes and infant mortality. Further research could explore the history of other racialized diseases, from smallpox, yellow fever, and malaria to cancer or diabetes. Although assertions of innate differences in racial susceptibility to diseases circulated widely, critiques in the *Journal* emerged slowly.

Racialized explanations of human differences have far-reaching consequences for medical theory and practice. Physicians' willingness to embrace and promote racist ideas bolstered societal preoccupations with racial hierarchies. Similar dynamics promulgated class bias, sexism, ableism, and other hierarchies. Editors share responsibility for this focus. For most of the *Journal's* history, the editors alone decided what to publish. External reviews were sought occasionally by the 1930s, but not consistently until the 1970s. As the *Journal* gained a national and then international audience after World War II, its editorial decisions had ever-wider impact.<sup>7,8</sup> The medical profession must reckon with this history and take deliberate action to address its legacies. Such a commitment can guide assessments of whether (and how) concepts of race should influence medicine.

### Health Before “Civilization”

Early on, many doctors followed the lead of Benjamin Rush, who argued that insanity and tuberculosis were rare among Africans and Indigenous Americans. Rush attributed Indigenous Americans' vigor to “their principal occupations,” specifically their lives spent in “war, fishing and hunting.”<sup>9</sup> A New York physician in 1847 emphasized diet: “Phthisis is almost unknown amongst the Hebrews. The Indian races and the African tribes which adhere to their primitive diet — similar to that prescribed by the wisdom of the Jewish lawgiver — enjoy the same immunity.”<sup>10</sup> An 1893 essay on tuberculosis argued that “Nature when left to herself is a very wise mother.” Unfortunately, “civilization — so-called — sometimes woefully interferes with her and thwarts her evident intentions. The savage, obeying nature, lives out of doors, bathed in sunshine and fresh air. He is physically active, which compels him to breathe deeply and fully. He runs, swims, climbs; all of which exercises are excellent for producing large lung capacity and ample chest expansion. Not so, however, is it with the civilized man.”<sup>11</sup> Early writings praising the health of allegedly primitive Africans and Indigenous Americans contrasted them with “civilized” White Americans.

Doctors also invoked race in examining the origins of insanity. An 1845 excerpt reprinted from the *American Journal of Insanity* included testimonials from several physicians. A doctor who participated in the Cherokee removals “never saw or heard of a case of insanity among them.” Joseph Cinqué and other Africans who

escaped *La Amistad* and won freedom from slavery reported that “insanity was very rare in their native country.”<sup>12</sup> Doctors offered unflattering explanations for this mental health. An 1851 address explained that the intellect of the “poor and uneducated... rusty by disuse, is less under the influence of excitement; their feelings are more dull; their nerves less sensitive.... Hence it is that amongst the savage tribes, where the mind is totally uncultivated, insanity is comparatively rare.”<sup>13</sup> This explanation echoes Edward Jarvis's 1842 claim that slavery, by removing “some of the liabilities and dangers of active self-direction,” protected enslaved Africans from insanity: “If the mental powers and the propensities are kept comparatively dormant, certainly they must suffer much less from mis-direction or over-action.”<sup>14,15</sup>

Health disparities worked in both directions. If something protected Indigenous Americans and enslaved Africans against tuberculosis and insanity, something else left them vulnerable to the ill effects of alcohol. As Samuel Cartwright explained in 1853, “a nation of intemperate people will soon become extinct, if both sexes be so; short-lived, rheumatic and consumptive, if only one be. The Indian nations, one after the other, are disappearing — both sexes being intemperate.” Africans' prospects were equally poor: “The black race, like the red, diminish faster than they multiply in the free States, Hayti, Canada, Sierra Leone, and wherever they have free access to spirituous liquors.... Their own will is too weak, with the scent of that substance in their wide nostrils,

to prevent them from leaving all industrious pursuits, and the places of religious and moral instruction, for the haunts of dissipation.”<sup>16</sup> Such confident, sweeping, racist generalizations appeared often, impugning not just Africans and Indigenous Americans, but also Jewish people, Catholics, Irish immigrants, Germans, and Mexican Americans. Systems of racial thought evolved over time, changing who could be included in the White elite in the United States.

### The Crisis of Health and Civilization after the Civil War

White physicians asserted that any health protections that Indigenous Americans and enslaved people might have had disappeared under the pressures of “civilization.” An Illinois physician in 1863 described how tuberculosis increased among “the Red Man” when “their hunting grounds became settled by the white man” and “exterminating wars waged against them caused a scarcity of corn.”<sup>17</sup> When a Boston doctor traveled to Barbados in 1867, he heard that rates of tuberculosis and insanity had increased after emancipation. Local physicians blamed changed diets: “Since the abolition of slavery, the diet of the blacks has probably been less nutritious than when they were not obliged to provide for themselves, consisting now chiefly of Indian meal, sweet potatoes and flying fish.”<sup>18</sup>

Thomas Mays, writing in 1897, was struck by parallel increases in insanity and tuberculosis. When Black people were “precipitated into the midst of a higher civilization,” they were “unequal to the task” and fell “prey to dis-

ease”: “the brunt of the battle in this contest falls on and vitiates the brain and nervous system, since these structures are the instruments through which his efforts are chiefly made to bring himself in harmony with his changed relations. He, therefore, becomes insane and phthisical because his nervous system is undermined by and disintegrates under strains and burdens which he is unable to resist or to counteract.”<sup>19</sup> This fate was not inevitable. Tuberculosis could be prevented among African Americans by impressing “the masses with the importance of leading a life similar to that (excepting slavery), which made the slave population of the South practically immune from this disease before the Civil War.” African Americans needed to adopt proper hygiene, diet, and clothing, to engage in useful labor, to shun “strong drink and other vices,” and to seek “effective medical attendance and nursing.”<sup>20,21</sup>

Medical discourse soon polarized, with protagonists contesting the role of environment, habits, and heredity. Speaking in 1907, one doctor argued that although Indigenous Americans “are not inherently more liable to infection with tuberculosis than is a white man under like circumstances, their exceedingly filthy habits and fondness for liquor and unventilated dwellings make the mortality from phthisis great.” Heredity played “a secondary part”: “The principal cause is a man’s life habits.”<sup>22,23</sup>

Other commentators disagreed. A Baltimore physician asserted that the “great increase in the susceptibility of the negro cannot alone be accounted for by

conditions of ignorance and lack of hygienic laws, and can only be explained by assuming that in the evolution of the race it has not acquired the same powers of resistance or immunity to the germ of tuberculosis, that has been acquired by some of the white peoples.”<sup>24</sup> Another doctor wrote similarly about Indigenous Americans: “Sioux Indians, who are the flower of the Indian tribes, living in a healthful climate, well fed and comfortably housed, show a death-rate from tuberculosis of more than fifteen times that of the whites... working in the virgin soil of the American Indians, the same tubercle bacilli produce a rather different and much more virulent disease.”<sup>25</sup>

Heredity, however, could be malleable. Doctors theorized that races gained resistance through long exposure. Whereas susceptible Indigenous Americans resembled “non-tubercularized tropical natives,” African Americans had been “largely tubercularized while in slavery.” African Americans, however, could still contract tuberculosis because of “their unhygienic mode of life and excesses.”<sup>26,27</sup> Despite such competing theories, assertions of racial susceptibility persisted. Army physicians studying tuberculosis data after World War II noted that “Negroes” and Indigenous Americans were over-represented: “it seems fair to conclude that they are more susceptible than the average soldiers.”<sup>28</sup>

### New Diseases, Old Ideas

Interest in differential susceptibility persisted throughout the 20th century. Alcohol remained a concern, as in a 1917 account of a doctor’s trip from Massachusetts

to Florida. He wrote appalling things about suffrage and segregation but saved his worst for alcohol: “An educated white man under the influence of liquor is a sad and disgusting sight. A negro under the same conditions is a tiger let loose, a volcano to be fled by everyone.” Only prohibition could ensure the safety of “the wives and daughters of every man.”<sup>29</sup>

Cancer, a so-called “disease of civilization,” was thought to be rare in non-White people. In 1881 a New York physician asserted the “remarkable fact that negro women never have cancer of the uterus.”<sup>30</sup> Frederick Hoffman, known for his quantitative assessment of racial susceptibility, observed in 1923 that “Among our native Indians cancer is very seldom met with among those who are of pure blood.”<sup>31</sup> By the late 20th century, however, cancer had crossed the color line.<sup>32</sup>

Heart disease was also viewed through a racial lens. Whereas coronary heart disease — another “disease of civilization” — was considered rare among Black Americans, syphilitic heart disease was thought common, a reflection of the racialized discourse that motivated the U.S. Public Health Service study in Tuskegee.<sup>33,34</sup> Paul Dudley White wrote in 1933 that “with perfect justification we should expect to find syphilis of aorta and heart much more commonly among the more primitive Negroes in the South than in a highly cultured white community in New England.” Meanwhile, there was “exceptionally little cardiovascular syphilis in the Jewish race, in large measure, I believe, because of the traditionally moral upbringing and the lack of promis-

cuity that are characteristic of the Jews.”<sup>35</sup>

A counter-discourse to racialized medicine emerged in the late 19th and early 20th centuries, though it was rarely reflected in the *Journal*. Sociologist W.E.B. Du Bois had called attention to the social origins of the ill health of Black people as early as 1899.<sup>36</sup> Black physicians also became prominent critics of medical racism.<sup>37</sup> By the late 20th century, robust evidence challenged assertions of race differences and determinism. When the Department of Health and Human Services launched its “Healthy People 2000” campaign, it proclaimed that “Narrowing the gaps between the life expectancies of different populations, including blacks, Hispanics, American Indians, Asian Americans, and low-income people, is a primary target of our initiatives.”<sup>38</sup> Though such calls have increased, and progress has been made,<sup>39</sup> health inequities persist.<sup>40</sup>

### Debating Nature and Nurture

Confronted with evidence of health inequities, medical researchers have generally attributed the disparities to intrinsic differences between groups (e.g., genetics, heredity), to health-affecting behaviors (e.g., diet or smoking), or to environmental conditions (e.g., poverty). There are often ample data to support each explanation. With little consensus or guidance about which ones to emphasize, investigators make choices that shape our understanding of where responsibility for health lies, and of possible interventions. Many emphasize intrinsic causes of health inequities, which absolve researchers and their readers of responsibility for inter-

vening (e.g., to provide care or to reform social and economic conditions).<sup>6,41</sup> Such tensions continue to infiltrate writings in this *Journal* about diabetes, tuberculosis, and infant mortality, among other health problems.

Diabetes, for example, was once deemed rare among Indigenous Americans.<sup>42</sup> By the 1960s, however, the Akimel O’odham (formerly the Pima) had “the world’s highest reported incidence.”<sup>43</sup> In 1965, researchers began a long-term study in the Gila River Indian Community in Arizona. They explained that “Pima Indians have two distinct advantages as subjects for the investigation of diabetes: a high degree of genetic homogeneity and a high prevalence of diabetes mellitus.”<sup>44</sup> Assuming that there was a “strong genetic predisposition,”<sup>45</sup> they searched for suspect genes — without success.<sup>46</sup> Doubts emerged. Obesity and diabetes had been rare among the Akimel O’odham earlier in the century: had their environment changed?<sup>47</sup> Even though they lived on both sides of the U.S.–Mexico border, diabetes was prevalent only in their U.S. communities, which pointed to social and environmental causes.<sup>48</sup> Yet faith in racial genetics persists. Medical schools continue to teach about so-called Pima diabetes “without sufficient explanation of historical and social causes.”<sup>49</sup>

Tuberculosis investigations show similar tensions. In 1990, Arkansas researchers studied tuberculosis in racially integrated nursing homes. Among people who were tuberculin-negative on arrival, more Black residents (13.8%) than White residents (7.2%) subsequently tested positive. Research-



ers jumped to race and genetics: “under the same social conditions, blacks are apparently infected more readily by *Mycobacterium tuberculosis* than whites”; these data “strongly suggest heritable differences.”<sup>50</sup> Skeptics suggested other causes, from differences in baseline health (e.g., nutritional status) to differences in exposure (racial integration did not guarantee equivalent conditions). Some observers argued that this rush to genetic judgment was “a great disservice, since it deters the hunt for remediable causes.”<sup>51</sup>

Other researchers cast doubt on racial explanations for conditions such as low birth weight. Past researchers had argued that racial genetics significantly affected birth weight. But when a study in Illinois compared infants of U.S.-born White women, African-born women, and U.S.-born Black women, birth weights were similar in the first two groups but lower in the third, providing “some evidence against the theory that there is a genetic basis for the disparity.”<sup>52</sup> Questions about the role of heredity versus social determinants in disease causation have persisted in the *Journal* for two centuries with little consistent editorial commentary.

### Race and Medicine in the 21st Century

In 2003, the *Journal* published a debate about the role of race in medicine. On one side, researchers warned that race was a poor proxy for human genetic variation and that racist thinking had corrupted American medicine.<sup>53</sup> On the other, researchers maintained that racial and ethnic categories were useful and that ignoring race would “retard progress in biomedical research and limit

the effectiveness of clinical decision making.”<sup>54</sup> One of the *Journal*’s editors weighed in. Acknowledging that race was “fraught with sensitivities and fueled by past abuses and the potential for future abuses,” she ultimately saw value in its use: “it seems unwise to abandon the practice of recording race when we have barely begun to understand the architecture of the human genome.”<sup>55</sup> This did not resolve the debate.

As costs of genome sequencing fell, researchers plumbed the genetic substructure of human populations and identified genetic variations relevant for pathophysiology and therapeutics. Journals have been quick to publish reports of disease–gene associations, no matter how small their effect, as well as reports of racial differences in allele frequency. This practice persists despite serious skepticism about the idea that race meaningfully reflects ancestry, and therefore genetics. Sophisticated analyses have revealed the social, biologic, and genetic complexity of ancestry and its imperfect mapping onto racial categories.<sup>56</sup> Scholars now interrogate the taxonomies we use to study human difference.<sup>57</sup> In parallel, they have shown how social and economic factors generate health inequities, and how economic and political elites use race theories to defend privilege and power. Current medical writings continue to deploy fundamentally different ideas about race (biologic, social, or both) and about social determinants of health (foregrounded or ignored). Growing evidence suggests that racism is a powerful driver of inequities that were once ascribed to putatively intrinsic racial differences.<sup>58</sup>

Tensions flared amid revelations of inequities during the Covid-19 pandemic, fueling calls for racial reckoning. As a result, debates about the use of race in areas such as diagnostic testing gained visibility.<sup>59</sup> Race adjustments are now being removed from several diagnostic tools (e.g., estimated glomerular filtration rate, pulmonary function tests). But researchers still defend race-based medicine, arguing that race is a “master status”: it can “capture important epidemiologic information, including social determinants of health such as racism and discrimination, socioeconomic position, and environmental exposures,” and it is “directly associated with genetic ancestry and therefore indirectly related to genetic variants that may affect disease and health outcomes.”<sup>60</sup> They warn against “naive ‘color blindness’ that is more likely to perpetuate and potentially exacerbate disparities.”<sup>61</sup> By continuing to present both sides of these debates, the *Journal* misses an opportunity to pass judgment and exercise much-needed guidance on a matter of great medical, public health, and social importance. More careful and robust research attentive to the legacies of history is essential.

Important questions remain. Even the most basic decisions (e.g., which population descriptors are appropriate when considering human diversity in medical research and practice) are contested. American medicine has long accepted racializing narratives that propagate social perceptions about White superiority. Deliberate thinking and action are required to resist those narratives. We must decide carefully which policies and practices are

justified — scientifically and ethically — as we contend with the nature and meaning of human differences. The *Journal* can act on its commitment to health equity not only by publishing the best, most rigorous research on this important topic, but also by interrogating the racial assumptions and sociopolitical consequences of everything it publishes.

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