Introduction: Implicit Bias in the Context of Structural Racism

Goodwin Liu & Camara Phyllis Jones

In September of 1967, with the civil rights movement in full stride, Dr. Martin Luther King Jr. gave a major address at the annual meeting of the American Psychological Association. In that speech, Dr. King sought to enlist the help of "members of the academic community, who are constantly writing about and dealing with the problems that we face and who have the tremendous responsibility of molding the minds of young men and women all over the country."[1] He called for deeper understanding of the nation's legacy of racism and said "the understanding needs to be carefully documented and consequently more difficult to reject." He urged social scientists to "'tell it like it is'" – to illuminate why "the Negro, after 350 years of handicaps, mired in an intricate network of contemporary barriers, [can]not be ushered into equality by tentative and superficial changes." Racial oppression, he said, arose from "systemic" causes and "will [not] be solved until there is a kind of cosmic discontent enlarging in the bosoms of people of good will all over this nation."

Since Dr. King's time, social scientists and other scholars have contributed enormously to our understanding of inequality based on race, gender, and other lines of socially constructed difference. One finding of this body of work is that although overt expressions of racism and other prejudices have declined over several decades, unequal opportunities and outcomes persist in education, employment, housing, health care, the justice system, and other domains. The causes are complex and varied and cannot be reduced to a single explanation. But one thing we know is that racial and other biases have not been extirpated and continue to reinforce these inequalities. Even as overt prejudice has decreased, implicit bias – the associations we make automatically, outside of our conscious awareness, between certain groups and certain characteristics – is a prominent feature of ordinary cognition that can impair our ability to treat people fairly despite our best intentions. The strength and pervasiveness of implicit bias pose a major challenge to actualizing our societal commitment to equality.

This issue of *Dædalus* features state-of-the-art research and insightful perspectives on implicit bias from a variety of disciplines and domains. The authors in-

clude many of the leading scholars on this topic, as well as prominent policymakers with deep experience navigating issues of diversity and discrimination. The volume serves as an up-to-date compendium of the literature and identifies directions for further study. It is an invaluable resource for anyone interested in the current state of knowledge about implicit bias, its causes and effects, and potential interventions and mitigation strategies.

The genesis of this volume was a workshop we led on the science of implicit bias convened by the Committee on Science, Technology, and Law of the National Academies of Sciences, Engineering, and Medicine in March 2021. The event was also guided by an interdisciplinary planning group, some of whom have offered their perspectives in this volume. The workshop, held online during the early stages of the coronavirus pandemic, drew more than one thousand people worldwide and featured some of the cutting-edge research in these pages. When we started planning the workshop in early 2020, we could not have foreseen so many recent events relevant to this work.

The murder of George Floyd by Minneapolis police officer Derek Chauvin in May 2020, caught on video, has ignited a national and global movement to combat anti-Black racism. The pandemic, together with racialized scapegoating, has fueled a sharp rise in anti-Asian hate incidents and violence, including the killing of six Asian American women in Atlanta in March 2021 just days before our workshop. We have also witnessed barely disguised racism in anti-immigration rhetoric by public officials and commentators. Even as the Supreme Court endorsed colorblindness in its 2023 decision ending affirmative action in university admissions, it blinks reality to ignore that race continues to shape key aspects of people's lives today. Racism denial underlies much contemporary rhetoric and motivates many policy decisions across our nation. Moreover, despite progress in education and other areas, women's equality remains elusive in many domains of public and private life, with unique challenges for women of different races, to say nothing of prejudice and open hostility directed at transgender people. Legislatures, courts, corporations, universities, K–12 schools, and organizations at all levels are earnestly grappling with these issues, and as was true in Dr. King's time, there is an urgent need for scholarship that can illuminate these challenges and possible solutions.

Each essay in this volume conveys important findings and ideas that merit careful consideration on their own. Collectively, the essays highlight three themes we find especially significant. First, thanks to three decades of research, the existence of implicit bias as a demonstrable and observable reality rests on a firm and wide-ranging evidence base. Since 1998, over thirty million Implicit Association Tests have been taken, measuring unconscious or implicit attitudes and stereotypes on a variety of dimensions, including race, gender, age, reli-

gion, sexual orientation, weight, and others. The results comprise a large dataset that shows the extent of implicit biases in favor of advantaged groups as well as changes over time at a societal level.[2] In addition, careful studies from a variety of disciplines, including psychology, sociology, economics, law, and neuroscience, have reported powerful evidence of implicit bias through laboratory experiments, audit studies, other field studies, brain imaging techniques, and, most recently, research on natural language processing.[3]

These studies have demonstrated the operation of implicit bias not only in laboratory tasks but also in real-life decision-making in education, employment, health care, the justice system, commercial transactions, and even sports. There is disturbing evidence of such bias in law enforcement and voting.[4] And some of the most poignant work has revealed how young children acquire racial biases from their observations of adult interactions, suggesting that such biases can be "caught" at an early age, even when not explicitly taught, and transmitted across generations.[5]

As many of the authors note, research shows that the correlation between implicit bias and discriminatory behavior is small to moderate, and we must be careful to examine all the facts before ascribing any individual incident, such as an employment decision or a police shooting, to implicit bias. But even small correlations between predispositions and behaviors add up over an individual's lifetime and at the level of society-wide decisions and interactions.[6] Consider, in this regard, the growing evidence that geographic regions with higher levels of implicit bias tend to have higher levels of racial disparities across a number of socially significant outcomes, such as law enforcement, education, and health care.[7] These findings and others have bolstered an emerging view that implicit bias may be understood as a feature of groups or geographic places, not just individual minds.[8]

The overarching point is that thirty years of scientific inquiry has produced a compelling body of evidence demonstrating the existence, strength, and pervasiveness of implicit bias. The societal challenges posed by this body of research are serious and cannot be ignored.

Second, while much of the foundational research on implicit bias has come from psychology, a prominent theme of emerging work focuses on the relationship between implicit bias and structural inequality. The plethora of studies revealing how our biases manifest outside of conscious awareness have made fascinating contributions to the science of cognition. But these studies should not be understood to "psychologize" racism or other biases – as if such biases exist solely or primarily as the mental states of individuals – just as neuroscientific study of implicit bias should not be construed as "biologizing racism."[9] Implicit bias resides within a larger context of systemic discrimination, whereby laws, policies, and institutional practices assign value or allocate opportunity in ways that advantage certain groups and disadvantage others across multiple domains.[10] Implicit bias is both a cause and an effect of structural inequalities.

How else to explain the remarkable finding that the extent of slaveholding by county at the time of Abraham Lincoln's presidency correlates with county-level measures of pro-white implicit bias today, even after controlling for self-reported attitudes?[11] A natural inference is that this relationship is mediated by structural inequalities – including de jure and de facto segregation, wealth and education gaps, disparate treatment by the justice system, and more – that have maintained racial hierarchy across generations. "Chronic exposure to these structural inequalities maintains and exacerbates implicit bias."[12] Moreover, as noted, recent research has found that regional differences in implicit racial bias are correlated with the extent of racial disparities in policing, educational, health, and economic outcomes. It seems all but certain that the arrow of causation runs in both directions.

This point is also brought home by emerging studies of bias in artificial intelligence (AI). Because AI reflects the patterns that exist in its training data, it is not surprising that a variety of algorithms – from facial recognition to health care utilization to public safety risk evaluation – exhibit racial bias in their output and decision-making.[13] In addition, recent work on massive language corpora (that is, the entirety of language in certain formats or repositories on the internet, such as Google Books) has demonstrated how implicit racial and gender biases in individual minds can amount to a reservoir of "collectively held or culturally imprinted beliefs" that complicate the task of ensuring algorithmic fairness in training AI.[14] In all these ways, our understanding is becoming more clear that implicit bias is not simply a matter of individual beliefs and attitudes, but also an expression and enabler of structural inequality at an institutional and societal level.

Third, compared to the robust research demonstrating the existence and operation of implicit bias, the evidence base for effective interventions or mitigation strategies is still emerging. We expect that it will continue to develop further in the coming years. A key question is whether implicit bias is malleable and can be lessened in individuals through various forms of priming, education, or other contextual interventions. The available evidence provides scant reason to believe that durable change can be achieved through modest interventions, including some current forms of diversity or implicit bias training.[15] This is unsurprising given the extent to which our implicit biases reflect mental associations reinforced through a lifetime of observations and stimuli, starting from an early age.[16] At the same time, there is evidence that implicit racial bias at a societal level has decreased over the past fifteen years, and more research is needed to understand what conditions facilitated such change.[17]

For a number of reasons, antibias training of the kind often used by corporations, universities, and other organizations not only shows little promise for changing bias or behavior over the long term, but also has the potential to backfire.[18] Instead of efforts to "debias" individual minds, changing organizational

policies and structures appears to be necessary to prevent or counteract the operation of implicit bias and to create new patterns of interaction that reflect our expressed commitments to fairness, inclusion, and equal opportunity. Such changes may require strong leadership with clearly stated values, along with strategies to promote intergroup contact under conditions in which people of different backgrounds work together as equals toward a common goal.[19] Combatting implicit bias may also require changes in antidiscrimination law and judicial interpretations, as well as structural or procedural reforms that reduce discretion in decision-making.[20]

The emerging picture is one in which implicit bias, though grounded in cognitive science, is increasingly being understood as a phenomenon that both maintains and manifests systemic inequalities with long histories and structural underpinnings. As aptly stated in this volume with regard to race :

> Conceptualizing implicit racial bias as merely a byproduct of human cognition overlooks the critical scientific insight that racial bias exists not only in the head, but also in the world. Implicit bias is the residue that an unequal world leaves on an individual's mind and brain, residue that has been created and built into institutional policies and practices and socialized into patterns of behavior over hundreds of years through the workings of culture.[21]

Accordingly, it is unlikely that implicit bias can be effectively addressed by cognitive interventions alone, without broader institutional, legal, and structural reforms. Such reforms may require organizations to collect data, analyze disparities, and take concrete and sustained actions to root out inequitable practices.[22] They will require individuals and organizations throughout society to acknowledge that, despite their stated values or best intentions, their current ways of doing things – including existing diversity, equity, and inclusion initiatives – are not immune to implicit bias and may not be sufficient to prevent its operation or remedy its effects. All of this is hard work, but it is necessary and urgent work if we are to counter implicit bias in its individual and systemic dimensions.

We are indebted to the many scholars and leaders who have contributed to this volume. Their knowledge provides critical insights into how far we still have to go to achieve a just and equitable society, and how we might take steps to get there. We are also grateful to Anne-Marie Mazza, Steven Kendall, the National Academies' Committee on Science, Technology, and Law, as well as Phyllis Bendell, her talented staff, and the American Academy of Arts and Sciences for their dedication to this important topic and for facilitating the work of our authors. We are honored to bring you this issue of *Dædalus*.

ABOUT THE AUTHORS

Goodwin Liu, a Fellow of the American Academy since 2019 and Chair of the Board of Directors of the American Academy since 2022, is an Associate Justice of the California Supreme Court. He is the author of *Keeping Faith with the Constitution* (with Pamela S. Karlan and Christopher H. Schroeder, 2010) and numerous articles on inequality in public education and diversity in higher education and the legal profession.

Camara Phyllis Jones, a Fellow of the American Academy since 2022, is a Leverhulme Visiting Professor in Global Health and Social Medicine at King's College London, an Adjunct Professor at the Rollins School of Public Health at Emory University, and a Senior Fellow and Adjunct Associate Professor at the Morehouse School of Medicine. She is the editor of *Black Women and Resilience : Power, Perseverance, and Public Health* (with Kisha Braithwaite Holden, 2024) and many articles on naming, measuring, and addressing the impacts of racism on the health and well-being of the United States and the world.

ENDNOTES

[1] "King's Challenge to the Nation's Social Scientists," *The APA Monitor* 30 (1) (1999), https://www.apa.org/topics/equity-diversity-inclusion/martin-luther-king-jr-challenge.

[2] Kirsten N. Morehouse and Mahzarin R. Banaji, "The Science of Implicit Race Bias : Evidence from the Implicit Association Test," *Dædalus* 153 (1) (Winter 2024): 21–50, https://www.amacad.org/publication/science-implicit-race-bias-evidence-implicit-association-test ; and Kate A. Ratliff and Colin Tucker Smith, "The Implicit Association Test," *Dædalus* 153 (1) (Winter 2024): 51–64, https://www.amacad.org/publication/implicit-association-test.

[3] Rebecca C. Hetey, MarYam G. Hamedani, Hazel Rose Markus, and Jennifer L. Eberhardt, "'When the Cruiser Lights Come On' : Using the Science of Bias & Culture to Combat Racial Disparities in Policing," *Dædalus* 153 (1) (Winter 2024): 123–150, https://www.amacad.org/publication/when-cruiser-lights-come-using-science-bias-culture-combat-racial-disparities-policing ; Jennifer T. Kubota, "Uncovering Implicit Racial Bias in the Brain : The Past, Present & Future," *Dædalus* 153 (1) (Winter 2024): 84–105, https://www.amacad.org/publication/uncovering-implicit-racial-bias-brain-past-present-future ; and Morehouse and Banaji, "The Science of Implicit Race Bias."

[4] Eric H. Holder, Jr., "Seeing the Unseen," *Dædalus* 153 (1) (Winter 2024): 15–17, https://www.amacad.org/publication/seeing-unseen.

[5] Andrew N. Meltzoff and Walter S. Gilliam, "Young Children & Implicit Racial Biases," *Dædalus* 153 (1) (Winter 2024): 65–83, https://www.amacad.org/publication/young-children-implicit-racial-biases.

[6] Jerry Kang, "Little Things Matter a Lot : The Significance of Implicit Bias, Practically & Legally," *Dædalus* 153 (1) (Winter 2024): 193–212, https://www.amacad.org/publication/little-things-matter-lot-significance-implicit-bias-practically-legally.

[7] Morehouse and Banaji, "The Science of Implicit Race Bias."

[8] Ratliff and Smith, "The Implicit Association Test" ; and Manuel J. Galvan and B. Keith Payne, "Implicit Bias as a Cognitive Manifestation of Systemic Racism," *Dædalus* 153 (1)

(Winter 2024) : 106–122, https://www.amacad.org/publication/implicit-bias-cognitive-manifestation-systemic-racism.

9 Kubota, "Uncovering Implicit Racial Bias in the Brain," 95.

10 Galvan and Payne, "Implicit Bias as a Cognitive Manifestation of Systemic Racism" ; and Hetey, Hamedani, Markus, and Eberhardt, "'When the Cruiser Lights Come On.'"

11 Galvan and Payne, "Implicit Bias as a Cognitive Manifestation of Systemic Racism."

12 Ibid., 112.

13 Alice Xiang, "Mirror, Mirror, on the Wall, Who's the Fairest of Them All ?" *Dædalus* 153 (1) (Winter 2024) : 250–267, https://www.amacad.org/publication/mirror-mirror-wall-whos-fairest-them-all ; and Darren Walker, "Deprogramming Implicit Bias : The Case for Public Interest Technology," *Dædalus* 153 (1) (Winter 2024) : 268–275, https://www.amacad.org/publication/deprogramming-implicit-bias-case-public-interest-technology.

14 Morehouse and Banaji, "The Science of Implicit Race Bias," 38 ; and Xiang, "Mirror, Mirror, on the Wall, Who's the Fairest of Them All ?"

15 Morehouse and Banaji, "The Science of Implicit Race Bias" ; Alexandra Kalev and Frank Dobbin, "Retooling Career Systems to Fight Workplace Bias : Evidence from U.S. Corporations," *Dædalus* 153 (1) (Winter 2024) : 213–230, https://www.amacad.org/publication/retooling-career-systems-fight-workplace-bias-evidence-us-corporations ; and Jack Glaser, "Disrupting the Effects of Implicit Bias : The Case of Discretion and Policing," *Dædalus* 153 (1) (Winter 2024) : 151–173, https://www.amacad.org/publication/disrupting-effects-implicit-bias-case-discretion-policing.

16 Meltzoff and Gilliam, "Young Children & Implicit Racial Biases."

17 Morehouse and Banaji, "The Science of Implicit Race Bias."

18 Kalev and Dobbin, "Retooling Career Systems to Fight Workplace Bias."

19 Wanda A. Sigur and Nicholas M. Donofrio, "Implicit Bias versus Intentional Belief : When Morally Elevated Leadership Drives Transformational Change," *Dædalus* 153 (1) (Winter 2024) : 231–249, https://www.amacad.org/publication/implicit-bias-versus-intentional-belief-when-morally-elevated-leadership-drives ; and Kalev and Dobbin, "Retooling Career Systems to Fight Workplace Bias."

20 Kang, "Little Things Matter a Lot" ; Anthony G. Greenwald and Thomas Newkirk, "Roles for Implicit Bias Science in Antidiscrimination Law," *Dædalus* 153 (1) (Winter 2024) : 174–192, https://www.amacad.org/publication/roles-implicit-bias-science-antidiscrimination-law ; and Glaser, "Disrupting the Effects of Implicit Bias."

21 Hetey, Hamedani, Markus, and Eberhardt, "'When the Cruiser Lights Come On,'" 125.

22 Hetey, Hamedani, Markus, and Eberhardt, "'When the Cruiser Lights Come On'" ; and Marcella Nunez-Smith, "The Case for Data Visibility," *Dædalus* 153 (1) (Winter 2024) : 18–20, https://www.amacad.org/publication/case-data-visibility.