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Race, Rigor, and Selectivity in U.S. Engineering: The History of an Occupational Color Line (review)

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Book Reviews

Amy E. Slaton. *Race, Rigor, and Selectivity in U.S. Engineering: The History of an Occupational Color Line*. Cambridge, MA: Harvard University Press, 2010. 281 pp. Paper: \$26.95. ISBN: 0-2992-3534-3.

REVIEWED BY MAURA BORREGO, ASSOCIATE PROFESSOR, DEPARTMENT OF ENGINEERING EDUCATION, VIRGINIA TECH, AND VALERIE LUNDY-WAGNER, ASSISTANT PROFESSOR/FACULTY FELLOW, DEPARTMENT OF ADMINISTRATION, LEADERSHIP AND TECHNOLOGY, NEW YORK UNIVERSITY

Amy E. Slaton is an associate professor of history at Drexel University, focusing on the history and sociology of science and science, technology, and society. Following her initial book on technology and workforce development in recent U.S. history, she presents this second piece which focuses on the dearth of African Americans in engineering education and the engineering labor market over the last 70 years.

Based on six staggered institutional case studies that are presented in three pairs, this book examines the state of engineering education between the 1930s and the 1990s, describing how specific state and institutional policies were enacted within national, political, economic, and racial contexts. This is not just a story of engineering; rather, it attempts to tell a broader history of American higher education and how state university systems in Maryland, Illinois, and Texas systematically excluded African Americans from engineering through social constructions of merit.

Chapter 1, the introduction, sets the stage by referencing the ongoing disparities in minority participation in engineering, and then suggests the role historical analysis can play in explaining the status quo. Building on the work of education historians like James Anderson, Slaton explicitly focuses on race and education for African Americans, briefly

mentioning issues such as desegregation, urban renewal, and affirmative action, suggesting their role in the social construction of academic merit and Black participation in engineering.

Chapters 2 and 3 describe the history of the University of Maryland system through the 1930s and '40s, noting the second Morrill Act of 1890, which required that any state receiving federal funding for a land-grant university closed to non-White students create a second facility for its minority citizens. This case study compares the College Park flagship campus for White students with its isolated Eastern Shore site maintained for Black students. Slaton describes how Harry Clifton ("Curly") Byrd, president of the Maryland system from 1936 to 1954, systematically denied resources to the Eastern Shore campus and resisted numerous opportunities to close or consolidate it with Baltimore's Morgan State College, an HBCU.

Slaton explained these efforts as Byrd's attempt to keep African Americans out of urban settings, thereby relegating them to rural-oriented professions that did not (necessarily) require advanced technological education; it also excluded them from opportunities for political and civil engagement. As a result, Eastern Shore, which focused on a rural agricultural curriculum, drained "power" from Baltimore and over Morgan State, both in terms of obtaining state resources and in discouraging rural Blacks from moving to the urban center.

This narrative is further explained through a lens of racial difference, highlighting how ideologies of Black inferiority both promoted and reinforced segregation in policymaking and its enforcement (or lack thereof), institutional enrollment, funding allocations, and academic program development. For much of this period, African American intellectual achievement and leadership were associated with rural endeavors. Furthermore, instances of Black success were disingenuously

attributed to individuals as exceptions, thereby establishing an accepted social distance between African Americans and education, and by extension the engineering arena.

Chapters 4 and 5 compare two urban Chicago institutions: the private Illinois Institute of Technology and the public University of Illinois at Chicago in the 1960s and 1970s. In this more engineering-specific chapter, the focus is on how these institutions were initially advertised as progressive technical solutions to urban problems (e.g., poverty and blighted neighborhoods). Despite their initial missions to educate a diverse regional population (i.e., IIT) and returning GIs (i.e., UIC) rather than seek national prestige, this case study highlights a departure from the institutions' departures from these respective missions and the evolution of the present two-tiered system in American engineering education: top-tier schools aligned themselves with military and industrial research; lower-tier schools focus on education and social problems.

In addition, the association between status and scientific rigor became more aligned politically and socially, resulting in a backlash to what had been virtually open access in engineering, and an emergence of rigid college preparatory standards. The initial championing of Centers for Urban Research and various academic and social support programs were subsequently equated with lower standards, reinforcing racially constructed notions of merit and eventually falling out of favor. Unable or unwilling to recognize the difference between qualified and "qualifiable" students, these institutions forwent racially inclusive endeavors to compete for so-called top students and faculty, and research money.

Chapters 5 and 6 review Texas's Agricultural & Mechanical public university system between the 1980s and 1990s, highlighting the relationship between College Station's predominantly White main campus and the historically Black campus of Prairie View A&M. This chapter focuses on progressive intervention by Texas-based private industry (e.g., Texas Instruments and Raytheon) and federal entities (e.g., the National Science Foundation and the National Aeronautics and Space Administration) to prepare more African Americans for careers in engineering and to meet national objectives related to globalization and technological competitiveness.

These organizations recognized the value of multi-pronged diversity and, at least indirectly, attempted to expand the definition of engineers and engineering success beyond one-dimensional technical rigor to include teamwork, communication, and strategic thinking. Slaton describes their support of minority engineering retention programs, minority-serving institutions, and the establishment of networks affording marginalized students and faculty expanded professional and research opportunities.

Race, Rigor, and Selectivity in U.S. Engineering is an important text for historians of higher education, engineering education scholars, and those interested in science, technology, and society. Slaton relies on case studies; as a result, she does not provide a comprehensive history of racial disparities in higher education, engineering education, or the engineering workforce. Despite that narrow focus, her book provides an underexamined perspective on timely issues facing higher education generally and engineering education specifically: academic achievement, postsecondary access, and diversity; remedial education; state and federal policymaking and enforcement; desegregation and the role of historically Black institutions; the role of STEM education on social progress; merit and rigor; and how research funding and/or accreditation affect academic program composition.

Overall, this book is a worthy historical analysis of six institutions which exposes the origins of the engineering color line.

Alejandra Rincón. *Undocumented Immigrants and Higher Education: ¡Si Se Puede!* El Paso, TX: LFB Scholarly Publishing LLC, 2010. 282 pp. Paper: \$32.95. ISBN: 978-1-59332-414-8.

REVIEWED BY MARIO DIAZ, COLLEGE ADVISOR, MALCOLM X COLLEGE, CHICAGO

Undocumented Immigrants and Higher Education: ¡Si Se Puede!, by Alejandra Rincón, is a historical account of immigration, state law, undocumented immigrant student access—and the lack thereof—for K–12 and postsecondary students. Rincón, a long-time advocate of undocumented students, provides excellent research that chronicles the struggles undocumented immigrant students endure as they attempt to access a postsecondary education.

Furthermore, she details the advocacy of students, college administrators, policymakers, and community leaders that ultimately led to equal access to higher education for undocumented immigrants in 10 different states in the form of in-state tuition laws. Rincón reviews economic data and legal citations that correct disinformation about this population and provides evidence of the economic, cultural, social, and political contributions of undocumented immigrants in the United States. The theme of this book, covered in seven chapters, focuses on the fight for equality and the advancements of immigrant students' civil and democratic rights.

In Chapter 1, the Introduction, Rincón provides an overview of the immigrant population in the United States, identifying as leading factors contributing to foreigners' exodus from their