

Words Matter: On the Debate over Free Speech, Inclusivity, and Academic Excellence

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What do we value as an academic and a scientific community? Do our core values include only the pursuit of facts and inventions, to the exclusion of other considerations? Or do we accept that scientists have a responsibility to serve society beyond simply expanding the knowledge base, and should therefore concern themselves (at least in part) with how their words and actions intersect and impact the human sphere?

A scientist's innovations might be profound, benefiting many, but if that person's words or actions create an alienating or hostile workplace or learning environment, then how should the scientific community evaluate that person's overall contribution to humanity? How should society view such a person? These questions lie at the heart of an emerging conversation regarding what equality means for the greater scientific enterprise as we pursue increased diversity and inclusion of underrepresented groups at our universities.

The same questions are also central to recent debate^{1–4} regarding whether the scientific community should continue to retain “named” scientific phenomena in cases where the eponymous scientist has engaged in conduct that is inconsistent with contemporary values, even if that behavior is entirely separate from their scientific discoveries. Whether namesake buildings, lectures, and awards should be renamed is also under discussion,⁵ and similar questions arise regarding a controversial personal essay that was retracted in 2020 by the journal *Angewandte Chemie*.^{6–9} This conversation is interwoven with the emergence of historically marginalized voices within society, particularly on social media, along with the emergence and evolution of “cancel culture” as a new narrative.^{10–15} Efforts to call out inappropriate speech or behavior can lead to legal, professional, or social consequences for those accused; to some, this represents “cancel culture run amok”. To critics, social media call-outs inhibit open debate and thereby threaten traditional academic freedom to express unpopular views.

In this Guest Commentary, we suggest that the aforementioned efforts by universities and scientific journals, which are aimed at promoting inclusivity, are nothing at all like the actions of a totalitarian government, as some have suggested.^{2,16,17} Diversity efforts, especially those targeting faculty hiring, have sometimes been mischaracterized as exercises in “critical race theory”, but this is equally hyperbolic in our view. The question that we address is whether inclusivity efforts generally constitute unreasonable censorship and political correctness, or whether they are instead manifestations of a long-overdue reckoning about values. Below, we

elaborate using several case studies before turning to broader questions related to the pursuit of diversity, equity, and inclusion as part of a path toward excellence at our universities and within our scientific community.

I. FREE SPEECH VERSUS CANCEL CULTURE: REVISITING SOME FLASH POINTS

Un-publishing the Essay. The late Prof. Thomáš Hudlický's controversial essay reflecting on “the current state of affairs” in organic chemistry research was retracted⁶ by the journal *Angewandte Chemie* after an internet-based outcry culminating in a mass resignation from its international advisory board.^{7–9} The outcry was a response to Hudlický's written remarks denouncing diversity efforts in academia, expressing concern about fraudulent scientific publishing in a manner that was mostly aimed at scientists in China, and expressing the author's exasperation that modern organic chemistry graduate students are no longer willing to “submit” to the hard work demanded by their faculty “masters”.

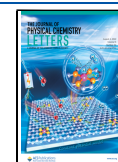
As evidenced by the response on social media, many felt that these remarks deserved no place in a scholarly journal and that removing the essay was appropriate in view of its content. Others defended Hudlický's right to publish his commentary and felt that instant judgment via social media should not substitute for reasoned debate.^{9,16–18} We suggest that this incident is better framed as a manifestation of *consequences culture*.¹¹ It is natural for any community to maintain and enforce its social norms. Individuals are entitled to their opinions, but they are certainly not entitled to a platform for those opinions in a scholarly scientific journal. In response to his essay, Hudlický was admonished by his university in an open letter,¹⁹ yet he retained a tenured faculty position and could thus continue his scholarly endeavors. Hudlický therefore suffered some consequences for actions that were deemed unacceptable to many, but he was not “cancelled”.

To defend Hudlický's essay on the grounds that there should be no limits on “free speech”,¹⁷ without considering the implications of that speech, is to pretend that words have no consequences. Editors are responsible for ensuring that

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contributions to their journals advance the scientific enterprise and, as such, are inherently arbiters of ideas and speech; we accept this gatekeeping every time we submit a manuscript. Journals are not required to publish every submission in the name of “free speech”, nor would that be appropriate. It is hyperbolic to equate a publisher’s retraction of an ill-conceived opinion piece (or a rebuke by university administrators) to totalitarian repression in Nazi Germany or in the Soviet Union. Nevertheless, those comparisons have been made.^{2,16,17}

Un-naming the Buildings. Recently, four buildings at the University of California, Berkeley, were “un-named” following a substantive and transparent process that acknowledged both the eponymous individuals’ contributions to their disciplines and to the university, but also their considerable flaws.^{20–22} In each of these four cases, it was ultimately concluded that the latter outweigh the former and that the individuals in question can no longer be viewed as exemplifying the values that the university seeks to champion. For example, a building formerly known as LeConte Hall was a historical honor bestowed in recognition of John LeConte, Berkeley’s first faculty member and its first acting president, yet LeConte was also known as a virulent racist.²¹ Other institutions are also undertaking the difficult but necessary work to recognize the implications and significance of honorific building names.^{5,23–25}

Our values, our priorities, and our biases are reflected in those we choose to honor, and our community sends a message about institutional values when it renames (or un-names) a lecture, an award, or a building. This is not “cancelling” but rather *recalibrating*. Institutions and institutional values evolve over time, and the people who those institutions choose to exalt should evolve in tandem. We need to consider our appellations wisely, aiming for enduring values and acknowledging that decisions made in the past may no longer reflect who we are (or who we aspire to be) as a scientific and an academic community.

Un-naming the Phenomena. Similar remarks can be made regarding equally problematic names in the chemical sciences,^{1–4} including Nobel Prize winners Fritz Haber¹ (who spearheaded Germany’s World War I chemical weapons program) and Johannes Stark³ (who led a Nazi campaign to eliminate “Jewish physics” from the German curriculum). Prominent scientists including William Shockley¹ and James Watson³ have promoted eugenics and racist ideas about intelligence.^{26,27} Although we do not support renaming the scientific phenomena in question (e.g., the Haber–Bosch process, the Stark effect, Watson–Crick base pairs, or the Shockley–Queisser limit), as that seems perilously close to rewriting scientific history, it is another matter entirely to create or present an award named for such an individual. That kind of honorific may celebrate the scientific enterprise but it also makes an implicit statement that the humanity of the namesake individual is unimportant.

Krylov et al.¹⁸ opine that a new set of guidelines from the Royal Society of Chemistry (RSC),²⁸ written to clarify racial and gender content that is inappropriate for scholarly journals, constitutes a form of oppressive censorship. Similar guidelines have been adopted by other publishers,²⁹ and professional societies typically have codes of conduct that prohibit harassment.^{30,31} All of these are good-faith efforts to foster collegiality and inclusivity by keeping bigotry (whether inadvertent or deliberate) out of scientific meetings and scientific literature. Dramatizing such guidelines as censorship, analogous to that practiced by totalitarian governments, is too

extreme. A suggestion by Krylov et al.¹⁸ that RSC editors are on a slippery slope toward prohibiting terms such as “normal distribution” and “normal pH” has no basis in fact and is simply rhetorical overreach. These journals do not censor new science or scientific disagreements and thus remain aligned with their primary purpose.

Twitter Mobs and Call-Outs. In our view, a broader discussion of how language affects inclusivity and basic fairness is missing from much of the one-sided debate over names, honorifics, and Hudlický’s essay. The term “cancel culture” has lately been twisted into an epithet that is used to discredit progressive policies.^{10–15} In fact, the practice of creating social distance from controversial or objectionable statements and actions is as old as society itself. In the United States, “cancellation” as a linguistic construction was born in Black popular culture^{11–15} and eventually adopted by queer Black activists on Twitter,¹² as a way of calling out behavior seen as prejudiced or regressive. Almost all elements of society have adopted the strategy and tactics of “call-out culture” (to use a less loaded term),³² perhaps best exemplified by the “#MeToo” movement that worked to expose long-ignored misogyny. Others have noted that social media provides a platform where voices from historically marginalized communities have an audience whose scope is unprecedented in human history.^{32,33} Call-outs on social media are a form of activism,¹² no less legitimate because the venue is relatively new or because the activists do not have access to scholarly journals. There is no doubt that social media has often been abused to create false narratives and disinformation, which can have a chilling effect on respectful debate, yet it is hypocritical to advocate for unrestrained free speech by academics in scientific journals while labeling those who took to social media to condemn Hudlický’s essay as “vigilantes” or “outrage mobs”.^{16–18}

II. ACADEMIC DIVERSITY INITIATIVES: PATHS FORWARD

Diversity initiatives are currently being challenged in ways that are sometimes malicious and disingenuous. Critical race theory, originally developed as a legal framework for understanding how institutions perpetuate discrimination,^{34–36} has become a pejorative that is invoked to stifle discussion of systemic racism and institutional bias.^{12,33,37–39} The term “woke” (as an ideology), originating in Martin Luther King Jr.’s admonition to “remain awake through a great revolution”,^{40–42} has similarly been transformed into an epithet used to attack liberalism in general, including diversity efforts.^{14,43} The invocation of “woke ideology” as a bogeyman is a calculated distraction to avoid discussing profound social inequities that have existed and continue to exist; it is an abdication of accountability. Potentially unpopular debates regarding hiring, training, and conduct in science are a necessary step toward progress, and the open environment of a university is an appropriate forum for such discussions.

Faculty Hiring. We note with dismay that hiring of Black faculty at colleges and universities in the United States has actually decreased in recent years.⁴⁴ At the current rate, the percentage of Black faculty will not reach parity with the percentage of Black Americans within our lifetimes.^{45–47} Hispanic faculty increased from 3% of total composition in 1997 to a mere 5% in 2017,⁴⁸ whereas the Hispanic undergraduate population more than doubled during the same time period (to 20%), representing the largest percentage increase of any ethnic group.⁴⁸

We are concerned that opponents of diversity initiatives seem to view merit and diversity as mutually exclusive, yet refuse to acknowledge the role of implicit bias.^{49–51} Many of the metrics traditionally used to define excellence (such as hailing from “elite institutions”) are proxies with considerable inherent bias.^{44,49–51} We are firmly committed to excellence in academic pursuits, but to view merit and diversity as mutually antagonistic is a false dichotomy. Note that some academic faculty searches have successfully evaluated candidates using blind review,⁵² focusing on the excellence of the individual rather than their institutional pedigree or celebrity mentor.

Undergraduate Admissions. Nominally objective measures of achievement in secondary education often contain significant socio-economic bias arising from accessibility of resources such as private schools, tutors, or laboratory and hands-on learning opportunities. There is also strong correlation between school quality and local household income,^{53–55} which in turn correlates with race.^{56–58} Upon college admission, however, merit and diversity need not be mutually exclusive once gaps in preparation are overcome via bridge programs,^{59,60} along with peer/near-peer tutoring, supplemental instruction, peer learning assistants, and improved pedagogy.⁶¹ Through clear explication of (high) expectations,^{62–64} combined with an inclusive learning culture, students from all walks of life can thrive in an environment where no insider advantage is working against them. The scientific enterprise is enriched when students and colleagues from diverse backgrounds create new paradigms for addressing scientific questions. An excellent case study is the National Institutes of Health requirement that (pre)clinical studies consider sex as a biological variable.⁶⁵ This mandate addressed a long-standing deficiency in biomedical research that focused exclusively on male subjects, and its adoption partly reflects shifting demographics as more women have entered the historically male-dominated medical sciences arena.

Diversity may also help to erode implicit bias, which remains pervasive.^{49–52} By contrast, when our language and actions fail to be inclusive we may perpetuate inequalities in access to the educational resources that it is our duty to provide. This, in turn, reinforces societal disparities in income, standing, and voice. These disparities impact not just individual students but entire families and communities across generations.

We Can Do Better. Scientists, even as we are part of a wonderful universal system for generating knowledge, are not necessarily wiser or better than other human beings. Our scholarship is conditioned by our social background and contemporary beliefs.⁶⁶ Sometimes the past, often invoked romantically, is not a good guide to the future. Let us say it more directly: the gentlemen of the Royal Society, the Academie des Sciences, the National Academy of Sciences, and the Akademia Nauk of 150 years ago were our teachers, yet many of them could not imagine that Asians, African-Americans, Jews, Arabs, women, or LGBTQIA+ individuals would find a place among them.

III. SUMMARY

We write this with an awareness that decisions made today may be judged differently by future generations. Openly racist, sexist, and homophobic views have been considered tolerable or even acceptable within our own lifetimes, and the scholars previously commemorated by un-named buildings and renamed accolades were often not outliers in their own generation. For example, the German Chemical Society has

documented the widespread support for the Nazi regime that existed within the German chemical industry and academe of the 1930s,⁶⁷ providing a vivid illustration of how the sociopolitical climate influenced the German scientific enterprise in appalling ways. We cannot always be certain in what respects we are falling short in the present time, yet we are not so naive as to suggest that our professional endeavors can be (or even should be) entirely separated from their broader social context.³

Rather than advocating in favor of unencumbered free speech, for its own sake and devoid of consequences, we advocate for speech that promotes freedom but recognizes that words have consequences. Scientists have an obligation to consider how the totality of their words and activities impacts the full range of stakeholders in the scientific enterprise: colleagues, trainees, institutions, and society. It is a fallacy to assert that exceptional scientific accomplishment should be celebrated regardless of egregious individual conduct. Why? Because to do so erodes trust in science and violates broadly held principles of academic and professional ethics, social responsibility, respect for human rights, and nondiscrimination.⁶⁸

Academic scientists and educational institutions do not exist in a vacuum but are an integral part of a greater social fabric. Training students for a given vocation is only one function of a university, whose broader purpose is to define a community dedicated to the pursuit of knowledge and to personal and civic development, in order to contribute to the good of society.⁶⁹ We must therefore be aware of our responsibility to foster vigorous but respectful and reflective discourse, consistent with the free and open learning ideals of university culture *for all of its members*. We can and should expect excellence, yet we should not ignore or discount lived experience and perspectives that differ from the mainstream. Normative assumptions are often challenged by experiences from the margins, and some of our margins are presently being challenged by those who advocate to examine the people that we honor and the language that we use. This is not “cancel culture”; it is evolution and progress. As scientists, we can approach these emergent viewpoints with tolerance and respond in ways that are respectful and measured.

We ask those who argue in favor of unbridled free speech to appreciate that science, politics, and prejudices (old and new) are never really disconnected. Reasoned debate over how the politics and social discourse of this moment should influence our work is healthy and valuable, but we must talk to each other, not over each other, in order to make progress. We advocate for speech that empowers the next generation of scientists to create a more just and equitable—and hence more excellent—scientific community.

John M. Herbert  orcid.org/0000-0002-1663-2278

Martin Head-Gordon  orcid.org/0000-0002-4309-6669

Hrant P. Hratchian  orcid.org/0000-0003-1436-5257

Teresa Head-Gordon  orcid.org/0000-0003-0025-8987

Rommie E. Amaro  orcid.org/0000-0002-9275-9553

Alán Aspuru-Guzik  orcid.org/0000-0002-8277-4434

Roald Hoffmann  orcid.org/0000-0001-5369-6046

Carol A. Parish  orcid.org/0000-0003-2878-3070

Christina M. Payne  orcid.org/0000-0001-5264-0964

Troy Van Voorhis  orcid.org/0000-0001-7111-0176

■ AUTHOR INFORMATION

Complete contact information is available at:
<https://pubs.acs.org/10.1021/acs.jpcllett.2c02242>

Notes

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REFERENCES

- (1) Ehrler, B.; Hutter, E. M.; Berry, J. J. The complicated morality of named inventions. *ACS Energy Lett.* **2021**, *6*, 565–567.
- (2) Krylov, A. I. The perils of politicizing science. *J. Phys. Chem. Lett.* **2021**, *12*, 5371–5376.
- (3) Ball, P. Science is political, and we must deal with it. *J. Phys. Chem. Lett.* **2021**, *12*, 6336–6340.
- (4) Dessent, C. E. H.; Dawood, R. A.; Jones, L. C.; Matharu, A. S.; Smith, D. K.; Uleanya, K. O. Decolonizing the undergraduate chemistry curriculum: An account of how to start. *J. Chem. Educ.* **2022**, *99*, 5–9.
- (5) Anderson, G. Campuses reckon with racist past. *Inside Higher Ed.*, July 6, **2020** (<https://www.insidehighered.com/news/2020/07/06/campuses-remove-monuments-and-building-names-legacies-racism>, accessed 2022-07-12).
- (6) Withdrawal: Hudlicky, T. “Organic synthesis—Where now?” is thirty years old. A reflection on the current state of affair”. *Angew. Chem., Int. Ed. Engl.* **2020**, *59*, 12576.
- (7) Howes, L. Essay criticizing efforts to increase diversity in organic synthesis deleted after backlash from chemists. *Chem. Eng. News*, June 8, **2020** (<https://cen.acs.org/researchintegrity/ethics/Essay-criticizing-efforts-increase-diversity-in-organic-synthesis-deleted-after-backlash-from-chemists/98/web/2020/06>, accessed 2022-06-19).
- (8) Krämer, K. *Angewandte* essay calling diversity in chemistry harmful decried as ‘abhorrent’ and ‘egregious’. *Chemistry World*, June 9, **2020** (<https://www.chemistryworld.com/news/angewandte-essay-calling-diversity-in-chemistry-harmful-decried-as-abhorrent-and-egregious/4011926.article>, accessed 2022-06-19).
- (9) Sydnes, L. K. The Hudlicky case—A reflection on the current state of affairs. *Chem. Int.* **2021**, *43*, 42–44.
- (10) Romano, A. The second wave of “cancel culture”. *Vox*, May 5, **2021** (<https://www.vox.com/22384308/cancel-culture-free-speech-accountability-debate>, accessed 2022-06-20).
- (11) Romano, A. Why we can’t stop fighting about cancel culture. *Vox*, August 25, **2020** (<https://www.vox.com/culture/2019/12/30/20879720/what-is-cancel-culture-explained-history-debate>, accessed 2022-06-20).
- (12) Clark, M. D. DRAG THEM: A brief etymology of so-called “cancel culture”. *Commun. Public* **2020**, *5*, 88–92.
- (13) Kurtzleben, D. When Republicans attack ‘cancel culture’, what does it mean? *NPR*, February 10, **2021** (<https://www.npr.org/2021/02/10/965815679/is-cancel-culture-the-future-of-the-gop>, accessed 2022-06-20).
- (14) Bacon Jr, P. Why attacking ‘cancel culture’ and ‘woke’ people is becoming the GOP’s new political strategy. *FiveThirtyEight*, March 17, **2021** (<https://fivethirtyeight.com/features/why-attacking-cancel-culture-and-woke-people-is-becoming-the-gops-new-political-strategy>, accessed 2022-06-20).
- (15) McGrady, C. The strange journey of ‘cancel’, from a Black-culture punchline to a White-grievance watchword. *Washington Post*, April 2, **2021** (https://www.washingtonpost.com/lifestyle/cancel-culture-background-black-culture-white-grievance/2021/04/01/2e42e4fe-8b24-11eb-aff6-4f720ca2d479_story.html, accessed 2022-06-20).
- (16) Krylov, A.; Tanzman, J. Academic ideologues are corrupting STEM. The silent liberal majority must fight back. *Quillette*, December 18, **2021** (<https://quillette.com/2021/12/18/scientists-must-gain-the-courage-to-oppose-the-politicization-of-their-disciplines>, accessed 2022-07-15).
- (17) Krylov, A. I.; Tanzman, J. S.; Frenking, G.; Gill, P. M. W. Scientists must resist cancel culture. *Nachr. Chem.* **2022**, *70*, 12–14.
- (18) Krylov, A. I.; Frenking, G.; Gill, P. M. W. Royal Society of Chemistry provides guidelines for censorship to its editors. *Chem. Int.* **2022**, *44*, 32–34.
- (19) Finn, G. C. An open letter to the Brock community. Office of the Provost and Vice President, Brock University, June 7, **2020** (<http://www.safs.ca/issuescases/brock-chemistry/3%29%20Provost-G-Finn-Letter-to-the-Community-June-7-2020.pdf>, accessed 2022-07-15).
- (20) Kell, G. UC Berkeley removes racist John Boalt’s name from law school. *Berkeley News*, January 30, **2020** (<https://news.berkeley.edu/2020/01/30/boalt-hall-denamed>, accessed 2022-06-20).
- (21) Kell, G. UC Berkeley’s LeConte and Barrows halls lose their names. *Berkeley News*, November 18, **2020** (<https://news.berkeley.edu/2020/11/18/uc-berkeley-leconte-and-barrows-halls-lose-their-names>, accessed 2022-06-20).
- (22) Kell, G. Kroeber Hall, honoring anthropologist who symbolizes exclusion, is unnamed. *Berkeley News*, January 26, **2021** (<https://news.berkeley.edu/2021/01/26/kroeber-hall-unnamed>, accessed 2022-06-20).
- (23) Fazio, M. Princeton to name residential college after Black alumna. *New York Times*, October 10, **2020** (<https://www.nytimes.com/2020/10/10/us/melody-hobson-woodrow-wilson-princeton.html>, accessed 2022-06-20).
- (24) Rosenberg, J. S. Harvard articulates principles for “denaming”. *Harvard Magazine*, December 9, **2021** (<https://www.harvardmagazine.com/2021/12/harvard-denaming-principles>, accessed 2022-06-20).
- (25) Anderson, N. University of Richmond strips names of enslavers from campus buildings. *Washington Post*, March 28, **2022** (<https://www.washingtonpost.com/education/2022/03/28/university-of-richmond-buildings-renamed>, accessed 2022-06-20).
- (26) Belluz, J. DNA scientist James Watson has a remarkably long history of sexist, racist public comments. *Vox*, January 15, **2019** (<https://www.vox.com/2019/1/15/18182530/james-watson-racist>, accessed 2022-06-19).
- (27) Glauddell, R. The legacy of William Shockley: Racism and ableism in STEM. *2021 IEEE 48th Photovoltaic Specialists Conference (PVSC) 2021*, 1887–1889.
- (28) Our processes & policies: Inappropriate or offensive content. Royal Society of Chemistry (<https://www.rsc.org/journals-books-databases/author-and-reviewer-hub/process-and-policies/#inappropriate-offensive-content>, accessed 2022-06-19).
- (29) Holloway, K. New guidelines for research and health content promote inclusive language. *Elsevier*, October 30, **2020** (<https://www.elsevier.com/connect/new-author-guidelines-promote-use-of-inclusive-language>, accessed 2022-06-19).
- (30) The chemical professional’s code of conduct. American Chemical Society, December 26, **2019** (<https://www.acs.org/content/acs/en/careers/career-services/ethics/the-chemical-professionals-code-of-conduct.html>, accessed 2022-06-19).
- (31) Guidelines on ethics. American Physical Society, April 10, **2019** (<https://www.aps.org/policy/statements/guidelinesethics.cfm>, accessed 2022-06-19).
- (32) Higgins-Dailey, J. You need to calm down: You’re getting called out, not cancelled. *Intellectual Freedom Blog*, September 3, **2020** (<https://www.oif.ala.org/oif/you-need-to-calm-down-youre-getting-called-out-not-canceled>, accessed 2022-06-19).
- (33) Hagi, S. Cancel culture is not real—at least not in the way people think. *Time*, November 21, **2019** (<https://time.com/5735403/cancel-culture-is-not-real>, accessed 2022-06-19).
- (34) Bell, D. Racial realism. *Conn. Law Rev.* **1992**, *24*, 363–379.
- (35) Bell, D. *Faces at the Bottom of the Well: The Permanence of Racism*; Basic Books: New York, 1992.

- (36) Cobb, J. The man behind critical race theory. *New Yorker*, September 21, 2021 (<https://www.newyorker.com/magazine/2021/09/20/the-man-behind-critical-race-theory>, accessed 2022-06-19).
- (37) Bunch, E. Reframing cancel culture: Why calling someone out is an act of service. *Well and Good*, August 12, 2020 (<https://www.wellandgood.com/call-out-culture-is-good>, accessed 2022-06-19).
- (38) Sawchuk, S. What is critical race theory, and why is it under attack? *Education Week*, May 18, 2021 (<https://www.edweek.org/leadership/what-is-critical-race-theory-and-why-is-it-under-attack/2021/05>, accessed 2022-07-15).
- (39) Cineas, F. What the hysteria over critical race theory is really all about. *Vox*, June 24, 2021 (<https://www.vox.com/22443822/critical-race-theory-controversy>, accessed 2022-07-16).
- (40) King, M. L. Remaining awake through a great revolution. Commencement address at Oberlin College June, 1965 (<https://www2.oberlin.edu/external/EOG/BlackHistoryMonth/MLK/CommAddress.html>, accessed 2022-07-15).
- (41) King, M. L., Jr. Remaining awake through a great revolution. In *A Testament of Hope: The Essential Writings and Speeches of Martin Luther King, Jr.*; Washington, J. M., Ed.; HarperCollins: New York, 1986.
- (42) McCormack, M. B.; Legal-Miller, A. All over the world like a fever: Martin Luther King Jr.'s world house and the movement for Black lives in the United States and United Kingdom. In *Reclaiming the Great World House: The Global Vision of Martin Luther King Jr.*; Crawford, V. L., Baldwin, L. V., Eds.; University of Georgia Press, 2019; Chapter 10, pages 254–281.
- (43) McWorter, J. How 'woke' became an insult. *New York Times*, August 17, 2021 (<https://www.nytimes.com/2021/08/17/opinion/woke-politically-correct.html>, accessed 2022-06-19).
- (44) Krupnick, M. After colleges promised to increase it, hiring of black faculty declined. *Hechinger Report*, October 22, 2018 (<https://hechingerreport.org/after-colleges-promised-to-increase-it-hiring-of-black-faculty-declined>, accessed 2022-07-15).
- (45) The snail-like progress of Blacks in faculty ranks of higher education. *Journal of Blacks in Higher Education* (https://www.jbhe.com/news_views/62_blackfaculty.html, accessed 2022-07-15).
- (46) Strauss, V. It's 2015. Where are all the black college faculty? *Washington Post*, November 12, 2015 (<https://www.washingtonpost.com/news/answer-sheet/wp/2015/11/12/its-2015-where-are-all-the-black-college-faculty>, accessed 2022-06-19).
- (47) National Center for Education Statistics. Characteristics of postsecondary faculty. U.S. Department of Education, Institute of Education Services, 2021 (<https://nces.ed.gov/programs/coe/indicator/csc>, accessed 2022-07-15).
- (48) Davis, L.; Fry, R. College faculty have become more racially and ethnically diverse, but remain far less so than students. Pew Research Center, July 31, 2019 (<https://www.pewresearch.org/fact-tank/2019/07/31/us-college-faculty-student-diversity>, accessed 2022-06-19).
- (49) Moss-Racusin, C. A.; Dovidio, J. F.; Brescoll, V. L.; Graham, M. J.; Handelsman, J. Science faculty's subtle gender biases favor male students. *Proc. Natl. Acad. Sci. U.S.A.* **2012**, *109*, 16474–16479.
- (50) Clauset, A.; Arbesman, S.; Larremore, D. B. Systemic inequality and hierarchy in faculty hiring networks. *Sci. Adv.* **2015**, *1*, e1400005.
- (51) Gasman, M. The five things no one will tell you about why colleges don't hire more faculty of color. *Hechinger Report*, September 20, 2016 (<https://hechingerreport.org/five-things-no-one-will-tell-colleges-dont-hire-faculty-color>, accessed 2022-06-19).
- (52) Patel, V. Race on campus: How a science department diversified its applicant pool. *Chronicle of Higher Education*, July 13, 2021 (<https://www.chronicle.com/newsletter/race-on-campus/2021-07-13>, accessed 2022-06-19).
- (53) Owens, A. Income segregation between school districts and inequality in students' achievement. *Sociol. Educ.* **2018**, *91*, 1–18.
- (54) Tough, P. *The Years That Matter: How College Makes or Breaks Us*; Houghton Mifflin Harcourt: Boston, 2019.
- (55) Barshay, J. A decade of research in the rich-poor divide in education. *Hechinger Report*, June 29, 2020 (<https://hechingerreport.org/a-decade-of-research-on-the-rich-poor-divide-in-education>, accessed 2022-06-19).
- (56) Kozol, J. *Savage Inequalities: Children in America's Schools*; Crown Publishers: New York, 1991.
- (57) Kozol, J. *The Shame of the Nation: The Restoration of Apartheid Schooling in America*; Three Rivers Press: New York, 2005.
- (58) Breyer, S. *Breaking the Promise of Brown: The Resegregation of America's Schools*; The Brookings Institution: Washington, DC, 2022.
- (59) Mathematics, engineering, science achievement (MESA). *University of California, Santa Barbara* (<https://oep.ucsb.edu/programs/mesa>, accessed 2022-07-15).
- (60) About ACS Bridge program. *American Chemical Society* (<https://www.acs.org/content/acs/en/education/students/graduate/bridge-project/about-bridge-program.html>, accessed 2022-07-15).
- (61) Reimer, L. C.; Leslie, J. M.; Bidwell, S. L.; Isborn, C. M.; Lair, D.; Menke, E.; Stokes, B. J.; Hratchian, H. P. Aiming toward an effective Hispanic-serving chemistry curriculum. In *Growing Diverse STEM Communities: Methodology, Impact, and Evidence*; Winfield, L. L., Thomas, G., Watkins, L. M., Wilson-Kennedy, Z. S., Eds.; American Chemical Society: Washington, D.C., 2019; Chapter 4, pages 29–66.
- (62) Mendoza-Denton, R.; Patt, C.; Fisher, A.; Eppig, A.; Young, I.; Smith, A.; Richards, M. A. Differences in STEM doctoral publication by ethnicity, gender and academic field at a large public research university. *PLoS One* **2017**, *12*, e0174296.
- (63) Jack, J.; Sathy, V. It's time to cancel the word 'rigor'. *Chronicle of Higher Education*, September 24, 2021 (<https://www.chronicle.com/article/its-time-to-cancel-the-word-rigor>, accessed 2022-06-19).
- (64) Bowen, R. S.; Cooper, M. M. Grading on a curve as a systemic issue of equity in chemistry education. *J. Chem. Educ.* **2022**, *99*, 185–194.
- (65) Consideration of sex as a biological variable in NIH-funded research. *National Institutes of Health*, June 9, 2015 (<https://grants.nih.gov/grants/guide/notice-files/not-od-15-102.html>, accessed 2022-06-19).
- (66) Keller, E. F. *Making Sense of Life: Explaining Biological Developments with Models, Metaphors, and Machines*; Harvard University Press: Cambridge, 2002.
- (67) Everts, S. Chemistry in Nazi Germany. *Chem. Eng. News*, September 16, 2013 (<https://cen.acs.org/articles/91/i37/Chemistry-Nazi-Germany.html>, accessed 2022-06-19).
- (68) Shamoo, A. E.; Resnik, D. B. *Responsible Conduct of Research*; Oxford University Press: New York, 2015.
- (69) Watson, W. Universities' engagement with society. In *International Encyclopedia of Education*, 3rd ed.; Peterson, P., Baker, E., McGraw, B., Eds.; Elsevier: Oxford, 2010.