

joint committees in the 1920s—one on “race characters,” the other on “racial problems”—Yudell explores biologists’ normalization of race, even as they stripped it of overt racism. While eugenics was never mentioned by name in these committees’ work, Yudell argues that “the research clearly followed a eugenic paradigm . . . suggesting that eugenic ideas were, in fact, barely indistinguishable from mainstream studies of race” (p. 66). Race remained central to biological science. Biological science, in turn, remained available to provide “rational” cover for racist ideologues.

This trend was sustained, in the 1930s and 1940s, as the evolutionary synthesis gained dominance in biology—even after the revelations of eugenics-inspired Nazi atrocities. No friend of racist eugenics, Theodosius Dobzhansky remained wedded to race as “an organic ‘process’ that can be identified as the frequency of a gene or genes in a segment of a population” (p. 123) that could help describe genetic variation in populations. Despite warnings from Ashley Montagu and others, Dobzhansky’s investment in race helped the concept survive the apparent consensus of the 1950 UNESCO “Statement on Race,” which held that “[f] or all practical social purposes ‘race’ is not so much a biological phenomenon as a social myth” (p. 150). Subsequent internecine debate among life scientists led to an oft-overlooked second UNESCO statement that backpedaled on the renunciation of race as a biological phenomenon.

Ultimately, “the perpetuation of the race concept” among population geneticists “confirm[ed] the very contradiction and subtleties that are ever present in the relationship between scientific practice and the race concept” (p. 158). As Yudell demonstrates, the paradoxes and nuances of science’s fascination with race plagued the heated debates over sociobiology in the 1970s and 1980s, extending into the genomic age. Today, even after J. Craig Venter’s famous disavowal of race as without “genetic or scientific basis” during the unveiling of the draft genome, biological scientists continue to use self-identified race as “a useful proxy to best capture . . . genetic diversity—a proxy that is especially useful in clinical settings” (p. 204). That which is old is new again.

Special pleading occasionally mars Yudell’s strong argument. Notwithstanding Yudell’s assertions, W. E. B. Du Bois’s hereditarianism cannot be neatly severed from his elitism. While typologists’ challenges to populationist notions of race were “indicative of the ways in which scientists were influenced in their approach to the biological race concept by extrascientific sources” (p. 159), the converse is true, too. The antiracist position is morally congenial; to imply (as Yudell frequently does) that it is intrinsically “scientific,” devoid of “extrascientific” influence, is either naïve or disingenuous. These cavils aside, Yudell’s book—less polemical and more elegant than its nearest rival, Allan Chase’s *The Legacy of Malthus*<sup>1</sup>—is an important achievement worthy of a wide readership.

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1. Allan Chase, *The Legacy of Malthus: The Social Costs of the New Scientific Racism* (New York: Alfred A. Knopf, 1977).

Sean Hsiang-Lin Lei. *Neither Donkey nor Horse: Medicine in the Struggle over China’s Modernity*. Chicago: University of Chicago Press, 2014. x + 382 pp. Ill. \$35.00 (978-0-226-16988-0).

It is difficult to overestimate the value of this book. Empirically rich and theoretically sophisticated, it presents the most comprehensive analysis to date of medical developments in twentieth-century China. It is also an intellectual and political history of modern China, since it treats medical reform tactics as political strategies and argues that this process constitutes China’s creation of its own modernity. Lei also astutely applies Bruno Latour’s concept of the “modern Constitution” to illustrate that reformers of Chinese medicine achieved the impossible by creating a hybrid medicine that was ultimately recognized as the very expression of a distinctly Chinese scientific modernity.<sup>1</sup> This book is valuable to scholars of the history of medicine, modern China, and science and technology studies.

Lei begins by questioning how, in the span of a few decades, Chinese medicine accomplished a remarkable transition from its lowly status as the epitome of cultural backwardness to the very expression of Chinese modernity. The book’s painstaking detail and intricate argumentation draw the reader into the suspenseful drama of astute reformers meeting the epistemic violence of Eurocentric modernity head-on and transforming Chinese medicine into a globally recognized and well-respected medical system. Although the final stages of this transformation took place in the mid-1950s, Lei convincingly asserts that the communist state would not have adopted Chinese medicine into its state system without the crucial transformations that took place under the preceding Nationalist state.

For example, one of the foundational ideas in TCM (created in 1955–56) is that Chinese medical diagnostics depend on “pattern differentiation and treatment determination” (*bianzheng lunzhi*) (pp. 167–92). Lei shows that Zhang Taiyan invented this tradition in 1931. This innovation allowed Chinese medical reformers to recognize the strength of biomedicine to diagnose, prevent, and control the spread of infectious diseases while also avoiding the ontological challenge that germ theory posed. Rather than despair at Chinese medicine’s failure to follow biomedical protocol and identify specific causes for each disease, Zhang asserted that Chinese medicine worked through the identification of a disease *pattern* and discernment of an effective treatment protocol. This strategy transformed a zero-sum game of precise diagnostics with biomedicine as the single winner into a discussion of treatment strategies that recognized the success of multiple approaches.

Another adaptive strategy was the reification of Chinese medicine physicians’ accumulated experience with their patients’ bodies (*renti jingyan*) as the “empirical” aspect of Chinese medicine that could be preserved even if one deemed Chinese medical theories to be erroneous and without value (as the primary challenger to Chinese medicine, Yu Yan, did in 1917 and 1920). This creation of an empirical tradition, coupled with laboratory research on Chinese *materia*

1. Bruno Latour, *We Have Never Been Modern* (Cambridge, Mass.: Harvard University Press, 1993).



*medica*, allowed reformers to claim that Chinese medicine had something of value to be salvaged despite its apparent lack of “science.” Without belittling the efforts of Chinese medicine reformers, Lei traces both of these innovations to specific medical reforms in Japan.

The biggest challenge to Chinese medicine came not directly from the West, but from Chinese trained in biomedicine who used the power of the state to push their medical agenda. This began with Yu Yan’s 1929 proposal to outlaw Chinese medicine altogether. Although never enacted, partly because of the immediate and well-organized protest actions of the Chinese medical community, this proposal launched the contest between the two medicines into the arena of the state. Lei then explains why, when the state was the source of threat, Chinese medicine reformers actively recruited state involvement, founding the Institute of National Medicine (*Guoyiguan*) in 1930 and working to fulfill the government mandate to “scientize” (*hexuehua*) Chinese medicine. To state it briefly, reformers recognized that they had no choice but also cleverly recruited state power to achieve their own goals and work as agents within the “field of the state.” To develop this perspective, Lei illustrates that Chinese and Western medicines coevolved with the Nationalist state, and all three mutually influenced one another.

This book delights at every turn; every chapter uses exhaustive research to build a sophisticated argument. Its errors are few and minor. A short review cannot do it justice, but it will be duly recognized as a masterpiece.

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Carsten Timmermann. *A History of Lung Cancer: The Recalcitrant Disease*. Basingstoke, UK: Palgrave Macmillan, 2014. x + 244 pp. Ill. \$95.00 (978-1-4039-8802-7).

Carsten Timmermann’s history of lung cancer is a welcome addition to the growing literature on the varieties of cancer. Focused on the United Kingdom, with gestures toward the United States and Europe, the book is less about the familiar story of smoking and lung cancer, than about the difficulties of detecting, diagnosing, and treating the disease, and how medical practitioners have responded to a lack of progress. Where the tobacco story can point to “successes,” such as the discovery of the causal links between smoking and cancer, the development of preventive measures based on these discoveries, and the ongoing struggles to bring the tobacco industry to heel, Timmermann’s story is more downbeat. Indeed, the identification of smoking as a cause of lung cancer contributed to the problems Timmermann describes, for it meant that from the 1960s prevention garnered attention at the expense of therapy, and that those with lung cancer were stigmatized as the cause of their own ills.

The book begins in the nineteenth century when the disease was a rare condition, easily confused with other lung diseases, and Timmermann traces medical innovations that shaped how lung cancer was subsequently classified, diagnosed, and treated. This includes a litany of unsuccessful efforts to treat the disease: surgery, radiotherapy and chemotherapy all failed to offer effective treatments (except for occasional small gains in survival), as did their various combinations with each other. Efforts to detect the disease were equally frustrating. It proved impossible for clinicians to develop reliable means of screening either for pre-malignant lesions or early cancers. Radiography did not provide a method, nor did cytological examination of sputum, nor computed tomography (CT) scans. Screening was dealt a further blow in the 1970s by studies that suggested that it might detect tumors that would not have killed their human hosts. Lung cancer tumors grow at different rates, so that heavy smokers often die of other conditions before their slow-growing tumors caused them problems. Although the Americans warned against abandoning screening, the British scaled back—mass radiography services were dismantled as tuberculosis rates fell, and screening for lung cancer was never institutionalized.

It was against this depressing backdrop that increasing attention focused on prevention. The expectation of new treatments and means of detecting lung cancer never disappeared, but it took second place to smoking cessation, and its relegation continues today. Current hopes focus on the controversial spiral CT scanning and targeted drug therapies (and the consequent balkanization of lung cancer into a variety of diseases each defined by a molecular target, the putative object of therapy). However, it is unclear whether these new interventions will have more success than their predecessors. Survival rates remain poor, and most attention continues to focus on prevention.

So what to do for those who contracted such a difficult disease? One option was to help people die, and Timmermann briefly outlines the work of hospice organizations such as MacMillan Cancer Care and Marie Curie Cancer Care in transforming the ways in which people in Britain died of this and other cancers. (More could have been said about this and the emergence of palliative medicine as it relates to cancer.) Another was to sidestep a direct attack on the disease, and to focus on fundamental research into the mechanisms of cancer. (A strategy that carried the risk of supporting much that was tenuously related to lung cancer). And a third involved destigmatization. Critics argued that the stigma associated with the disease meant that patients could be denied care if they continued to smoke, and that it also tended to undermine efforts to raise money for research and to develop new screening, diagnostic, and therapeutic interventions. Yet, Timmermann’s depressing message is that destigmatization did not have the success that its advocates desired. Indeed, it is the persistence of the view of lung cancer as a self-inflicted wound, he argues, that accounts for its recalcitrance as much as the difficulties of detecting and treating it. There is, however, another recalcitrance in this book that Timmermann never names as recalcitrance: that is (a fourth option to tackle this difficult disease) continuing biomedical efforts