Bulletin of the American Academy of Arts & Sciences

INDUCTION: OPENING CELEBRATION & CEREMONY

REIMAGINING OUR ECONOMY

ACCELERATING CLIMATE ACTION

Becoming Interplanetary and Action for Spaceship Earth

WINTER 2024

SELECT

UPCOMING EVENTS

February

13 University of California, San Diego and Online

Inspiring Collective Climate Action in California and Beyond

Featuring **David Victor** (University of California, San Diego)

15 House of the Academy, Cambridge, MA

A Conversation on Seeing Others

with **Michèle Lamont** (Harvard University)

March

3 The Getty Center, Los Angeles, CA

Los Angeles Arts and Culture

Morton L. Mandel Conversation

18 Rice University, Houston, TX

Building a Broad and Durable Coalition for Climate Action

19 Austin, TX

Austin Members' Gathering

20 University of Chicago and Online

Anti-Globalism's Past and Present

Jonathan F. Fanton Lecture
Featuring Tara Zahra (University of Chicago)

26 Yale University, New Haven, CT

Amory Prize Presentation to **Haifan Lin**

April

18 House of the Academy, Cambridge, MA and Online

Don M. Randel Award Presentation to **Anthony Appiah**

Details about these and other upcoming events are available at amacad.org/events.

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To begin the 2023 Induction Ceremony, Goodwin Liu, Chair of the Academy's Board of Directors, addressed the new members and asked, "How many of you have made a new friend this weekend?"

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ON THE COVER: 6,500 light-years away lies the Crab Nebula, the remains of an exploded star. While this target has been well-studied by multiple observatories, including the Hubble Space Telescope, the James Webb Space Telescope's infrared sensitivity and resolution offer new clues into the makeup and origins of this scene.

> Serving as president of the Academy has provided me with a renewed appreciation for the value of connecting the arts and sciences to develop innovative solutions for the challenges of our time.

From the President

In December I used my year-end message to highlight the outstanding speeches delivered by new members representing each of the Academy's five classes at the September 2023 Induction Ceremony. The speakers addressed an extraordinary range of issues, speaking on themes related to artificial intelligence, climate action, creativity, inquiry, and identity. The text of their remarks is included in this issue of the *Bulletin*, and I hope you will enjoy reading them if you have not already viewed them online.

For me, revisiting these speeches reinforced my appreciation of the remarkable breadth and depth of our Academy community, which has made my term as president one of the most rewarding experiences of my career. I had an opportunity to share some reflections on my presidency over the past five years at a November meeting of the Science Philanthropy Alliance hosted by the Burroughs Wellcome Fund in Durham, North Carolina. The conference gathered a diverse group of science philanthropy leaders to share their experiences fostering collaboration among the arts and sciences.

In my remarks, I noted the importance of interdisciplinary collaboration to the Academy's work. One of the primary roles of academies throughout time has been to *define* boundaries among disciplines, which serves an important purpose but can also impede creative collaboration. Serving as president of the Academy has provided me with a renewed appreciation for the value of connecting the arts and sciences to develop innovative solutions for the challenges of our time.

Closely related is the importance of diversity of thought and experience. Each Academy project includes a diverse array of leaders from across a wide range of disciplines, with varied ideological backgrounds. Such diversity not only yields better solutions, but also the act of bringing these leaders together can itself help to bridge divides.

Further, organizations like the Academy will not succeed unless we can display humility about our limitations as experts and listen to and communicate with people beyond the confines of elite institutions. At the Academy, we have always held sounding meetings with scholars, leaders, and other experts as we develop projects and recommendations. But with our Commission on Reimagining Our Economy, for example, we conducted listening sessions around the country with groups of Americans from different walks of life and from across the political spectrum, and their voices come through in the Commission's final report and the companion photojournal, *Faces of America*.

In the pages that follow, you will find these principles exhibited across a wide range of Academy projects, publications, and events. None of these initiatives would be possible without the knowledge, experience, and perspective of our members from fields across the arts and sciences. Thank you for your membership in the Academy and for your unique contribution to our mission to "cultivate every art and science which may tend to advance the interest, honor, dignity, and happiness of a free, independent, and virtuous people."

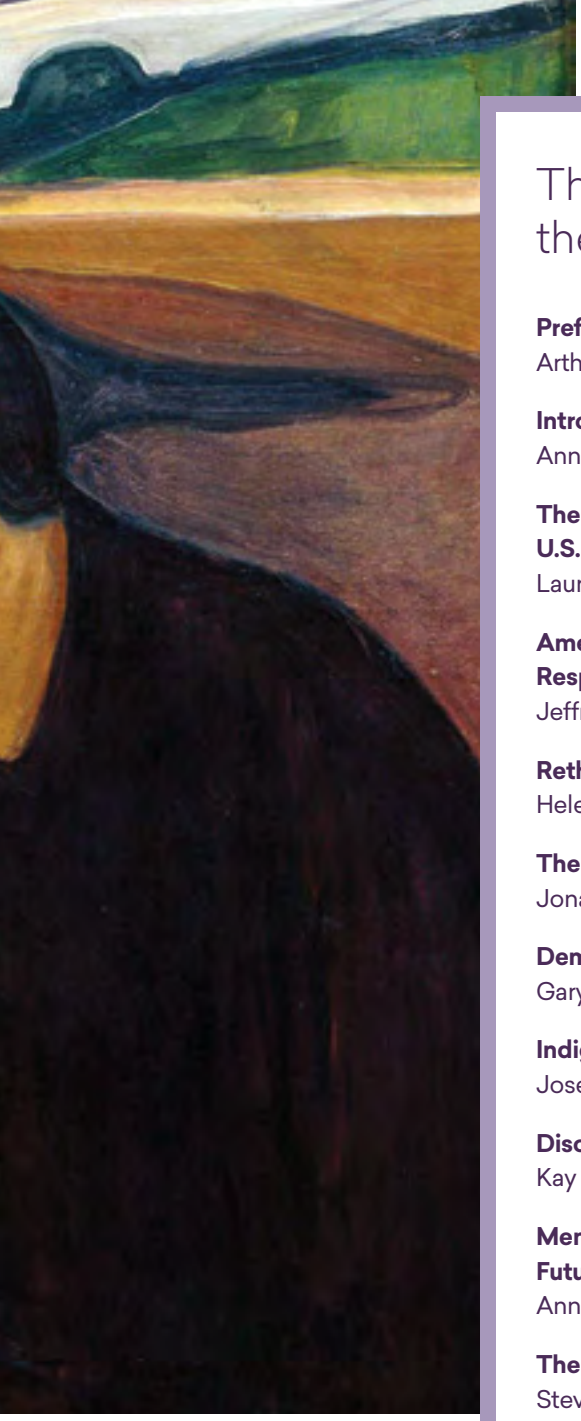
David W. Oxtoby

Recent *Dædalus* Issues Explore Mental Health as well as Language & Social Justice in the United States

By ***Dædalus*** **Editorial**

We are all vulnerable to emotional distress. COVID-19 made as much clear, subjecting many to the prolonged pain of isolation, loneliness, job and housing insecurity, and grief. The pandemic increased the prevalence of mental disorders, especially among the young, worsened the substance use epidemic, and created still more barriers to accessing care. But it also increased attention on mental health issues, reducing some of the stigma and discrimination associated with mental illness and enabling more people to share their inner struggles.

The authors of the Fall 2023 issue of *Dædalus* on "Mental Health," edited by **Arthur Kleinman**, view this moment as an opportunity to fundamentally transform our mental health systems. Drawing from psychiatry, neuroscience, public health, public policy, genetics, and social science, the authors identify the tensions, breakthroughs, and gaps in our understanding of mental health. And they develop a social medicine perspective to envision new models of care. This perspective recognizes the social and historical determinants of mental health; reduces the overmedicalization of mental disorders; helps identify which treatments will be effective for which patients; and employs the resources available in every community to help address the mental health crisis.



Melancholy (1891)
by Edward Munch.
Oil on canvas, 72 cm × 98 cm.

The *Dædalus* volume on "Mental Health" features the following essays:

Preface
Arthur Kleinman

Introduction: How Mental Health Matters
Anne E. Becker, Giuseppe Raviola & Arthur Kleinman

The Missing Piece: A Population Health Perspective to Address the U.S. Mental Health Crisis
Laura Sampson, Laura D. Kubzansky & Karestan C. Koenen

American Gun Violence & Mental Illness: Reducing Risk, Restoring Health, Respecting Rights & Reviving Communities
Jeffrey W. Swanson & Mark L. Rosenberg

Rethinking Psychiatry: Solutions for a Sociogenic Crisis
Helena Hansen, Kevin J. Gutierrez & Saudi Garcia

The Protest Psychosis & the Future of Equity & Diversity Efforts in American Psychiatry
Jonathan M. Metzl

Democracy Therapy: Lessons from ThriveNYC
Gary Belkin

Indigenous Historical Trauma: Alter-Native Explanations for Mental Health Inequities
Joseph P. Gone

Disorders of Mood: The Experience of Those Who Have Them
Kay Redfield Jamison

Mental Health's Stalled (Biological) Revolution: Its Origins, Aftermath & Future Opportunities
Anne Harrington

The Biology of Mental Disorders: Progress at Last
Steven E. Hyman

Two Sides of Depression: Medical & Social
Allan V. Horwitz & Jerome C. Wakefield

Can Mental Health Care Become More Human by Becoming More Digital?
Isaac R. Galatzer-Levy, Gabriel J. Aranovich & Thomas R. Insel

Empowering the (Extra)Ordinary
Vikram Patel & Atif Rahman

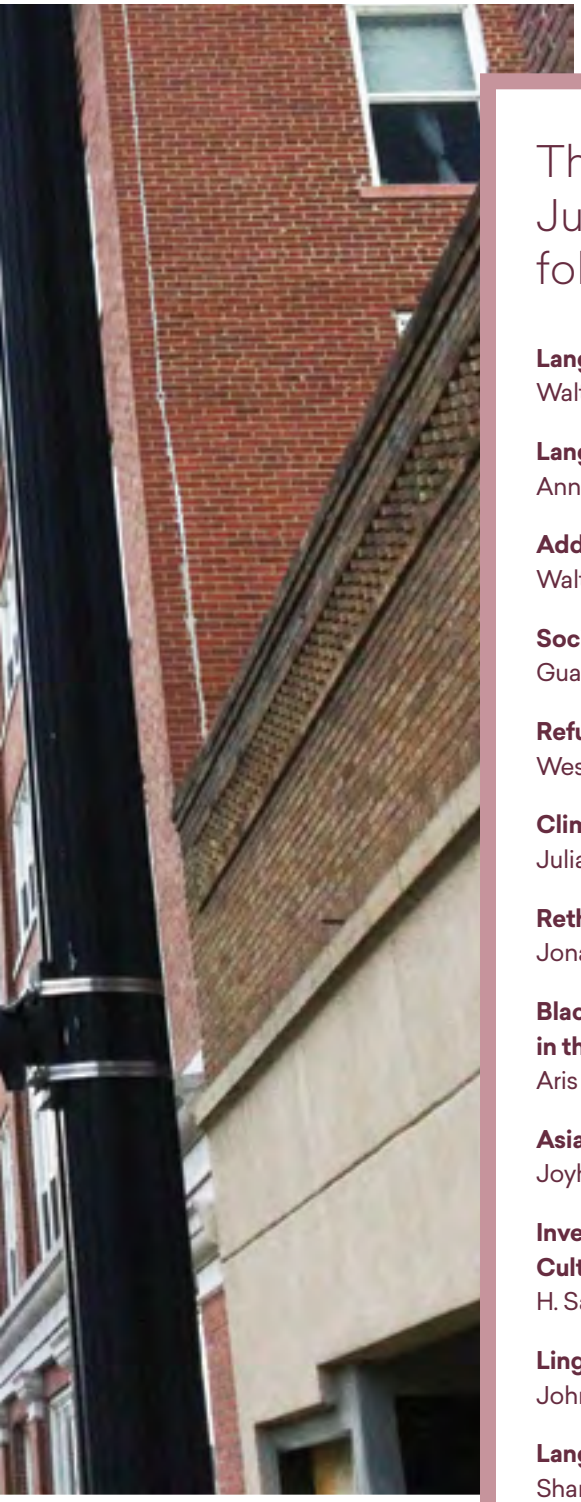
Good Mental Health Care: What It Is, What It Is Not & What It Could Be
Arthur Kleinman & Caleb Gardner

The *Dædalus* volume on "Mental Health" is available on the Academy's website at www.amacad.org/daedalus/mental-health.

Street banner on Main Street in Miami, Oklahoma, displaying the greetings in the languages of local tribes in Ottawa County, Oklahoma, 2023.

Linguistic justice is central to social justice. From the concept of "standardized languages" – which many consider essential for writing and speaking in academic settings – to the language choices made in negotiating the administration of social and political justice, language use is highly politicized behavior. But how can we contend with inequalities of race and ethnicity without identifying and addressing explicit and implicit racist language use and bias at an institutional level?

The Summer 2023 issue of *Dædalus* on "Language & Social Justice in the United States," edited by **Walt Wolfram**, **Anne H. Charity Hudley**, and **Guadalupe Valdés**, examines the expression and consequences of linguistic biases and suggests how we can integrate linguistic justice into our core values. The authors call for expansive approaches to countering linguistic injustice – in the witness and jury box, at work, in art, in our everyday conversations, and beyond.



Page 6, top left: The Eastern Band of Cherokee immersion school, New Kituwah Academy, Cherokee, North Carolina, 2014, as featured in the Emmy award–winning film *First Language: The Race to Save Cherokee*.

Page 6, bottom left: Sophomores at Sequoia High School in Redwood City, California, work with Jonathan Rosa in Stephanie Weden's class, 2019.

The *Dædalus* volume on "Language & Social Justice in the United States" features the following essays:

Language & Social Justice in the United States: An Introduction
Walt Wolfram, Anne H. Charity Hudley & Guadalupe Valdés

Language Standardization & Linguistic Subordination
Anne Curzan, Robin M. Queen, Kristin VanEyk & Rachel Elizabeth Weissler

Addressing Linguistic Inequality in Higher Education: A Proactive Model
Walt Wolfram

Social Justice Challenges of "Teaching" Languages
Guadalupe Valdés

Refusing "Endangered Languages" Narratives
Wesley Y. Leonard

Climate & Language: An Entangled Crisis
Julia C. Fine, Jessica Love-Nichols & Bernard C. Perley

Rethinking Language Barriers & Social Justice from a Raciolinguistic Perspective
Jonathan Rosa & Nelson Flores

Black Womanhood: Raciolinguistic Intersections of Gender, Sexuality & Social Status in the Aftermaths of Colonization
Aris Moreno Clemons & Jessica A. Grieser

Asian American Racialization & Model Minority Logics in Linguistics
Joyhanna Yoo, Cheryl Lee, Andrew Cheng & Anusha Ànand

Inventing "the White Voice": Racial Capitalism, Raciolinguistics & Culturally Sustaining Pedagogies
H. Samy Alim

Linguistic Profiling across International Geopolitical Landscapes
John Baugh

Language on Trial
Sharese King & John R. Rickford

Currents of Innuendo Converge on an American Path to Political Hate
Norma Mendoza-Denton

Liberatory Linguistics
Anne H. Charity Hudley

"Language & Social Justice in the United States" is available on the Academy's website at www.amacad.org/daedalus/language-social-justice-united-states.

New Academy Publication Makes the **Case for Supreme Court Term Limits**

By **Jessica Lieberman**, *Program Officer for American Institutions, Society, and the Public Good*

The Supreme Court holds immense power in the American constitutional system. Initially viewed by the nation's founders as the "least dangerous branch," the Court has grown in importance throughout American history. It has also become increasingly controversial: a majority of Americans (51 percent) say they have little or no trust and confidence in the Court, and only one-third of Americans believe the justices do a good job of keeping their decisions free of politics. Views of the Court are increasingly divided on ideological lines.

One often-overlooked factor exacerbating these concerns is the fact that justices today live far longer – and thus serve far longer – than the framers are likely to have imagined. Judicial life tenure has ratcheted up the stakes of each new Supreme Court nomination and led to a wide range of undesirable outcomes.

To address these concerns, the American Academy's bipartisan Commission on the Practice of Democratic Citizenship recommended moving the Court to a

system of staggered, eighteen-year terms in its landmark 2020 report, *Our Common Purpose: Reinventing American Democracy for the 21st Century*. The Commission argued that this "would help move the Court toward a less partisan future, restoring its legitimacy as an independent arbiter of justice."

Our Comon Purpose, however, left open key questions about how this reform would work in practice. Most important, it was unclear whether the reform could be implemented by Congress without a constitutional amendment. In 2022, the Academy convened a bipartisan working group of top constitutional scholars and political scientists to address these questions. In October 2023, the Academy released the group's final publication, *The Case for Supreme Court Term Limits*, which lays out a comprehensive roadmap for reform that can be implemented by Congress.

THE TROUBLE WITH LIFE TENURE

When the Constitution's promise of life tenure "during good Behavior" was drafted, a potential justice could expect to live to approximately 63 years of age. Today, that number is 79. While the historical average Supreme Court term is approximately 18 years, justices appointed since 1990 have served on average 26.3 years, and a justice appointed today could reasonably expect to serve for three decades or more. Because terms are so long, vacancies have become increasingly rare, making the appointments process more contentious.

Life tenure creates other problems as well. Justices often try to time their retirements to ensure an ideologically aligned successor, reinforcing perceptions of the Court as a politically driven entity. Since vacancies that are not the result of strategic retirements arise through "actuarial luck of the draw," some presidents are able to appoint multiple justices, while others appoint none at all. This can cause the Court to become misaligned with the preferences of the electorate, and it also creates a perception of unfairness. Finally, presidents face pressure to appoint justices who are young and who can therefore maximize their terms, thus systematically excluding our most experienced jurists from the nation's highest bench.

The Constitution's grant of judicial life tenure makes the United States unique among the world's major democracies, which uniformly have either fixed terms or a mandatory retirement for judges on their top courts. Life tenure is rare domestically as well; Rhode Island is the only state with life tenure for its state supreme court.

OUTLINING A NEW APPROACH

The Academy's U.S. Supreme Court Working Group proposes to remedy the problems created by life tenure through a system of regularized appointments. Under the proposal, future presidents would appoint two new justices during each presidential term, and a new justice would be added to the bench every two years. Justices would serve actively for eighteen years, after which they would remain in office but take "senior" status with an adjusted set of duties. Justices appointed prior to the enactment of the reform would not be impacted by the new system and would be able to remain in active status for as long as they are willing and able to do so.

Under the proposal from the Academy's U.S. Supreme Court Working Group, future presidents would appoint two new justices during each presidential term, and a new justice would be added to the bench every two years. Justices would serve actively for eighteen years, after which they would remain in office but take "senior" status with an adjusted set of duties.

This would temporarily expand the Court, but it would ultimately stabilize at nine justices within just a few decades.

The publication uses the phrase "term limits" to describe this system, since that is how the reform is commonly known. However, the Working Group also makes clear that it would not actually limit the amount of time that justices hold their office. Instead, their proposal would merely alter the job duties associated with the role of Supreme Court justice over the course of a life term. The Working Group concluded that structuring the proposal in this way allows it to be

implemented by statute without running afoul of the Constitution's Good Behavior Clause.

The Working Group also considered various complications that could interrupt the regularity of the system, such as the Senate reaching an impasse in the judicial confirmation process. Giving presidents flexibility regarding the timing of their nominations may help to prevent this; a president could choose the most opportune window within her term to maximize the chance of a successful confirmation. The publication also recommends amending the Senate rules to require a vote on nominations of Supreme Court justices within a reasonable time but does not recommend vacancy appointments or default approval should a vote fail to be held.

In the event of an unexpected vacancy on the Court, a new justice would be appointed to fill just the remainder of the term at issue. Future chief justices would be selected either through a seniority system or by a vote of the sitting justices, thus ensuring that every president has an equal chance of appointing a justice to this key role.

LAUNCHING THE NEW PUBLICATION

On October 25, 2023, the American Academy and the Edward M. Kennedy Institute for the Senate cohosted an event to celebrate the release of the new publication. The event, "The Legislative Path to Supreme Court Reform," featured a discussion with Academy members **Judge Patti Saris** (U.S. District Court for the District of Massachusetts), Professor **Akhil Reed Amar** (Yale University), Professor **Charles Fried** (Harvard Law School), and **Kimberly Atkins Stohr** (*The Boston Globe*). **Gabe Roth** (Fix the Court) also joined the panel.

The publication and launch event have generated a lot of interest and discussion, including news articles in *Reuters*, *Forbes*, and the popular legal trade publication *Law 360*. Staff in the Academy's American Institutions, Society, and the Public Good program area are continuing to promote the Working Group's proposal, which represents a major step forward in the Academy's efforts to advance the recommendations in the *Our Common Purpose* report.

The Academy would like to thank the following organizations and individuals for their support of the Academy's ongoing work to advance the *Our Common Purpose* recommendations: S. D. Bechtel, Jr. Foundation, the Rockefeller Brothers Fund, the John S. and James L. Knight Foundation, the William and Flora Hewlett Foundation, the Ford Foundation, the Conrad N. Hilton Foundation, the Suzanne Nora Johnson and David G. Johnson Foundation, the Clary Family Charitable Fund, Alan and Lauren Dachs, Sara Lee Schupf and the Lubin Family Foundation, Joan and Irwin Jacobs, David M. Rubenstein, and Patti Saris.

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To read more about *Our Common Purpose* and *The Case for Supreme Court Term Limits*, please visit www.amacad.org/ourcommonpurpose.

From left to right: **Charles Fried** (Harvard Law School), **Gabe Roth** (Fix the Court), **Akhil Reed Amar** (Yale University), **Kimberly Atkins Stohr** (*The Boston Globe*), **Patti Saris** (U.S. District Court for the District of Massachusetts), **David Oxtoby** (American Academy), and **Adam Hinds** (Edward M. Kennedy Institute for the United States Senate) at the launch event for the publication on October 25, 2023. Note: Charles Fried passed away on January 23, 2024.

Tea shop in downtown Williamsport, Pennsylvania. During the height of the pandemic, the shop shifted focus to its delivery business, but in-store business still has not returned to pre-2020 levels, and inflation has eaten away at the shop's margins.

Reimagining Our Economy

By **Kelsey Ensign**, *Louis W. Cabot Humanities Policy Fellow*, and **Victor Lopez**, *Program Associate for American Institutions, Society, and the Public Good*

As the United States approaches the 2024 presidential election, several journalists and commentators have been puzzled by one question: "Why do Americans seem so unhappy with an economy that appears to be doing so well?" Polls are influenced by many factors, but recent results show how pessimistic many Americans feel about the economy. And yet, judged by traditional economic metrics like the GDP or the Dow Jones, the economy is doing well. How do we explain this paradox?

A new Academy report, *Advancing a People-First Economy*, helps resolve this tension at the center of the nation's political conversation. The report focuses on how we might imagine and prioritize a people-centered economy through a new measurement tool, a photojournalism project, and policy recommendations.

The report is the culmination of more than two years of deliberation by the Academy's Commission on Reimagining Our Economy. The crosspartisan and interdisciplinary Commission was formed to rethink the metrics, narratives, and values that shape the American political economy and is led by **Katherine J. Cramer** (University of Wisconsin – Madison), **Ann Fudge** (formerly Young & Rubicam), and **Nicholas Lemann** (Columbia Journalism School). Most groups studying the economy include primarily economists and business leaders. Multidisciplinary work is a hallmark of Academy projects, and the Commission comprises scholars, artists, journalists, and leaders from the faith, labor, business, nonprofit, and philanthropic communities.

This diverse makeup helped shape the ideas and recommendations in the Commission's final report. In *Advancing a People-First Economy*, the Commission argues that too much attention is focused on how *the economy* is doing and not enough is focused on how *Americans* are doing. The economy should be

evaluated not just on its productivity and growth, but also on its ability to improve people's well-being.

To inform its deliberations, the Commission heard directly from Americans about their economic experiences. In over thirty listening sessions held across the country, members of the Commission met with people from all walks of life. People on all sides of the political spectrum shared remarkably similar insights: how hard it is to stay ahead in the current economic system, how greed seems to be the main value that shapes the economy, how people want a fair chance to improve their lives. The listening session recordings are being archived at the Library of Congress.

These conversations helped to shape the Commission's work, especially its final report. *Advancing a People-First Economy* offers fifteen recommendations that, together, provide a path toward an economy that prioritizes Americans' well-being. The report is organized around three values that are central to the Commission's work:

- Security
- Opportunity and Mobility
- Democracy

Across these three categories, the fifteen recommendations cover topics that are often not considered together, such as zoning reform, rural broadband, and antitrust. The diversity of recommendations reflects what the Commission heard in its listening sessions. Americans face a wide range of challenges, which require an equally wide range of solutions.

In addition to the final report, the Commission released two other products that place people at the center of economic analysis. One is the CORE Score, a county-level data dashboard to measure well-being. The other is a photojournalism book, *Faces of America: Getting By in Our Economy*, released in September 2023. The photojournal features images of Americans from four median-income communities: Tulare County, California; Dearborn, Michigan; the Third Ward in Houston, Texas; and Williamsport, Pennsylvania. Economic photojournalism often features people from either the highest or lowest extremes of the economic spectrum. The Commission's photojournal highlights middle-income individuals and families at home, at work, and serving their community. Paired with quotes from the listening sessions, *Faces of America* highlights Americans' struggles, their aspirations, and their resiliency.

Overview of Recommendations

SECURITY

1. Redesign safety nets to ensure stability
2. Adopt inclusionary zoning policies to increase the housing supply
3. Reform childcare and health care to lower costs and facilitate benefit portability
4. Expand access to low-cost banking for low-income earners

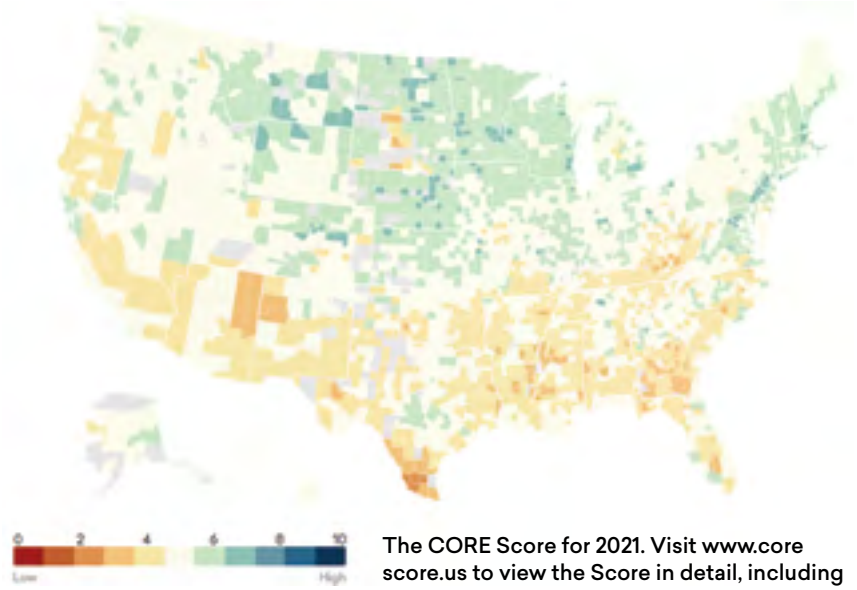
OPPORTUNITY AND MOBILITY

5. Remove regulations preventing people from participating in the labor market
6. Bolster worker training and education pathways through private-sector upskilling and a strengthened community college system
7. Extend to Black World War II veterans and their descendants the housing and education benefits they were denied under the 1944 GI Bill
8. Expand broadband connectivity for rural, tribal, and underserved urban areas
9. Allow states or municipalities to sponsor immigrants to boost their economies

DEMOCRACY

10. Create a training and financing program to help working-class Americans run for political office
11. Deconcentrate economic power
12. Revise the tax code to incentivize work and end tax policies that benefit the wealthy
13. Support tribal governmental infrastructure to facilitate Native American self-determination
14. Facilitate the creation of robust local and community media
15. Promote economic connectedness

The CORE Score



The CORE Score for 2021. Visit www.corescore.us to view the Score in detail, including how Scores have changed over time and Scores by income, race/ethnicity, age, gender, and education.

Typical economic metrics focus solely on growth. In its deliberations, the Commission identified a need for better ways to measure Americans' well-being and their relationships to the institutions that structure their lives. As part of its effort to build a people-first economy, the Commission released a new index of American well-being, named the CORE Score. Rooted in eleven county-level measures, the Score provides a window into geographic disparities as well as differences along lines of race/ethnicity, age, income, education, and sex. The measurements are divided across four categories:

- Economic Security
- Economic Opportunity
- Health
- Political Voice

Visit www.corescore.us to review the Score for your community.

The Commission's three products seek to develop a new set of priorities for the economy: an economy that is working well should work for the people who make it work. The Academy is dedicated to advancing the Commission's ideas by disseminating these products widely, both among its members and the general public. This work began in October 2023 with a Stated Meeting for Academy members in New York City, followed by a virtual launch event in November 2023 to mark the release of the final report and the CORE Score.

NEW YORK CITY STATED MEETING — AMERICANS AND OUR ECONOMY: A CONVERSATION ABOUT THE HUMAN STAKES

On October 18, 2023, the Commission shared its recommendations with Academy members at a Stated Meeting convened by the New York Program Committee. The Commission's cochairs and Academy President **David Oxtoby** discussed the Commission's process for selecting the recommendations. **Serene Jones**, president of Union Theological Seminary and a Commission member, offered closing remarks about the Commission's values.

The cochairs spoke about the Commission's commitment to prioritizing people. While some recommendations are aimed at helping lower-income earners, the cochairs noted that the report as a whole is particularly focused on helping median-income Americans. Though some recommendations may seem ambitious, the cochairs pointed to the current political landscape, in which both political parties are vying to serve as the champion of the working class. In this environment, the cochairs hope that the Commission's bold agenda can resonate across partisan lines and offer a blueprint for a set of policies that would benefit American workers.

While the Commission achieved consensus on these recommendations, doing so was not always easy. Commission members did not always agree: from the details of individual recommendations to the diagnosis of the problems facing the economy that need to be solved. Economic inequality offers an important example. On one hand, some Commission members perceived inequality as a systemic problem responsible for many of

the challenges facing the economy. Other Commission members, however, believed that addressing inequality was not as important as ensuring sufficiency and opportunity for those at lower income levels.

In a time of polarized politics, the Commission hopes to serve as a model for the importance of dialogue and consensus. At the New York meeting, the cochairs highlighted open and frequent communication as a path forward. Frequent deliberation and extended discussion of specific issues allowed the views of each member to be reflected. The Commission offers evidence that Americans from across the ideological spectrum can in good faith get together and identify solutions to the nation's biggest problems.

The cochairs pointed to the Commission's central values: Security, Opportunity and Mobility, and Democracy. Serene Jones's closing remarks focused on these values, and specifically on the necessity of embedding moral values into the fabric of economic policy. Referencing the philosophical insights of Adam Smith, Jones stressed the historical importance of aligning economic endeavors with the greater good. She lauded the Commission's approach for its ethical grounding and noted that the fifteen value-driven recommendations would help deliver the nation closer to an economy that supports flourishing and prosperity for all.

> Too much attention is focused on how the economy is doing and not enough on how Americans are doing. The economy should be evaluated not just on its productivity and growth, but also on its ability to improve people's well-being.

LAUNCH EVENT

On November 9, 2023, the Commission marked the release of *Advancing a People First-Economy* and the CORE Score with a virtual event. Commission member **Anna Deavere Smith** (writer and actress) delivered opening remarks, in which she emphasized the Commission's shift from traditional economic policies to a human-centric approach. Following her comments, *New York Times* senior writer **David Leonhardt** moderated a panel discussion with the cochairs. And before the question-and-answer period, Commission member **Jacob Hacker** (Yale University) provided an overview of the CORE Score.

During the panel discussion, the cochairs spoke about the conditions that make the Commission's work particularly timely, such as a rise in food insecurity; health disparities across lines of race/ethnicity, education, and income; and the decline in American life expectancy. They highlighted the effects of concentrated economic power, particularly in rural and lower-income areas. The cochairs also discussed a recurring theme from the listening sessions: that Americans' financial insecurity leads to a sense of powerlessness and frustration with government institutions. The discussion underscored the interconnectedness of economic well-being, democratic health, and national mood. To emphasize these connections, Katherine Cramer played selections from the listening sessions.

In introducing the CORE Score, Jacob Hacker explained why the nation needs such metrics and why its four categories offer a better encapsulation of well-being than traditional systems of measurement. He emphasized the CORE Score's capacity for comparing counties to one another and to viewing demographic disparities within counties, states, and the nation.

The event marked the beginning of the final phase of the Commission's work, which will focus on outreach and implementation. The Academy will work to advance the fifteen recommendations and to disseminate the Score and the photojournal among policymakers, journalists, and the general public. These efforts have already yielded success with early coverage of the Commission's work in Bloomberg, Reuters, and *The New Republic*.

Over the course of the coming year, the Academy will continue the vital effort of working toward building an economy that better serves the American people.

The Academy would like to thank the individuals and organizations that have supported the Commission on Reimagining Our Economy: The William and Flora Hewlett Foundation, The C&P Buttenwieser Foundation, The James Irvine Foundation, Omidyar Network, David M. Rubenstein, and Patti Saris.

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To learn more about the Commission on Reimagining Our Economy, please visit www.amacad.org/economy.

Forging the Climate Coalition Our Nation Needs

By **Carson Bullock**, *Program Associate for Science, Engineering, and Technology*

On October 24, 2023, the Academy released *Forging Climate Solutions: How to Accelerate Action Across America*, the final report of the Commission on Accelerating Climate Action. Prompted by a statement by the Academy's Board in 2021, the report addresses the need for a climate strategy that breaks through the divisions that characterize politics in the nation today.

The launch of *Forging Climate Solutions* included several events that highlighted the report's key messages: a dinner for Academy members, a meeting with environmental nongovernmental organizations, and briefings with the federal government. Commission members spoke with representatives from the National Resources Defense Council, World Wildlife Fund, National Audubon Society, the U.S. Environmental Protection Agency, and the White House Office of Science and Technology Policy. Commissioners also met with several congressional offices, from both major parties and both chambers.

To celebrate the release of *Forging Climate Solutions*, **Laura Helmuth** (*Scientific American*) moderated a panel discussion with the Commission's cochairs: **Mustafa Santiago Ali** (National Wildlife Federation; Revitalization Strategies), **Christopher Field** (Stanford Woods Institute), **David G. Victor** (University of California, San Diego), and **Patricia Vincent-Collawn** (PNM Resources). Helmuth introduced the report as "hopeful, clear, urgent, actionable, and inclusive" and engaged the cochairs in a discussion about the report's guiding principles and recommendations.

The cochairs also spoke about the formation of the Commission and how, for many of the thirty-one Commissioners, the work of the Commission was very different from other projects that they had participated in. As noted in a white paper released by the Commission's working group on communication, historically scientific messaging alone has not been enough to spur action, especially in the face of declining trust in science and rising

opposition to perceived elites. And so the Commission set out to create a whole-of-society plan to combat the climate crisis.

The Commission was clear that its work and final report would not contain a silver bullet to address the climate crisis, and doubted if there ever would be one. Rather, the Commission articulates a "fair bargain" on climate change, which details how durable, interdisciplinary coalitions can be built across ideological divides. The fair bargain is just, but it is also pragmatic by bolstering political will for climate action. David Victor remarked at the report launch, "That's how we're going to show the fair bargain is actually delivering benefits. It's building things, and building things in a way that generates more of the benefits locally, particularly in frontline communities."

Like all Academy commissions and projects, the Commission on Accelerating Climate Action has a diverse membership. As Christopher Field noted during the panel discussion at the report launch, "We went out very explicitly to build a group that was more diverse than certainly any other climate group that I've been associated with," a sentiment shared by several Commissioners. The Commission members have expertise in the arts and sciences but also in environmental justice, youth activism, Indigenous people and Indigenous Knowledge, public health, and urban design. "We looked very long and hard to make sure we had that wonderful collection of individuals that could rise above their personal differences to agree with the fabric of what we designed," said Patricia Vincent-Collawn. The cochairs highlighted in particular the contributions of Commission member Rev. Mitch Hescox (Evangelical Environmental Network) and his attendance at the launch event, recognizing the important role of faith communities in communicating climate impacts.

Academy President **David W. Oxtoby** welcomed in-person and virtual audiences to the report launch for *Forging Climate Solutions: How to Accelerate Action Across America*.

In keeping with the diversity of the Commissioners' contributions, *Forging Climate Solutions* is organized into five strategies. Each strategy contains three to five recommendations, tailored to a range of audiences, that highlight a different facet of building, sustaining, and accelerating climate action.

STRATEGY 1: **Prioritize Equity, Fairness, and Justice in Climate Action** to ensure that strategies lessen, not exacerbate, harm by focusing on those who will suffer from the consequences of climate change, energy transition, and adaptation efforts.

STRATEGY 2: **Engage and Educate Diverse Communities** to shift climate change communication from an elite, science-focused endeavor to one led by credible voices from diverse communities.

STRATEGY 3: **Mobilize Investment** to unleash the immense capital of the public and private sectors needed to cut emissions and make society more resilient to the impacts of climate change.

STRATEGY 4: **Deploy Diverse Options for Controlling Emissions** to send clear market signals to investors to accelerate mitigation across all sectors.

STRATEGY 5: **Ensure Adaptation at All Levels of Society** to protect vulnerable communities, respond to disasters, and enhance national security, which will require vast resources, coordination, and planning at the federal, state, and local levels.

The breath of the report's scope required Commissioners to learn from one another and build a shared language across their disciplines. For example, as the Commissioners developed their recommendations, they learned how different constituencies interpret words like justice, fairness, and equity. "Words are on-ramps," Mustafa Santiago Ali said of the importance of language, "so

Laura Helmuth (*Scientific American*) and Academy President **David W. Oxtoby** talking with Commission member **J. Marshall Shepherd** (University of Georgia) at a dinner for Washington, D.C.-area Academy members. At the dinner, Dr. Shepherd offered remarks about how the Commission was formed and its mission.

Summary of Recommendations

STRATEGY 1:

Prioritize Equity, Fairness, and Justice in Climate Action

Recommendation 1.1
Prioritize investment in communities that are on the front lines and are the hardest hit by the consequences of climate change, energy transition, and adaptation efforts.

Recommendation 1.2
Build capacity for climate action by engaging diverse voices, removing barriers, and disseminating promising practices.

Recommendation 1.3
Weave frontline communities and Indigenous Knowledge into research on controlling pollution and managing the impacts of climate change.

STRATEGY 2:

Engage and Educate Diverse Communities

Recommendation 2.1
Empower diverse and trusted messengers to communicate climate change issues that resonate with specific communities.

Recommendation 2.2
Support and celebrate concrete commitments to climate action by government, businesses, community groups, and NGOs.

Recommendation 2.3
Combat climate misinformation in the news and across social media.

Recommendation 2.4
Expand access to climate education across K–16 subjects and into formal and informal education venues. Advocate for climate education in all state curricula and develop tools for knowledge assessment.

STRATEGY 3:

Mobilize Investment

Recommendation 3.1
Design, implement, and iteratively evaluate policies to push the technological frontier.

Recommendation 3.2
Leverage investments in infrastructure modernization to correct historical underinvestment in marginalized communities.

Recommendation 3.3
Create more robust, credible, and comprehensive incentives to retire and replace high-emission facilities and vulnerable infrastructure.

Recommendation 3.4
Redesign permitting processes to be less burdensome and more trustworthy.

Recommendation 3.5
Strengthen the mandate for companies to measure and disclose climate-related physical and transitional risks that are auditable, replicable, and material.

STRATEGY 4:

Deploy Diverse Options for Controlling Emissions

Recommendation 4.1
Implement a fair carbon price in conjunction with other policies to create strong demand for low-emission technologies.

Recommendation 4.2
Cooperate with international allies to realign trade rules in favor of emissions reductions and make supply chains more resilient.

Recommendation 4.3
Advance efforts to control non-CO_2 greenhouse gases and climate-warming aerosols, especially pollutants that have large impacts on human health and the environment.

Recommendation 4.4
Incentivize farmers and other landowners to decrease greenhouse gas emissions and increase carbon sequestration.

Recommendation 4.5
Support effective nature-based climate solutions.

STRATEGY 5:

Ensure Adaptation at All Levels of Society

Recommendation 5.1
Spur increased investment in comprehensive adaptation plans through co-development with the federal government, states, tribes, cities, companies, and NGOs, including justice-centered voices from civil society.

Recommendation 5.2
Improve coordination and accessibility of existing climate resources and investments across federal agencies.

Recommendation 5.3
Invest in a diverse portfolio of adaptation options, including both responses to specific threats and broad commitments to building resilience.

Recommendation 5.4
Identify and eliminate perverse incentives, such as subsidies for hazard insurance, that have impeded efforts to understand and respond to climate-related risks.

you can create words that stop folks from entering into a process, or you could make sure that folks see themselves reflected in the language. And being able to navigate that to make sure that the vast majority of our country sees themselves – it took work, but it was worth the investment." Building consensus on the Commission, as a microcosm of American society, required the same trust-building, patience, and, at times, compromise that climate action will need.

With the report and launch events completed, Commissioners are now sharing the findings and recommendations with other key audiences. In addition to congressional outreach, which has continued virtually in the months following the launch, and planned events for Academy members around the country, project staff are expanding the report's reach to less traditional audiences, such as industry groups. The report was recently highlighted at a press event at the American Geophysical Union's fall meeting and featured at a workshop at the American Association for the Advancement of Science Annual Meeting in February 2024.

The Commission on Accelerating Climate Action is made possible through the generous support of Roger Sant and Doris Matsui, Hansjörg Wyss, Bob Higgins, the Grantham Foundation for the Protection of the Environment, William and Helen Pounds, the David and Ellen Lee Family Foundation, the Alfred P. Sloan Foundation, and an endowment provided by John E. Bryson and Louise Henry Bryson.

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The launch event was recorded and may be accessed at www.amacad.org/event/climate_report_launch. *Forging Climate Solutions* and more information about the Commission on Accelerating Climate Action are available at www.amacad.org/climate.

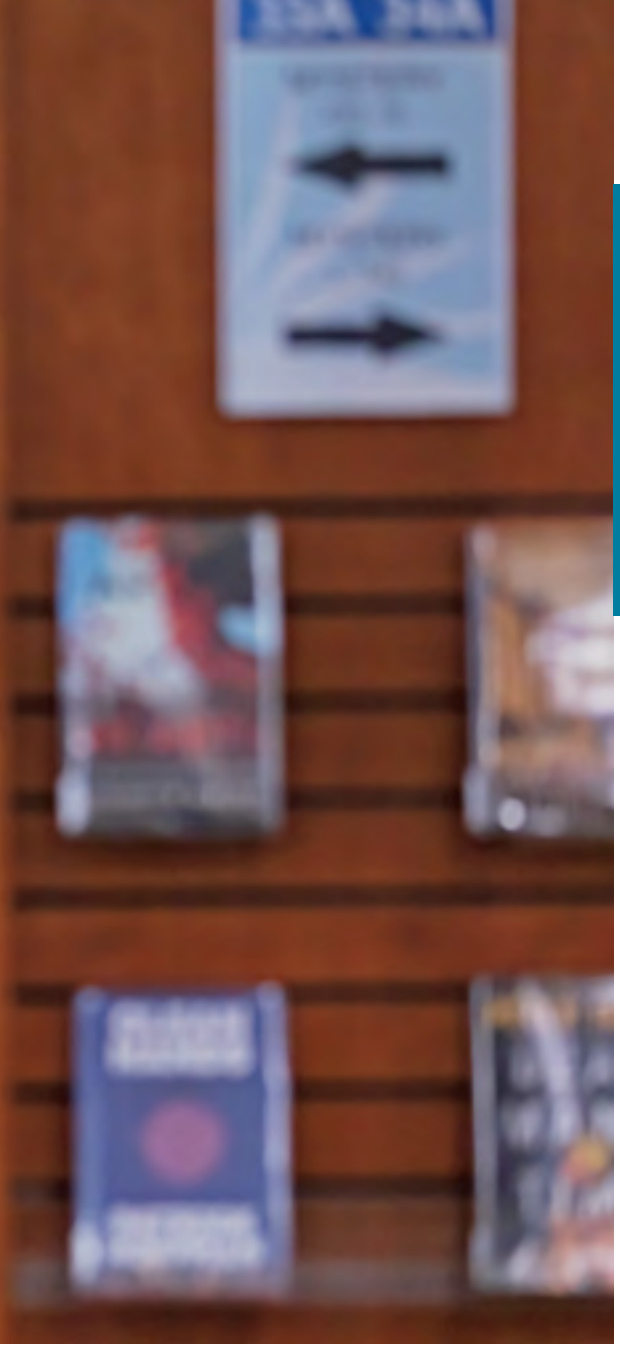
Commission member **Leanne Kealoha Fox** concluded the launch event, highlighting the artistic contributions that are included in the report. The inside front cover (pictured) features a public art installation by Miami-based artist Xavier Cortada that shows a street intersection's elevation and its vulnerability to sea level rise. Dr. Fox also read the poem "Whispers of Change: America's Climate Call" by Commission cochair **Mustafa Santiago Ali**, which is included on the inside back cover of the report.

The State(s) of the Humanities

By **Robert B. Townsend**, *Director of the Humanities, Arts, and Culture Programs and Codirector of the Humanities Indicators*

In recent months, the media has been filled with reports of colleges and universities nationwide cutting humanities programs, at institutions ranging from large state flagships (such as West Virginia University) to smaller liberal arts colleges (such as Simmons and Lasell Universities). To clarify some of the choices involved in these decisions, the Academy's Humanities Indicators project is releasing a series of reports on the state of the humanities in each of the fifty states and the District of Columbia. These reports demonstrate the depth of the challenges facing the humanities (with the numbers of humanities degrees declining in all but three states), but they also provide resources to counter some of the prevailing narratives about career outcomes for graduates in the humanities.

The fifty-state perspective offers a distinct perspective on the challenges facing the field. At the



Regardless of the particular challenges in each state, the recent trend underscores the fact that the humanities are facing difficulties in almost every state.

national level, the number of bachelor's degrees in the humanities being awarded fell 18 percent from 2012 (their recent peak) to 2021. Looking at that data in each of the fifty states underscores the scale of the problem, since humanities degrees have decreased by more than 25 percent in most of the states in New England, the upper Midwest, and the Pacific Northwest. Figure 1 (see page 22) shows the change in the share of bachelor's degrees being awarded to humanities majors in each state from 2012 to 2021.

As Figure 1 demonstrates, the humanities field has gained "market share" in only three states (Arizona, Iowa, and North Dakota) over that decade. However, the gains in those states were for very different reasons. Colleges in Arizona have traditionally awarded a small share of bachelor's degrees in the humanities (just 6.3 percent in 2012), so a modest increase in humanities degrees pushed the field higher in the mix of degrees being awarded in the state. In comparison, the number of students earning bachelor's degrees in Iowa fell sharply, with humanities degrees falling a bit more slowly than the rest. Regardless of the particular challenges in each state, the recent trend underscores the fact that the humanities are facing difficulties in almost every state.

Since the recent declines are often attributed to student concerns about their job prospects, the Humanities Indicators is now publishing a series of reports looking at career outcomes for humanities graduates in every state. Drawing on data from the U.S. Census Bureau's American Community Survey, the Indicators staff published a series of state profiles in October 2023 (available at www.amacad.org/publication/employment-outcomes-humanities-majors-state-profiles) that estimate the number of humanities majors working full-time in each state, their median earnings relative to other college graduates and those without college degrees, how the humanities graduates are distributed across occupations, and their unemployment rate.

The results may provide useful answers for faculty members and administrators trying to address the concerns of students, parents, and state legislators. The findings show that in every state, the median earnings for humanities graduates are substantially higher than the median earnings for those in the workforce without a college degree. In all but four of the states (the Dakotas, Montana, and Wyoming), the median earnings for humanities majors were at least 40 percent higher than the median earnings of workers with only a high school degree.[1] And in some of the largest states (California, Illinois, Maryland, New Jersey, New York, and Virginia), humanities majors have substantial earnings advantages (of more than 80 percent) relative to those without a college degree.

Of course, discussions about the "return on investment" for a college degree are often positioned relative to other college majors, rather

1. Earnings and unemployment estimates are for workers aged 25–59.

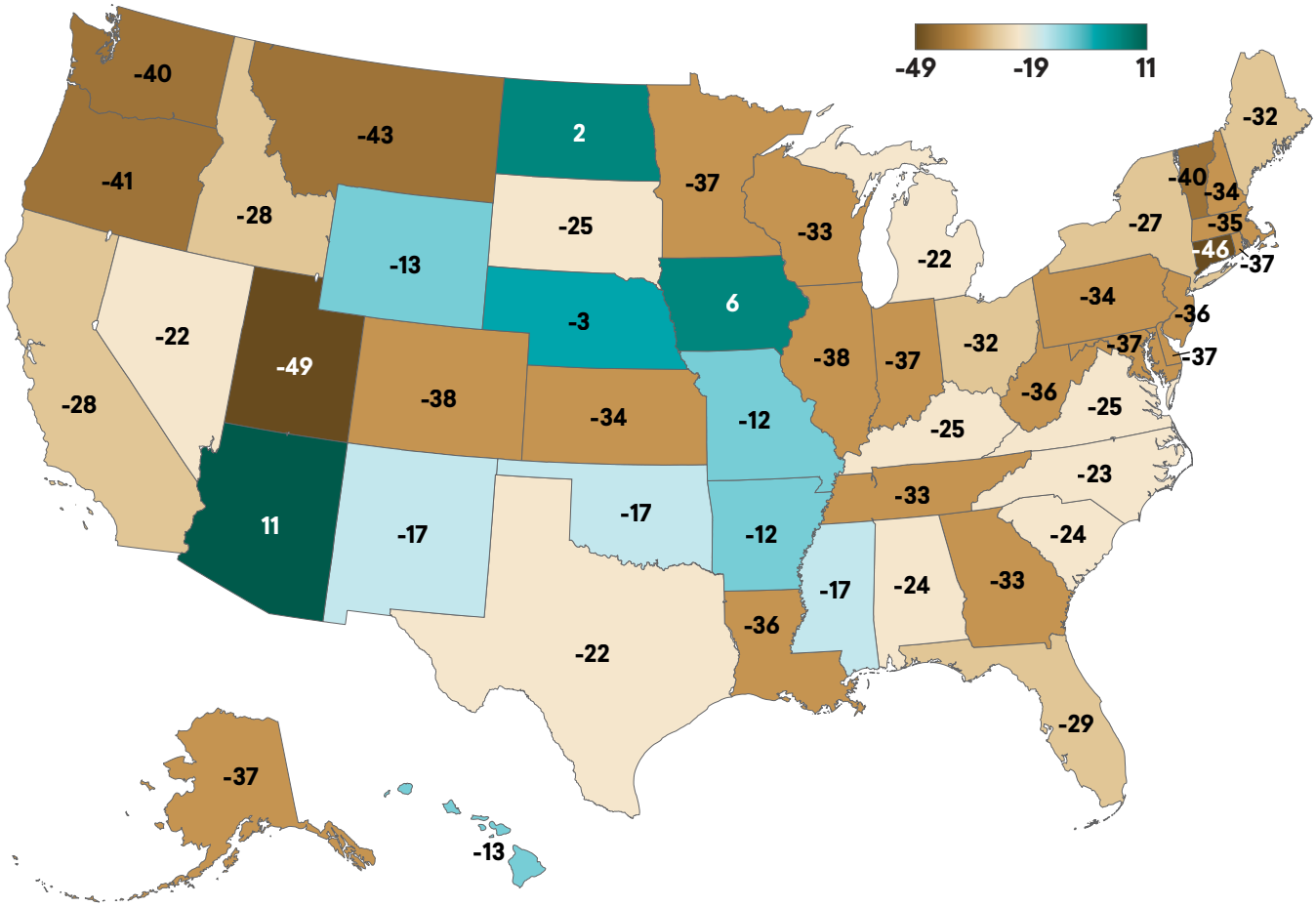
than the much larger share of the population without a college degree. But even here, the median earnings for humanities majors are similar to or higher than their peers in the behavioral and social sciences, the arts, and education. In most states, the earnings for humanities majors are modestly lower than the median earnings of graduates from the natural sciences and business, with engineering majors the outliers relative to graduates from every other field.

The data also offer reassurance for concerns about whether a humanities degree will lead to the unemployment line. In the District of Columbia and in forty-three states for which it was possible to generate an estimate, the unemployment rate for humanities majors was similar to college graduates from other majors (typically around 3 percent), and lower than the rate for those without a college degree (with a state average of 6 percent).

The reports do, however, demonstrate more substantial differences among the states in the opportunities and types of work humanities graduates might perform. Humanities graduates have the greatest representation among full-time workers in Vermont (8.3 percent) and the least in Mississippi (1.9 percent). Some of that variation may be attributed to the differences among states in the share of the working population with a college degree (more than 44 percent of the full-time workforce in Vermont has a college degree, compared to just 29 percent in Mississippi). Even so, humanities graduates represent just 7 percent of the full-time workforce with a college degree in Mississippi, compared to 19 percent in Vermont.

And within those shares, there are substantial differences in the mix of occupations humanities graduates are performing. In thirty-one states, the largest share of employed humanities majors are in education jobs (though that share ranges from a low of 16 percent of the employed humanities graduates in Indiana to a high of 25 percent

Figure 1: Percentage Change in the Share of Bachelor's Degrees Awarded in the Humanities, 2012 to 2021



in Mississippi). In fourteen other states, the top job type for humanities majors was in service and sales. In the remaining five states (and the District of Columbia), humanities graduates were most likely to be in management positions.

The reports also highlight the occupations that rely heavily on the humanities to fill their ranks. In almost every state, the legal profession and the museum/library fields depend on workers with a humanities degree. Looking across all the states, an average of 28 percent of workers in the legal profession had a bachelor's degree in the humanities (ranging from 15 percent in Mississippi to 37 percent in Oregon). Humanities graduates are even more overrepresented in museum and library occupations. An average of 35 percent of the museum/library workers in each state had majored in the humanities (with the percentage ranging from a low of 22 percent in New Mexico to over half of such workers in Vermont).

Taken as a whole, the new profiles offer a more localized picture of the career outcomes for students who have majored in the humanities, and provide a tool for those seeking more information. It is important also to note that earnings and occupations are not the only measure of success in one's career or life. An earlier report from the Humanities Indicators (at www.amacad.org/publication/humanities-workforce-beyond) offers measures of job and life satisfaction for humanities graduates (albeit only at the national level).

A forthcoming report this spring with additional state-level information will provide details (where possible from the available data) about earnings estimates by gender, race/ethnicity, and humanities discipline.

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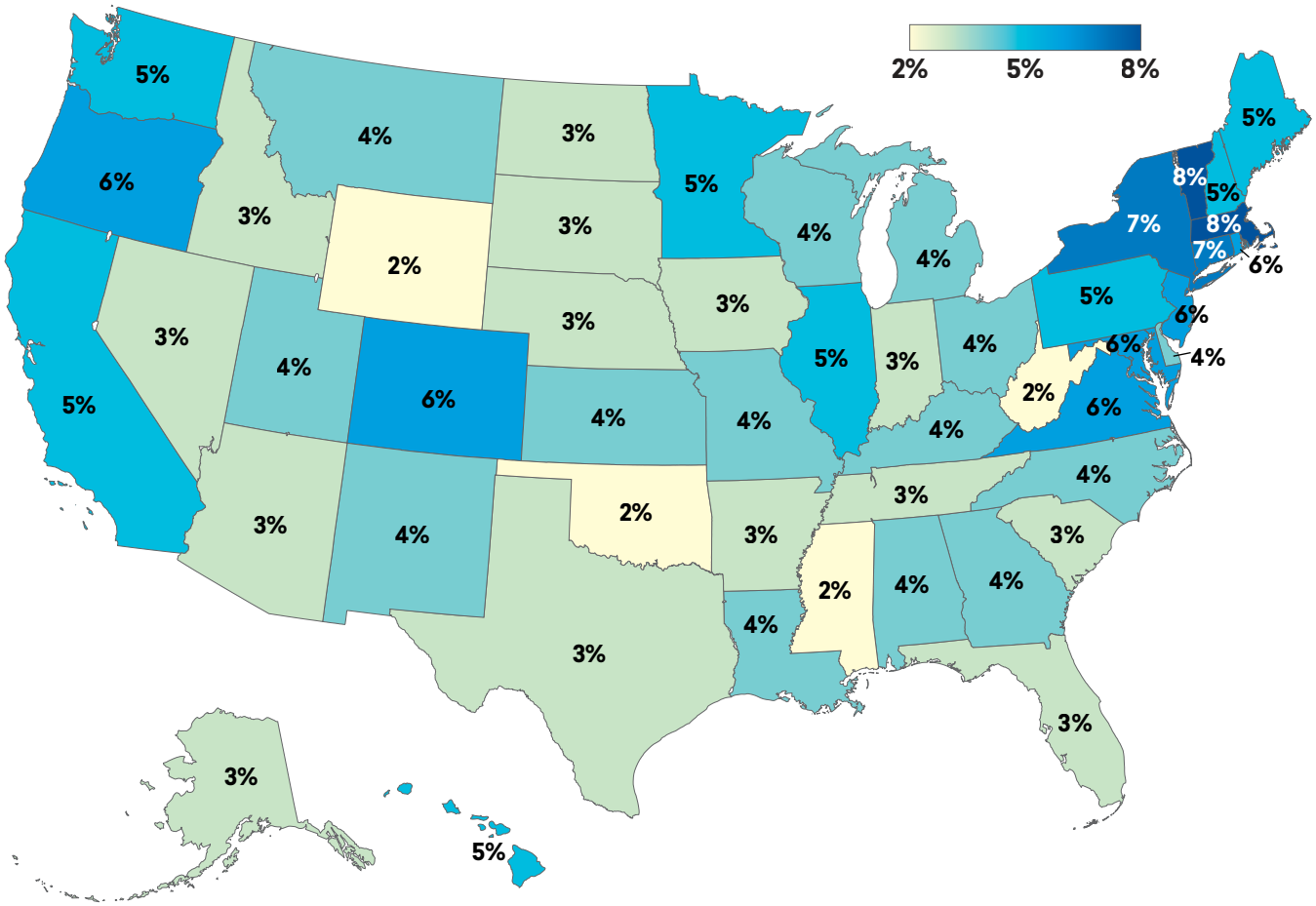
For more information about the Humanities Indicators, visit www.amacad.org/humanities-indicators.

Figure 2: Humanities Bachelor's Degree Recipients' Share of the State Workforce, 2017 to 2021



2023 INDUCTION

Opening Celebration

2115th Stated Meeting | September 29, 2023 |
Kresge Auditorium, Massachusetts Institute of Technology | David M. Rubenstein Lecture

The opening program of the 2023 Induction weekend included a reflection from actor and author **John Lithgow**, who encouraged the new members to engage with the Academy. He talked about his experience as a cochair of the Academy's Commission on the Arts and shared a preview of his new television series on PBS – *Art Happens Here* – which grew out of the Academy's work. The program also featured a conversation between **David M. Rubenstein**, Co-Founder and Co-Chairman of The Carlyle Group, and **Sheila Johnson**, Founder and Chief Executive Officer of the Salamander Collection, that illuminated aspects of Johnson's childhood, her success in a range of business ventures, and her lifelong involvement in the arts. An edited version of their conversation follows.

David M. Rubenstein

David M. Rubenstein is Co-Founder and Co-Chairman of The Carlyle Group. He was elected to the American Academy of Arts and Sciences in 2013 and is a member of the Academy's Board of Directors and of the Academy's Trust.

Sheila Johnson

Sheila Johnson is Founder and CEO of the Salamander Collection. She was elected to the American Academy of Arts and Sciences in 2023.

DAVID M. RUBENSTEIN: Sheila, thank you for joining me in a conversation this evening.

SHEILA JOHNSON: My pleasure.

RUBENSTEIN: When you were notified that you had been elected to the American Academy of Arts and Sciences, was your reaction, "I can't believe this is happening to me"? Or did you say, "Why did it take so long?"

JOHNSON: I was ecstatic to hear that I had been elected to the Academy. I learned that Dan Porterfield from The Aspen Institute had nominated me, but a few days ago I was having breakfast with Donna Shalala and she said she nominated me. So, I'm not sure who exactly nominated me, but I am very happy to have been elected a member of the Academy.

RUBENSTEIN: President Kennedy said victory has a hundred fathers and defeat is an orphan, so maybe everybody nominated you! You have done an extraordinary number of things in your life. Let's remind everyone of a few of those things. You helped to start BET (Black Entertainment Television).

JOHNSON: Correct.

RUBENSTEIN: And as a result of the sale of BET, you became the first female Black billionaire in the United States. You are also a violinist and played with the Chicago Symphony.

JOHNSON: Yes, I did.

RUBENSTEIN: You own part of three sports teams: the NBA's Washington Wizards, the NHL's Washington Capitals, and the WNBA's Washington Mystics.

JOHNSON: Yes, that's true.

RUBENSTEIN: Out of whole cloth you decided to start a hotel company in an area that was not known for having many Black people.

JOHNSON: There was hardly any diversity at all.

RUBENSTEIN: You started Salamander in Middleburg, Virginia. We will talk more about that in a moment. In addition, you are a philanthropist: you have sponsored the Sheila Johnson Fellowship at the Harvard Kennedy School; you have made a major gift to the National Park Service; and you are supporting other organizations. You also have been a spokesperson for CARE.

JOHNSON: Yes.

RUBENSTEIN: And now you have a new book, a memoir, *Walk Through Fire*. What do you do in your spare time?

JOHNSON: To be honest, I don't have a lot of spare time, but I'm now in this third act of my life. Let me explain. The first act centered on the arts, which are the foundation of my life. I grew up playing the violin and received a degree in music education from the University of Illinois. I established a music conservatory in Jordan for Queen Noor and King Hussein. And starting Black Entertainment Television was a part of the arts media. But now I am having fun in this third act of my life.

"The first act of my life centered on the arts. I grew up playing the violin and received a degree in music education from the University of Illinois. I established a music conservatory in Jordan for Queen Noor and King Hussein. And starting Black Entertainment Television was a part of the arts media.

RUBENSTEIN: Let me ask about the hotel business. I travel a lot. If I show up at a hotel late at night and I don't have a reservation, can I negotiate the room rate? Do the people who work in your hotel have the authority to do that?

JOHNSON: We do have the authority to do that. But if you're coming in that late at night and we know you're coming in, someone will greet you. If it's not me, it will be somebody else.

RUBENSTEIN: But I can negotiate the rate?

JOHNSON: Yes, you can negotiate the rate.

RUBENSTEIN: Another question: Hotel owners always tell me that they lose money on minibars, but minibars are full of very expensive items. How do you lose money on them?

JOHNSON: That's a very good question. To be honest, I don't know how many people actually use the minibars because they know how expensive the food is. But it's the alcohol in the minibar where you make your money.

> At the time when my father left, women didn't have a lot of rights. We didn't have credit cards. My mother didn't have access to a bank account. My father would not pay for child support. So I got a job mopping floors at JCPenney.

RUBENSTEIN: Let's talk about your childhood. You grew up in Illinois?

JOHNSON: Yes.

RUBENSTEIN: And were your parents professors?

JOHNSON: My father was one of eight African American neurosurgeons in the country at the time. It was a tough life because back then he could only operate on African American patients. He couldn't work in white hospitals. My parents moved us around thirteen times and that's the way I grew up. I was like an Army brat. It was very challenging and sad for my father, and I could see it in his eyes. The racism back then was extraordinary. For the thirteenth move, we went outside of Chicago. We landed in Maywood, Illinois, because my father finally became chief of staff at Hines VA Hospital.

RUBENSTEIN: So your father was one of eight Black neurosurgeons in the United States. In your book, you mention that one day he came home and said to your mother, "I'm out of here."

JOHNSON: He sure did.

RUBENSTEIN: Did you ever see him again?

JOHNSON: No, I never saw him again.

RUBENSTEIN: Who helped raise you? Your mother?

JOHNSON: I raised my family. At the time when my father left, women didn't have a lot of rights. We didn't have credit cards. My mother didn't have access to a bank account. My father would not pay for child support. So I got a job mopping floors at JCPenney. I remember coming home one evening, and I found my mother on the floor. She was having a nervous breakdown, and that point changed my life forever. Not only did I see the helplessness of my mother on the ground, but I knew that I had to take over the family. It was my responsibility, and up until she passed, I was supporting the family.

RUBENSTEIN: You ultimately received a scholarship for playing the violin. How did you have time to practice when you were supporting your family? Would you sneak off for a couple of half hours here and there to play the violin?

JOHNSON: I would get up at midnight to practice. I would do my homework after dinner, go to bed for a while, and then get up and practice until 2:30 in the morning.

RUBENSTEIN: Did you think you had an opportunity to be a concert violinist?

JOHNSON: Though I know now that I was talented, I wasn't that talented. Nothing like Yo-Yo Ma.

RUBENSTEIN: You weren't like Joshua Bell?

JOHNSON: No, but I was a good orchestra violinist.

RUBENSTEIN: And so you got a scholarship from the University of Illinois.

JOHNSON: Yes.

RUBENSTEIN: And at the University of Illinois, you were playing the violin and studying, and then you met somebody who you later married.

JOHNSON: Yes.

RUBENSTEIN: The two of you moved to Washington, D.C., and your husband then, Bob Johnson, decided to start a company with you called Black Entertainment Television. Was that in the early 1980s?

JOHNSON: Actually, it was in the late 1970s.

RUBENSTEIN: BET became a hugely successful company. You ultimately took it public and later sold it to Viacom. Why was there a need for Black Entertainment Television? Weren't there other channels offering shows that were of interest to Black audiences?

JOHNSON: Not really. At that time, there was CNN and Bloomberg. My ex-husband was a lobbyist for the National Cable Television Association, and he was taking someone to the Hill who wanted to get government approval and money to start a senior citizen channel. He was turned down, and he threw his proposal in the trash. Bob picked it up and brought it home. I read through it, replaced senior with Black, and we had our proposal for BET.

RUBENSTEIN: BET became very successful, and you were involved in running it for twenty years.

JOHNSON: Yes. But let me tell you why we started BET. No one was really focusing on the African American audience, which I thought was critical for the vision of the network. I'm not saying it should have been a Black CNN, but I really wanted to give the African American voice an opportunity to talk about issues within the African American community. I believe we still need that.

RUBENSTEIN: As you built your career, would you say you suffered more discrimination because you are Black or because you are female?

JOHNSON: Both. I was discriminated against because I am Black and because I am a woman.

RUBENSTEIN: You have two children and one is an equestrian champion, correct?

JOHNSON: Yes, and my daughter is an equestrian champion.

RUBENSTEIN: That's a very expensive sport.

JOHNSON: Once BET started, we were making some money, so we could afford a few horses.

RUBENSTEIN: In your book, you mention that you decided to get on a horse not too long ago. How did that go?

JOHNSON: It was disastrous. My daughter wanted me to do some trail riding with her, so she put me on one of her jumpers, Warlock. We're going through the woods and there are logs. And I'm saying, "Paige, I can't jump this." She says, "Just give it a try. Kick him." So, we went over the logs and then we went into the indoor arena where a trainer was teaching me how to jump. Unfortunately, a bumblebee stung the horse, and I was thrown off. Paige kept yelling, "Let go of the reins," which I didn't do. The horse came down and stepped on my side.

RUBENSTEIN: Have you been back on a horse since then?

JOHNSON: No, and never again.

"Let me tell you why we started BET. No one was really focusing on the African American audience, which I thought was critical for the vision of the network. I'm not saying it should have been a Black CNN, but I really wanted to give the African American voice an opportunity to talk about issues within the African American community. I believe we still need that.

RUBENSTEIN: To get away from the hubbub of Washington, you decided to spend some time in Middleburg, a suburb near Washington.

JOHNSON: Yes.

RUBENSTEIN: Is Middleburg known as a place where many African American people live?

JOHNSON: No, not at all. The people of color you would see there worked on the big estates or the farms. The area became very chichi because that is where Jacqueline Kennedy would come and ride

What I had also learned after moving to Middleburg was that it was financially bankrupt. The place was hanging on by a thread, and I knew that if I built this resort in Middleburg, it would become the economic engine that would turn the place around.

with her daughter. It has become a huge equestrian community.

RUBENSTEIN: So in Middleburg, you have a house for your family, and then you decide to build the Salamander Hotel. How was that received by the local people?

JOHNSON: Let me explain what I went through. It was a ten-year fight. I thought getting out of a bad marriage was bad. This was a nightmare. I forgot I was south of the Mason-Dixon line. I bought 340 acres of land that belonged to Pamela Harriman. She was the ambassador to France and a big Democratic fundraiser. When I bought the land, people didn't think I was going to do anything with it. But for me, when you buy that kind of property, you have to do something with it to get your money back. What I had also learned after moving to Middleburg was that it was financially bankrupt. The place was hanging on by a thread, and I knew that if I built this resort in Middleburg, it would become the economic engine that would turn the place around.

RUBENSTEIN: Did people say, "We're happy to have a female Black owner building something in Middleburg"?

JOHNSON: No, not at all. I had a party on the land to introduce my idea and my vision. The next morning, I was on my way to Dulles Airport and on both sides of the road there were signs "Don't BET Middleburg." I called my attorney and said, "I think we have a problem here." Things went downhill from that point on. I had to fight to get permission for all of the permits. There was a conservationist group opposing me. That same group had defeated Disney. Disney wanted to build a theme park near the Manassas Battlefield, but they pulled out because of the intense fighting with that group. It was clear they didn't want me in Middleburg. But it was equally clear that they did not understand how important it was to bring business to the area.

RUBENSTEIN: Ultimately you got approval to build by one vote, as I recall.

JOHNSON: Yes, I won by one vote.

RUBENSTEIN: So now you are starting to build and the great recession happens, making it difficult to finance these types of projects.

JOHNSON: I got a call from the bank and JPMorgan. Jamie Dimon said I should mothball the project until we can see our way out of this recession. We didn't want to lose any more money.

RUBENSTEIN: When you were starting out, you didn't have a lot of money. You then made a good amount of money. Is it fair to say that you were afraid you might go back to not having enough money, so you mothballed the project?

JOHNSON: Yes.

RUBENSTEIN: But eventually you did build it, and it became a very large and successful hotel resort area in Middleburg.

JOHNSON: We have 168 rooms, and we are now building residential units there.

RUBENSTEIN: You also own and manage six other hotels. What is the toughest job in a hotel? Cleaning the rooms?

JOHNSON: I was telling some people earlier that our hotels are so full, especially the one in Middleburg, and that there are times when my staff is very overwhelmed. So, I will help out and bus tables for them. I will do anything I can do to help because for five years in a row, we have won a Forbes 5-star rating.

RUBENSTEIN: When you have a 5-star hotel that is always booked, do you get people calling who say, "I want to stay here. Don't you know who I am?"

JOHNSON: I get those types of calls. Someone will call my office and say, "I know Sheila Johnson. Do you think that I can get my rates reduced?"

RUBENSTEIN: Really? They want the rate reduced?

JOHNSON: I say no. You know, I'm running a business.

RUBENSTEIN: So while you are running that business, you decide to become an owner of a sports franchise. How did that come about? Did somebody approach you and say, "We would like you to buy a majority interest in a professional sports team?"

JOHNSON: This is a case in which you never want to burn your bridges. I had become very close with the Pollins. Abe Pollin owned the Capitals, the Wizards, and the Mystics. He was getting on in life and decided to sell the Caps to Ted Leonsis, who had right of first refusal once Abe passed to buy the Wizards. One day, Susan O'Malley, the president of Abe's organization, called and said, "Abe wants to see you in his office." So, I went to see him. And Abe said, "Sheila, you know I respect you. I want you to become the face of the Washington Mystics." I said, "What do you mean by 'the face of'?" knowing exactly what he wanted. His answer: "I want you to buy the Washington Mystics."

RUBENSTEIN: He wanted you to buy the women's basketball team? Was the team making a lot of money?

JOHNSON: It was not making money at all. And I knew that. But I also knew that a door had opened for me and for women and for some people of color. I said I can either walk through this door or not walk through it. I called my attorney and said, "I've just been offered a basketball team." And he said, "You do not want to own a sports team." And I said, "But if you were offered a sports team, what would you do?" He hesitated, and then he answered my question. One of the other lessons that I have learned is that when men get offers like this and those doors open, they go right through them. And I was going to do that too. When I got to my attorney's office, I called Ted Leonsis. I said, "I'm going to make you an offer you can't refuse. You can get a woman and a woman of color. I want to buy into the Caps, into the Wizards, and into the Mystics for not a penny more or a penny less than the rest of the owners." His response was "Well, you know, we have escalating prices." I said, "I want to be right up there. I want to play an important role as a woman and as an African American."

RUBENSTEIN: In other words, you didn't want to own only the women's basketball team. You wanted to own the men's basketball team and the hockey team too?

JOHNSON: Absolutely.

RUBENSTEIN: Okay, so now you're an owner. Do you go into the locker rooms and give them pep talks?

JOHNSON: No. I made a mistake and I did do that once with my women's team. There was a reporter there and it got into the newspaper the next day. That taught me a lesson to stay out of the locker room.

"When I got to my attorney's office, I called Ted Leonsis. I said, 'I'm going to make you an offer you can't refuse. You can get a woman and a woman of color. I want to buy into the Caps, into the Wizards, and into the Mystics for not a penny more or a penny less than the rest of the owners.'

RUBENSTEIN: You have obviously succeeded at many things. Have you ever thought about running for office? Perhaps for president?

JOHNSON: No.

RUBENSTEIN: Is it because you are not old enough yet?

JOHNSON: No, it's not that. I have no desire to get into politics. But I would love to be an ambassador someday.

One thing I learned from all the adversity that I've been through is that I want to be able to pay my success forward, to help young people in need. People stepped up and helped me, so it's important that I do that for others.

RUBENSTEIN: Really, an ambassador?

JOHNSON: Yes.

RUBENSTEIN: Other than your election to the American Academy of Arts and Sciences, what is your proudest achievement?

JOHNSON: Let's talk about philanthropy. I believe in the double bottom line. I believe in education. I believe in the arts. David Gergen came to me. I had been lecturing at the Kennedy School at Harvard, and he said, "Sheila, I have a great idea. We are trying to get more students of color at the Kennedy School." So, we sat down and talked and put together a five-year plan in which we would bring in ten students from underserved communities every year for the next five years. I would pay for their education, their health care, and so on. Students would apply and the Kennedy School would make the final selection. But I didn't want to just write a check. I wanted to be involved in the students' lives. And to this day all fifty students call me Mama J. I'm still in touch with them. They have become very successful. I also wanted to give them a safety net. So funded by the money that I gave to the school, we had four incredible people whom these students could go to in case they had problems. And not just problems of trying to acclimate to Harvard. We were trying to teach them how to set boundaries around family.

RUBENSTEIN: You have had to overcome a lot of challenges in your life.

JOHNSON: Yes.

RUBENSTEIN: Your father walked out. You had a child die in your arms in the hospital. As you look back on America, do you see it as a place for opportunity where people can come and achieve the kinds of things you have achieved? Or is this country still stacked against women and people of color?

JOHNSON: One thing I learned from all the adversity that I've been through is that I want to be able to pay my success forward, to help young people in need. People stepped up and helped me, so it's important that I do that for others.

RUBENSTEIN: Are you still playing the violin?

JOHNSON: I still play the violin and I also took up the cello during the pandemic.

RUBENSTEIN: Your story is an incredible one. You have overcome challenges, and your accomplishments are truly inspiring. We are so pleased that you have been elected to the American Academy and will be inducted tomorrow.

JOHNSON: Thank you so much.

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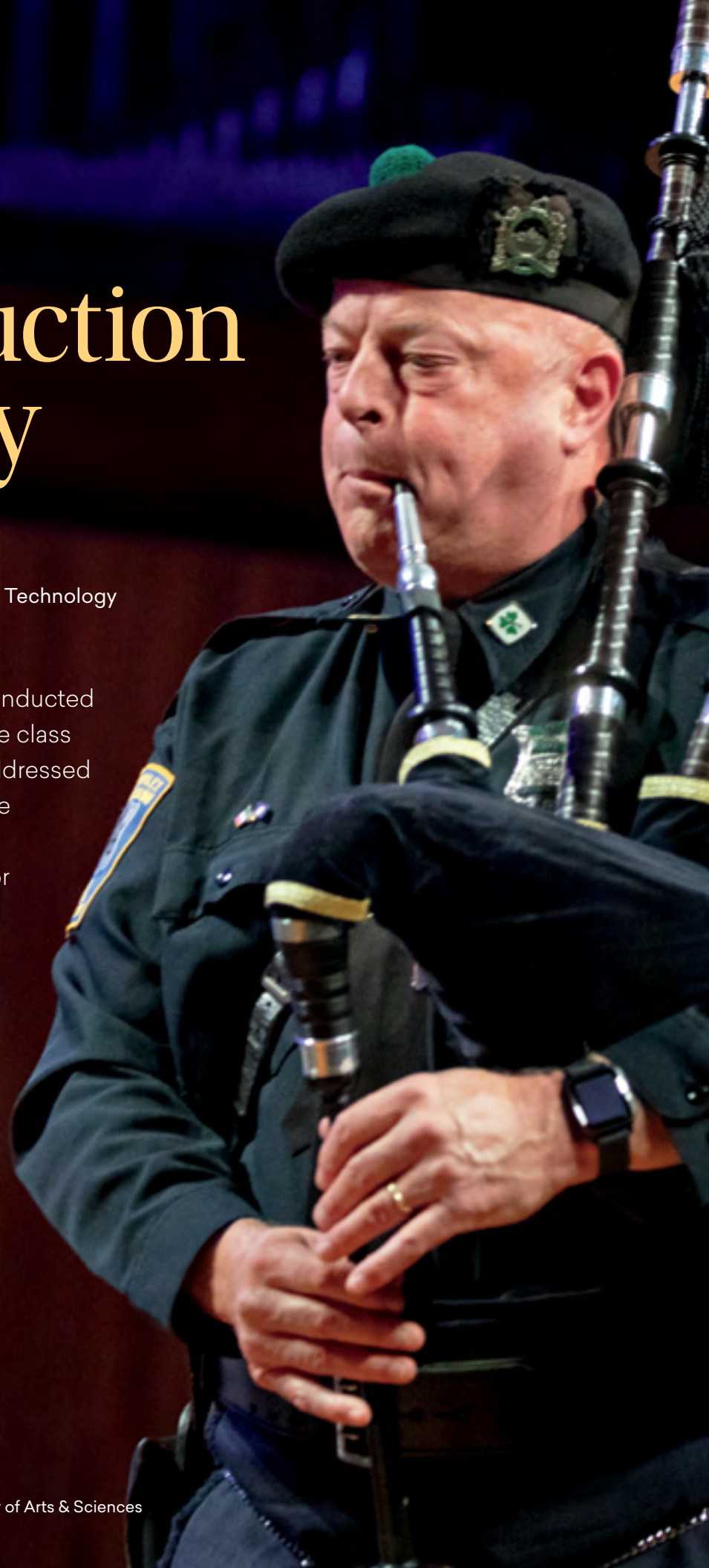
To view or listen to the presentation, visit www.amacad.org/events/Induction-2023.

2023 Induction Ceremony

2116th Stated Meeting | September 30, 2023 |
Kresge Auditorium, Massachusetts Institute of Technology

On September 30, 2023, the Academy inducted members elected in 2022 and 2023. The class speakers at the Induction Ceremony addressed major issues facing the world today. The ceremony featured presentations from computer scientist **Maja Matarić**, author and physician **Abraham Verghese**, economist **Kerwin Charles**, artistic director **Oskar Eustis**, and atmospheric scientist **Katharine Hayhoe**. An edited version of their presentations follows.



Members of the Boston Police Gaelic Column of Pipes and Drums signal the beginning of the Induction Ceremony.

Maja Matarić

Maja Matarić is the Chan Soon-Shiong Chair and Distinguished Professor of Computer Science at the University of Southern California Viterbi School of Engineering (with appointments in Neuroscience and Pediatrics) and Principal Scientist at Google DeepMind. She is also founding director of the USC Robotics and Autonomous Systems Center, codirector of the USC Robotics Research Lab, and past interim USC Vice President of Research, Vice Dean for Research, and President of the USC faculty and the Academic Senate. She was elected to the American Academy of Arts and Sciences in 2023.

What an incredible honor to be a member of this group and to be part of this event. This really is the best academy because it brings together an unparalleled diversity of minds and endeavors. (It's not a competition, but we win!)

It is a unique privilege to address you. I will try to engage you on a topic that truly brings us all together, for no lesser stakes than the future of humanity. I am talking about AI, artificial intelligence, my area of expertise and responsibility. And as I will try to quickly convince you, it is everyone's responsibility as well.

I have been a researcher in robotics and AI for thirty-six years. It has been an incredible journey, full of wonderful colleagues (also some arrogant jerks, but that's humanity) and even more wonderful students. We have worked on endowing machines with the ability to help people who need help, and that has been remarkably satisfying, at least when it works. And it has worked. We have been able to measurably help stroke patients, elderly individuals with dementia, children on the autism spectrum, and more recently students experiencing anxiety and depression.

I didn't self-identify as an AI researcher until recently, but AI's umbrella is larger (and louder) now, and there is no end to the worthwhile challenges we can work on to improve the human condition through AI.

However, the latest breakthroughs in AI and its current and future uses have raised very serious concerns in recent months. First, a bit of historical context. AI was officially "born" in the mid-1950s. When I was an undergraduate in the late 1980s, there was a single AI class at the University

of Kansas. It was taught at 8 am, so of course I did not take it! Today, AI courses are the most popular on campus; Stanford's intro AI class, for example, is capped at 850 students each quarter. That gives you a sense of the scale of interest and investment.

Does it seem like AI just blew up all of a sudden? Well, it did. AI was advancing at a regular pace of research until just a handful of years ago, and then a confluence of circumstances propelled it to where it is today. And it has continued to accelerate. Those circumstances were: 1) an abundance of data (via the web, social media, videos, images, books, music . . . all of human creation available in digital form); 2) special processors created for computer games; and 3) some clever algorithms.

It took humanity less than a single lifetime to advance AI from playing tic-tac-toe and reading zip codes on letters, to driving autonomously, acing the MCATs and bar exams, decoding human thought via fMRI, recognizing any human who has been photographed, and creating visual art, music, poetry, plays, and novels.

AI can create derivative mash-ups (Mona Lisa with a pug face, Sinatra rapping, each of you singing parts from *Hamilton*, and so on), but it can also create worthy originals. And AI can be a creative collaborator, aiding our discovery in the sciences and humanities. It has, after all, been trained on all of human creation, so it is arguably the best student of all time. And it is already having an influence on every single human endeavor represented in this room.

But like human intelligence, on whose products it was trained, AI has a dark side. It has already tricked people into believing it is human and has hired them to do work for it. It has tried to destroy a marriage. It can break into computer security systems. And, most concerningly, it is getting better at creating recipes for bioweapons. It does all this in response to human questions and requests.

Consequently, experts are concerned that humanity has become vulnerable to AI in multiple ways. One concern is about "runaway AI": if we are to AI as animals are to us, then it is not looking good for humanity as AI rapidly outpaces us.

Another concern is about "AI in bad hands." By making AI accessible to all, society risks bad actors causing possibly irreversible large-scale destruction.

The third concern is the societal disruption created by "AI in the market economy." AI tools are already paving the way to replace numerous jobs, with potentially massive economic implications. The surprise, besides the speed of change, is that most of those jobs are knowledge and creative work, not physical work that was historically eliminated by industrialization. Robotics is still a bit behind current AI, but it is coming, and it will address physical work.

> I didn't self-identify as an AI researcher until recently, but AI's umbrella is larger (and louder) now, and there is no end to the worthwhile challenges we can work on to improve the human condition through AI.

What will this Academy's inductions look like in an age when AI creates affordable and lucrative art, music, stories, novels, computer programs, contracts, policies, therapeutics, and just about everything else? How much better will our creations be? What will we be doing?

We humans have outdone ourselves by creating something that we already do not understand nor can we predict – which is apt since it is based on us. We do not understand ourselves nor can we predict our impact on the world.

AI is a wunderkind with tremendous potential that can become a monster if mistreated and abused. Will we nurture and contain it? Will we have the strength to say "no" even when it is easier to say "yes"? Bringing up this wunderkind is everyone's job. Because it is, literally, about everyone's job.

This is not the first or only fast-accelerating existential dilemma we have brought on ourselves. As in the other case, it is going to take all of us actively setting denial aside, caring, thinking beyond our comfortable areas of expertise, and working together on our collective future.

I am optimistic, because as this gathering reflects, we are astonishingly creative, wise, and caring, when we want to be.

And so, I'm happy we are in this together, and honored to be sharing this interesting time in history and this wonderful experience and celebration with all of you. Thank you and congratulations!

Abraham Verghese

Abraham Verghese is the Linda R. Meier and Joan F. Lane Provostial Professor of Medicine and Vice Chair for the Theory and Practice of Medicine at the School of Medicine at Stanford University. He was elected to the American Academy of Arts and Sciences in 2022.

It is the honor of a lifetime for me to be elected to membership of this venerable institution. I have been asked to make remarks on behalf of the new inductees in Class II, the Biological Sciences. The range of disciplines we represent is breathtaking: biophysics and biochemistry, molecular and cellular biology, immunology, evolution and ecology, neuroscience, and the medical sciences. Of the 103 other new members in Class II, I know only a few, and mostly by their reputation in a specific field that I'm aware of. This underscores the challenge of my task.

We have traveled very different paths to arrive at this moment, but tonight we share great happiness and pride in being here. And we share these sentiments with both our loved ones and our mentors, many of whom are also here today. We celebrate with them too because none of us has walked this path alone.

My own professional path is rooted in the practice and teaching of medicine on three continents. And my work in hospital wards and clinical exam rooms over four decades has been tangibly transformed by the labors and insights of those in the biological sciences. Their studies have brought understanding of mechanisms, better diagnosis and monitoring, and therapies that have changed lives.

Sometimes the impact of these advances happens quickly, and dramatically. At other times, change happens only after a few generations of scientists, entrepreneurs, technologists, leaders, policymakers, regulators, practitioners, and patients have painstakingly worked the territory, with dedication and sacrifice. In caring for the sick, we never walk alone.

My career as a doctor, and much later as a writer, was shaped by the AIDS epidemic of the 1980s. Many people remember particular years by specific songs, but I remember the 1980s by rather different milestones. In the June 1981 issue of the *Morbidity and Mortality Weekly Report* (*MMWR*), Michael Gottlieb and others described a rare lung infection, *Pneumocystis carinii* pneumonia, in five young, previously healthy gay men in Los Angeles. That report was soon followed by another describing a cluster of a previously rare cancer called

To understand the human impact of a viral pandemic and our responses to it takes more than the science. It takes the arts and the sciences.

Kaposi's Sarcoma in gay men in New York and California. By 1983, I was an infectious disease fellow in this hallowed city, training at the old Boston City Hospital. In my second year of that fellowship in early 1984, I picked up *The Boston Globe* and read that the cause for this mysterious illness had been discovered by Robert Gallo's group at the National Cancer Institute, having identified HTLV-3 – the initial name for HIV – as the viral cause of this new disease. The parallel work by Luc Montagnier and his group at the Pasteur Institute became known a little later. The ELISA blood test for HIV was available the following year.

By mid-1985, I had moved to a small town in Tennessee to work at a young medical school. In that town, population fifty thousand, people predicted that I would see one HIV-infected person every year, maybe. HIV was after all an urban condition. But too soon I was following almost one hundred people with HIV infection.

I realized in time that I had stumbled onto a uniquely American tale of migration, a paradigm that was playing out in countless small towns across America. A young man grows up in a small town and leaves for all the usual reasons: a job, education, opportunity. But these particular young men had left because they were gay and did not want to live that lifestyle under the scrutiny of their friends and relatives. They made their way to the big city, they had found themselves, but tragically, and sometimes only decades later, the virus found them. They were now returning to their hometowns, hoping to escape a plague that had decimated the gay community in their city; or else they were returning because they were sick. And there I was at the tail end of that migration, caring for these returning hometown boys.

I remember thinking in those pre-treatment years of HIV that I was really treating *two* diseases: the virus and then the *metaphor* that traveled with the virus – the metaphor of shame and secrecy. The metaphor was so powerful it had caused more than one patient I knew to take their own life, even at a time when the virus was relatively inactive for them. The metaphor also delayed funding for scientific discovery and necessary social services.

A scientific paper I wrote describing this migration was widely cited because it seemed to capture what was playing out in every small town in America. But I felt my language as a clinician and a scientist was inadequate. I had failed to capture the tragic nature of this voyage, the heartache of the families, or my own grief at witnessing the decline and death again and again in young men who were my age at the time. *That* was the realization that sparked my development as a writer, and that was the subject of my first book, a memoir titled *My Own Country*, published in 1985.

The pace of scientific advance in HIV research was relatively slow. In the fifteen years before highly active antiretroviral therapy or HAART was developed, I lost many patients whom I came to know so well, friends really, for whom it came too late.

Contrast that timeline with the pandemic we have all just lived through. This time the pace of discovery, of breakthrough diagnostics, treatment, and vaccines, was so incredibly rapid. Indeed, two of my fellow honorees in Class II are directly responsible for the science that led to the mRNA vaccines for COVID.

But as with HIV, we discovered most painfully that scientific truth, and logical deductions based on data, did not guarantee public consensus or rational reactions from people who probably should have known better. Indeed our failures in communicating the science, failures in governance and in the functioning of regulatory bodies, cost lives. A close reading of Camus's prescient 1947 novel *La Peste*, or *The Plague*, should have prepared us for the chaos. This was a viral pandemic, but its hosts were human, with all the complexity that comes with being human.

In my recent novel, *The Covenant of Water*, leprosy emerges as a major thread of the story. This is a disease with a metaphor so powerful that the word leper is itself a metaphor. Wrestling this metaphor back into human terms was part of the challenge of telling the story I wanted to tell.

To understand the human impact of a viral pandemic and our responses to it takes more than the science. It absolutely takes the range of disciplines embraced by this Academy, and by those in this hall. It takes the arts and the sciences.

Congratulations to my fellow inductees.

Kerwin Charles

Kerwin Charles is the Indra K. Nooyi Dean and Frederic D. Wolfe Professor of Economics, Policy, and Management at the Yale School of Management. He was elected to the American Academy of Arts and Sciences in 2023.

Good afternoon. I am deeply honored to be elected to the Academy and to have been asked to give brief remarks on behalf of Class III, the Social and Behavioral Sciences.

I must tell you that my election to the Academy quite surprised me. This sentiment may not have been true for others, but when the news came to me, I asked incredulously, "Who, me?" And when asked to give these short remarks, I thought, "*Which* me?" In what guise would I speak, and about what?

I suppressed the urge to speak as the sports maniac me, to use my time to lead my class in a group cheer or in doing the wave or a collective high five or any one of the other types of celebrations with which athletes mark achievements less impressive than our induction.

I also decided against speaking as the dean me, sharing thoughts about the challenges of academic leadership that I confront in my role as dean of Yale's School of Management.

Instead, I will speak as a researcher, the main activity to which I've devoted my career and which is the basis for my election to this Academy. As an empirical economist, studying topics in labor economics and socioeconomic inequality, I share

much not only with the other social scientists in my class, but also with all of the other researchers present here – those working in the arts and the humanities to what we call the hard sciences.

We have all felt the rush of breathless excitement when something on which we've been working forever suddenly becomes clear. If doing research occasionally brings delirious joy, we are all much more accustomed to the frustration when the data are less than perfect, or the model fails to converge.

Her skepticism is well founded because, in point of fact, my identity – the different "me's" by which I'm jointly defined – is indeed likely tied up with my research. I am a Black man; I am a straight man; I am an immigrant. These aspects of my identity have surely inclined me to undertake the study of certain questions over others. And, perhaps in ways of which I am not consciously aware, that identity may have caused me to find too swiftly one set of facts or a theory especially compelling or plausible.

> I think that all of us hope that the knowledge our research produces might enable practitioners, policymakers, institutions, and the public at large to make better decisions that positively affect the world and improve the human condition.

And I think that all of us hope that the knowledge our research produces might enable practitioners, policymakers, institutions, and the public at large to make better decisions that positively affect the world and improve the human condition. But I believe that we social scientists confront a particularly vexing set of challenges.

The matters we study – the determinants of national wealth; the distribution of society's bounty and burdens across groups; the effectiveness of alternative government policies; the legal and sociological context in which transactions, relationships, and interactions unfold; how individual traits or social structures delimit people's life prospects – these are issues about which persons, whom we hope will incorporate our findings into their activities and decision-making, have strong intuitions, beliefs, and interests.

And since these sentiments are grounded in their experiences, in what they and their loved ones have concluded as they make their way in the world, they approach our findings and proclamations with a certain confident skepticism – a self-assured doubt – not as evident in their exposure to other types of scholarly findings, for which their lived experience furnishes no guide.

Who, after all, can conceive of what an electron is? Or a quark? Or what it means for such a thing to have spin or be up rather than down? But presented with some social scientific claim, a member of the public, a fellow citizen, asks, "Is that true? Who says?" She wonders, if she doesn't always explicitly ask, "How is the identity of this scholar bound up with what they're telling me, with what they ask me to believe and to alter my life to satisfy?"

Yet, if I could speak to my fellow citizen, I would say to her or to any person who worries about the role of identity in our research, that she should be reassured by the practices and principles that undergird academic life: the insistence of wide-ranging and open debate; the dismissing of arguments from authority; the giving of seminars to experts waiting to be convinced; the review process with its replications, revisions, and rewriting and the need to somehow convince referee number 2. Yes, that guy.

The result of all this is to improve our work, to render it more rigorous and convincing, and to help ensure that its credibility is not filtered through the prism of who we are when we present it to the world.

Notwithstanding the practices governing how we interact in our scholarly communities, the best protections against the concern our citizen colleague raises are the actions we researchers take in the lab, in the field, or at the computer terminal. The actions we take on camera, as it were. The more skeptical we are about our own analyses and ideas, the more vigilant we are about our blinders and biases, and the more honestly and humbly we present our findings, the greater the likelihood that the work to which we have devoted our lives will be engaged with credibly and seriously as society grapples with the many pressing challenges with which we are beset.

I would like to congratulate my fellow inductees. Who knows? Time permitting, we might still have a chance to do that group wave.

Oskar Eustis

Oskar Eustis is the Artistic Director of The Public Theater. He was elected to the American Academy of Arts and Sciences in 2022.

I would like to thank the Academy for the mistake of electing me. I know it's a mistake because when I look at the other members in Class IV, I am awestruck. They are my mentors, my teachers, my colleagues, my heroes, my inspiration. But to the extent that my election is not a mistake, it is measured by the worth of my partner in life, Laurie Eustis, who I learn from and am inspired by every day. This honor can only be justified if I acknowledge that it is for both of us.

I never went to college. Instead, I have practiced an art that my mother once characterized as "telling lies to strangers in the dark for money." She was a member of the Communist Party and her doctoral dissertation was on Puritan spiritual autobiography. Asceticism and self-denial came easily to her.

When I did receive a degree, an honorary doctorate from Brown University, I called her with the good news. After a very long pause, she said, "You realize that doesn't entitle you to call yourself doctor." I used to tell that story as an anecdote to prove how tough my mother was. But I later realized that the true story went much deeper. I was speaking to a woman who was on the verge of finishing her doctorate at the University of Chicago in 1955 when her husband was drafted. She dropped out of the program, moved to Fort Smith, Arkansas, and gave birth to my sister. She later told me, with wonder, that she wasn't conscious of making a choice. She finished that doctorate over a quarter of a century later when her kids were out of the house and her husband was long gone.

For a moment on that phone with me, she ceased being primarily my mother, identifying with and reveling in my successes, and became the woman who had worked so hard and paid such a price to finish her doctorate and earn her own recognition. She was speaking to a confident young white man whose privilege led him to be handed a doctorate for putting on plays. I cherish that moment. We are always in history, even when talking with our mothers.

The theater demands that you put yourself in someone else's shoes and understand the humanity of those with a different point of view. The theater is an extraordinary site to practice the tools of a democratic citizen.

All I am qualified to talk about is the theater, that rough art form born in the same decade and in the same city as democracy. Why were democracy and the theater birthed as twins?

Aristotle says the earliest and most pleasurable form of learning is through imitation – playing a role. We learn that our behavior is a role we can play, we can step into and out of, and thus we viscerally experience that our roles, our behavior, even our sense of identity are temporary, unfixed, and capable of change. The ability to change is at the heart of what it means to be human, and change is the necessary soul of drama.

In a drama, no one can know or possess the truth; otherwise, the drama would be over before it even begins. Drama asserts that truth can only be revealed by the conflict of seemingly irreconcilable points of view. Conflict reveals a third new truth that changes the characters on stage. Drama is the art of embodying human change.

I would contend that if you don't believe in this model of knowledge, then you don't actually believe in democracy. You may give lip service to democracy, but you are actually convinced that the truth and life consist of trying to bend the world to match your vision. That's an autocratic mentality, and, famously, dictators don't like the theater.

Finally, drama is an exercise in empathy. The oldest extant drama we have, *The Persians* written by Aeschylus, takes as its subject the triumph of the Greeks over the Persian tyrant Xerxes in 480 BC. But Aeschylus tells the story of that fight from the Persian point of view. The radicalism of that idea is still breathtaking, as if Aeschylus was saying to his triumphant Athenian audience, "Look who else thought their empire would last forever. Look who else thought they were favored by the Gods." The theater demands that you put yourself in someone else's shoes and understand the humanity of those with a different point of view.

The theater is an extraordinary site to practice the tools of a democratic citizen.

During the pandemic I read Alasdair MacIntyre. I dare to talk about philosophy in this august hall, in front of so many brilliant philosophers, but MacIntyre's mission is to return moral philosophy to its original function: to help common citizens determine how to live well. So forgive my trespassing on this territory!

After rigorous and detailed examination of the history of Western philosophy, MacIntyre defines three necessary principles of a good life: 1) You must play a role in society and strive to fill it with excellence; 2) You must be part of a practice that existed before you and will continue after you die, in which you can begin as a novice and gradually achieve greater mastery as you go on; and 3) You must have a narrative for your life that makes you the protagonist of your own life and gives meaning to your choices.

He is basically describing using the tools of the theater to live a good life.

We live in a time of great upheaval, when boundaries are being challenged, inequalities exposed, hierarchies disrupted in often frightening and disturbing ways. We here, who have the privilege of receiving the honor and recognition of our peers, must decide whether to use our time and gifts to rebuild the distinctions, inequalities, and boundaries of the current system, or throw our lot in with those who would level the class and caste distinctions that undergird so much of our society.

For me, that means challenging the distinction between professional and amateur theatrical activity, a distinction that has been at the core of my practice almost my whole life. It means turning away from the idea of the theater as a rarified and elite art form, practiced by the few and consumed as a commodity for those who can afford to pay for it. It means dissolving the mystification that turns the theater into an object, and melting it back into what it has always been: relationships between people. It means that rather than creating theatrical commodities, our job is to take up the tools and weapons of theater and return them to their original function: to support the messy, contentious, glorious, radical idea of a community governing itself – a democracy.

For all of us, in all our endeavors, it means seeking to return the riches, material and cultural, with which we have been blessed, to the people whose labor created those riches in the first place.

Thank you again for making this mistake.

Katharine Hayhoe

Katharine Hayhoe is an atmospheric scientist whose research focuses on understanding the impacts of climate change on people and the planet. She is the Chief Scientist for The Nature Conservancy and a Horn Distinguished Professor and Endowed Chair in Public Policy and Public Law at Texas Tech University. She was elected to the American Academy of Arts and Sciences in 2023.

I became a scientist because I believe in evidence-based decisions that advance the interest, the honor, the dignity, and the happiness of people as the Academy's mission proclaims. But I rapidly realized that for our science to have the impact that each one of us so ardently desires, we require leadership, policy, and communication. I am honored to represent this final class of members, as an atmospheric scientist in a political science department who serves as chief scientist for a conservation organization and who, as a climate scientist, spends much of her time answering the fundamental question: What gives you hope?

We stand at a time of rapid change that is unprecedented in our lifetimes. Today's ceremony began with a topic at the forefront of everyone's mind that is part of this change: artificial intelligence. I want to end by speaking about the challenge that stands between all of us and a better future: the climate crisis.

We know the planet is warming, we know humans are responsible, and we know that the impacts are not only serious, but they are here, and they are now. Yesterday, I was watching videos on social media of floodwater spouting out of the walls of the subway stations in New York City. A few weeks ago, thousands of people lost their lives in Libya due to unprecedented floods, and that same week there were seven other unprecedented floods elsewhere around the world. In Canada, wildfires have already burned an area equivalent to several provinces, and the fires continue to accelerate today.

Wherever we look around the world, we see what I refer to as "global weirding." This term encapsulates how climate change is loading the weather dice against us, making some weather extremes more frequent and others more severe. It doesn't matter what we call it. I live in Texas where a lot of people wouldn't agree that the climate is changing, but they do agree the weather is getting weird. What's important is that we recognize how these changes are affecting our health, our homes, our lives, our futures, and those of our children. That is all we have to agree on in order to fight for a better future.

Though this crisis affects all of us, it doesn't affect us all equally. Those who are already marginalized, who are already vulnerable, who often do not have voices in the halls of power – they are the ones who are most impacted by the changes we are

Climate is changing faster than any time in human history, and we are the ones putting ourselves at risk. It's not a case of saving the planet: the planet will be orbiting the sun long after we're gone. The question is, can we save ourselves?

seeing, and they are the ones who have contributed the least to those changes. The 50 percent poorest people in the world have produced less than half the heat-trapping carbon pollution emissions of the richest 1 percent. We also know that climate change is the "hole in the bucket," so to speak. It is taking many of the other crises we already face, from inequality to armed conflict, and making them worse. We cannot fix poverty, hunger, lack of access to clean water, basic health care, education, or equality if we do not patch the hole in the bucket.

Today more people around the world than ever are worried about this issue, and with good cause. It is a rational response to the fact that we are conducting an unprecedented experiment with the only home we have. Climate is changing faster than any time in human history, and we are the ones putting ourselves at risk. It's not a case of saving the planet: the planet will be orbiting the sun long after we're gone. The question is, can we save ourselves?

So where do we find hope in these dire circumstances? I have answered this question several thousand times, and every time my understanding evolves and I learn a little more. These days, I believe there are four steps to hope. First, when things are going well, you don't need hope. So step one is simply realizing that things are not going well and we need hope. I think we are all there! Step two is recognizing that a better future is possible and starting to envision what that looks like. For that, we need our artists, our visionaries, the people who paint those pictures, those images, with their words, with their voices, with their cameras, with their brushes, of what that better world would look like. Step three, we need a path of how to get from here to there. And lastly, we need to know how each of us can contribute to collectively moving humanity along that path. To contribute, you don't need to be a scientist or an activist or an engineer. We need everyone. We need the whole spectrum of areas of expertise represented by this Academy, and we need all of our voices together to call for this change.

We can call for change because we know a better future is within our grasp – a future in which we have blue sky, clean air, sufficient food and water, walkable communities; where people live in harmony with nature; and where justice and equity abound. But to remake the world, to create this brighter and more resilient future, we have to overcome the crisis that stands in our way.

How do we do that? We do it through using our voices. The Academy has over six thousand members across all disciplines, and those voices can call for that future. But we have our expertise too. Medical experts are already painting a picture of how pollution affects our bodies, how when you shut down a coal plant, emergency room visits plummet or when you replace a diesel school bus with an electric school bus, children's asthma cases drop. Economists are already showing us how this crisis is shrinking our global economy, but at the same time they can paint a picture of the trillions of dollars' worth of investments in the new clean economy. Political scientists can predict how these growing climate extremes will create fault lines within our society, but they can also offer strategies for building strong democracies that can make the tough decisions. Poets can capture in their writing what is at stake and why this world is worth saving. Directors can look for screenplays that envision that better world and show us how to get there.

When we look at how the world has changed before, how women got the vote, how civil rights were enacted, how apartheid ended, how did each change begin? It began when someone at that time, someone with no particular power or fame or wealth, but with the courage of their convictions, called for that change and others heard them and said, "We agree. We will call for that change too." Some of those voices are the same voices that are enshrined on the walls at the House of the Academy. We live in their shadow, and we have the same force that they had that led them to change the world they lived in at that time. You too have a chance to change the world you live in today, to call for and to catalyze a better future. But each of us can't do it alone. We can only do it together.

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To view or listen to the presentations, visit www.amacad.org/news/2023-induction-class-speakers.

NASA's James Webb Space Telescope unveils young stars in the early stages of formation. This view was taken in the Carina Nebula.

Becoming Interplanetary and Action for Spaceship Earth

2117th Stated Meeting | October 17, 2023 | House of the Academy, Cambridge, MA, and Virtual | Morton L. Mandel Conversation

On October 17, 2023, **Dava Newman** (Director of the MIT Media Lab and former NASA Deputy Administrator) spoke about the MIT Media Lab's work and the use of vast amounts of data collected by satellites to inform and motivate the public for the fight against climate change. The program included welcoming remarks by Academy President **David W. Oxtoby**. An edited and condensed version of Dr. Newman's presentation follows.

Dava Newman

Dava Newman is Director of the MIT Media Lab; Apollo Professor of Astronautics at MIT; a Harvard–MIT Health, Sciences, and Technology faculty member; and a MacVicar Faculty Fellow. She served as NASA Deputy Administrator from 2015 to 2017.

NASA/ESA Hubble Space Telescope image of the cluster Westerlund 2 and its surroundings.

I would like to take you on a bit of a journey throughout the solar system and then we will come back home to spaceship Earth. In all of exploration, we have three fundamental questions: Are we alone in the universe? Are there other habitable planets for scientific knowledge and discovery? Is there life elsewhere? On that last question, the evidence is mounting. Though somewhat a bold projection, I think we will find life elsewhere, perhaps in this decade.

The Hubble Space Telescope has been in operation for more than thirty years. It has transformed our view of the universe. To celebrate Hubble's twenty-fifth year in orbit, we have an amazing image of the cluster Westerlund 2 and its surroundings (see above). The giant cluster that we see of about three thousand stars is what we call Westerlund 2.

The James Webb Space Telescope is a hundred times more powerful than Hubble. To me, as an engineer and technologist, it is somewhat of a miracle that the Webb telescope is working. Not many remember how hard it was to construct and how over budget it was. It is one of the most difficult things I've ever been involved with. I worked on it from the NASA side. Five hundred things had to go right with the eighteen articulating gallium-plated mirrors so that the optics would be correct. If any one of them was wrong, we were out of business.

It has now become the world's greatest observatory looking in the infrared. Its main mission is to unravel dark energy and dark matter, and what we are learning every day is just phenomenal. We are looking back 13.4 billion years. John Mather, a NASA Nobel laureate, thinks we can probably go back 13.6 billion years with Webb. Every day, when I wake up I look at my new Webb image because it's so beautiful and a wonderful and inspiring way to start the day.

In all of exploration, we have three fundamental questions: Are we alone in the universe? Are there other habitable planets for scientific knowledge and discovery? Is there life elsewhere?

Let me put things in perspective. For the one hundred science missions that are ongoing right now, we are only getting to the Kuiper Belt. Past the Kuiper Belt, Voyager 1 and Voyager 2 are sending bits of data that tell us what's out there. Using our imaginations and other advanced scientific instruments, we explore. Of the six thousand exoplanets that we have identified and cataloged, twenty-four of them are really important. They are in the Goldilocks zone: not too hot, and not too cold. If we go back to my three fundamental questions, maybe some of these exoplanets are just right for life. But because these exoplanets are ten to one hundred light-years away, we are not sending anyone there.

Let's talk a little bit about Mars, then about getting people back to the moon, and finally what we can do to help make sure that Earth is healthy. Today, we are on Mars, and I mean that literally. Many of you may know of the Perseverance Rover. Our MIT experiment is called MOXIE (Mars Oxygen In-Situ Resource Utilization Experiment). We are making oxygen on Mars.

We think Mars was probably warm, wonderful, and maybe it supported life. Mars lost its electromagnetism about 3.5 billion years ago. That's when things started going poorly. Today, the sun's solar radiation ionizes the Martian atmosphere, and ablates the atmosphere away. Mars is left with a 1 percent CO_2 atmosphere. The wind on Mars feels like a little feather, grazing your cheek.

Now back to making oxygen. Why would we want to make oxygen on Mars? If we split the carbon atoms off of that 1 percent CO_2 atmosphere, and we recombine elemental oxygen, we get O_2. You might think that's all we need to keep our people alive. That's the secondary reason for making oxygen on Mars. The first reason is for a fuel depot. When we send humans to Mars, it will be a round trip. It's the only ethical way to do it. So it would be good if our fuel depot is waiting for us and we load up and then come back home. That would be the best way to do the mission. So we need oxygen first for propulsion and second to sustain life.

We are looking for fossilized 3.5-billion-year-old life on the planet; we are looking for the chemistry. We are zapping lasers into rocks and doing a lot of geology. We have many images of Mars. In fact, Mars is mapped better than our oceans. Using augmented reality, via our HoloLens, thirty geologists from around the world are taking the best images. Technology is enhancing the science that we are doing on Mars.

So we are already on Mars, and now we are going back to the moon with the Artemis missions. The Media Lab at MIT is on the next mission. I am the Apollo Professor of Astronautics at MIT. It has been fifty years since we sent someone to the moon. So it's a high priority goal for me to get MIT back to the moon. Jack Schmitt is the only scientist to have visited the moon, and he had a hard time doing science there.

Today, we have a different design paradigm for space suits. Instead of looking like a Michelin man wearing a massive suit and with limited mobility,

> Today, we have a different design paradigm for space suits. Instead of looking like a Michelin man wearing a massive suit and with limited mobility, our idea is a BioSuit™ that uses mechanical counterpressure.

our idea is a BioSuit™ that uses mechanical counterpressure (see the image below).

What does that mean? Well, rather than shrink-wrapping a suit onto someone, we start designing from the skin out. It's literally a second skin suit. With a lot of mathematics and materials development, it seems technically feasible.

Because my design goals are to give you maximum mobility, I want a very lightweight suit. So we laser scan people and we do a lot of engineering analysis to determine the material I would need that could apply the correct amount of pressure. How would I design the patterning of the suit that could enable astronauts to have mobility and flexibility?

We have a lot of design challenges. We have to apply the right compression. We need to invent new materials. We need improved donning and doffing capabilities so you can dress yourself. Right now it is challenging to put the suit on by yourself. You have to jump into the bottom and then another astronaut has to put the top on and you need to shimmy yourself into the top. It's much better if you can dress yourself because there are not a lot of spare astronauts on Mars. We also integrated some new sensing as well.

The image on the next page is what our latest work looks like. We have multifunctional fibers, integrated sensing, tunable compression, and customized mobility.[1]

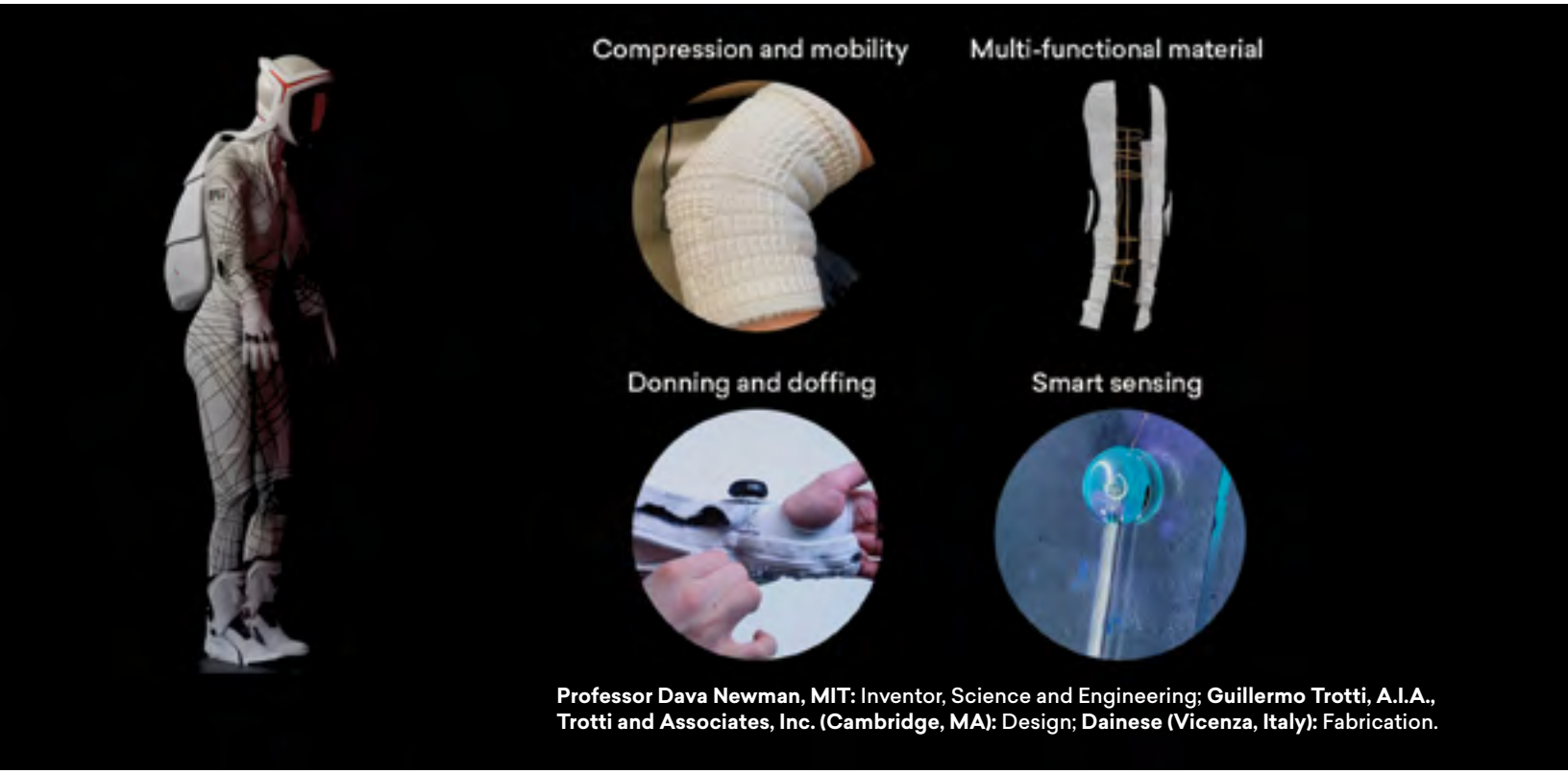
We use carbon-doped polyethylene to provide a little bit of radiation protection. When you go to

1. For more about the BioSuit™ prototype and new fibers, visit https://www.media.mit.edu/posts/dava-newman-presents-3d-knit-biosuit-at-mars-conference; and see Lavender Tessmer, Ganit Goldstein, Guillermo Herrera-Arcos, Volodymyr Korolovych. Rachel Bellisle, Cody Paige, Christopher Shallal, Atharva Sahasrabudhe, Hugh Herr, Polina Anikeeva, Svetlana V. Boriskina, Dava Newman, and Skylar Tibbits, "3D-Knit Spacesuit Sleeve with Multi-Functional Fibers and Tunable Compression," ACADIA, October 27, 2022.

Designing a Second Skin – BioSuit™ for Human 2.0

Professor Dava Newman, MIT: Inventor, Science and Engineering; **Guillermo Trotti, A.I.A., Trotti and Associates, Inc. (Cambridge, MA):** Design; **Dainese (Vicenza, Italy):** Fabrication.

3D Knit BioSuit™: Integrated Prototype



Professor Dava Newman, MIT: Inventor, Science and Engineering; **Guillermo Trotti, A.I.A., Trotti and Associates, Inc. (Cambridge, MA):** Design; **Dainese (Vicenza, Italy):** Fabrication.

the dentist and they put a lead apron on you before they take an X-ray, that shield forces you back into the chair. Well, we didn't want that to happen with our space suits. So very smart colleagues at MIT in materials science and mechanical engineering came up with this carbon-doped polyethylene. It provides partial radiation control, only about 25 percent. We are working to improve on that.

People always ask me about commercial space travel. SpaceX is great. We paid Elon billions of dollars to succeed. The government is investing in private space companies, which are fast and agile though they are not developing a lot of new technology. Because we want everyone to succeed, funding is helping the private sector to accelerate things. There are private space missions. The last one was called Axiom Mission 2.

Now let's talk about some of our work at the Media Lab and then some highlights from our climate work.

The Media Lab is a microcosm of MIT. It's a real magical place. We have artists on faculty, plus scientists, engineers, and designers. For every problem or area in which we are doing research, everyone is sitting at the table. I don't need only rocket scientists at the table. I know how they think and how they are trained. But a musician or a biologist or a geneticist is going to make me think differently and improve my work and projects. We all work together in research groups. The Media Lab's work focuses on five themes: Future Worlds, Life with AI, Decentralized Society, Cultivating Creativity, and Connected Mind+Body.

For our theme on Future Worlds, we are working on design and action for the future we want to live in. If we can see it, then we can believe it, and we think we can accelerate positive change.

Let me highlight just a couple of themes. Working with a group called Open Minds, we are trying to change the conversation about dual energy and the climate challenge. Why do we want to change the conversation? Because the world needs cheap, affordable, reliable energy. And then we need to meet our climate goals. And we need everyone at the table to accomplish this.

I have a vision to create an Earth mission control. Earth is 4.5 billion years old and is going to do just fine without us. We are actually a nuisance to the planet. We want humanity to thrive and survive in balance with all living things.

I have a vision to create an Earth mission control. Earth is 4.5 billion years old and is going to do just fine without us. We are actually a nuisance to the planet. We want humanity to thrive and survive in balance with all living things.

We have almost real-time data, literal terabytes a day, from twenty-four Earth observing satellites. But we also fly aircraft and we have tens of thousands of sensors on the ground as well as in the ocean collecting data. And all of this is open data so they are shared with the world.

With the scientific data, we can find a way to live in balance with nature and our resources. We just need to find the will and the way. There will be some technology involved, but it is much more about changing human behavior, attitudes, and actions. We need to be serious about what we can do.

NOAA has a flood model called SLOSH. We take a lot of preflood images, use generative AI, and generate post-flood images. I called it satellite imagery of the future. This flood hasn't happened, but I know it's coming. I can't tell you when it will happen, but I know that it will. The data in the image below are for Houston and the Gulf Coast. On the top we have infrastructure: houses, agriculture. And on the bottom, we are visualizing future flooding. We are helping city planners communicate more effectively, more visually, and more intuitively about flood risks to support climate resilient infrastructure development.

Let me end with a big idea: an Earth embassy. It would integrate engagement and empathy and be based on three pillars. One, it would provide extreme climate satellite imagery of the future, showing coastal floods, fires, drought, and sea level. Two, it would provide an operating system for Earth. And three, it would train ambassadors: our next generation climate leaders.

We have tough challenges ahead of us, and everyone needs to be at the table. Everyone gets a vote. Everyone has an opinion. The world is upside down today, with wars, hatred, and divides. I am an eternal optimist. I believe there are more folks who want to do the good work, the hard work that is necessary.

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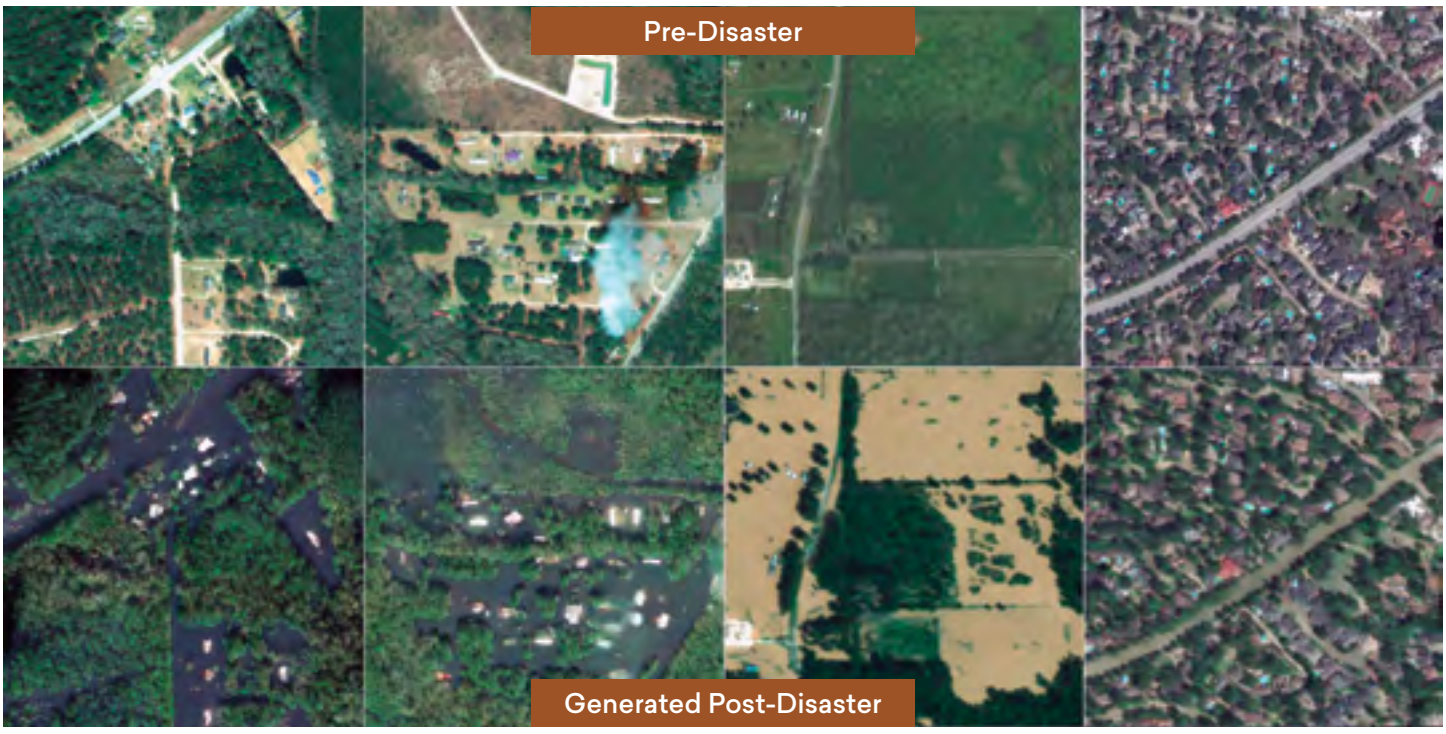
To view or listen to the presentation, visit www.amacad.org/events/becoming-interplanetary-and-action-spaceship-earth-morton-l-mandel-conversation.



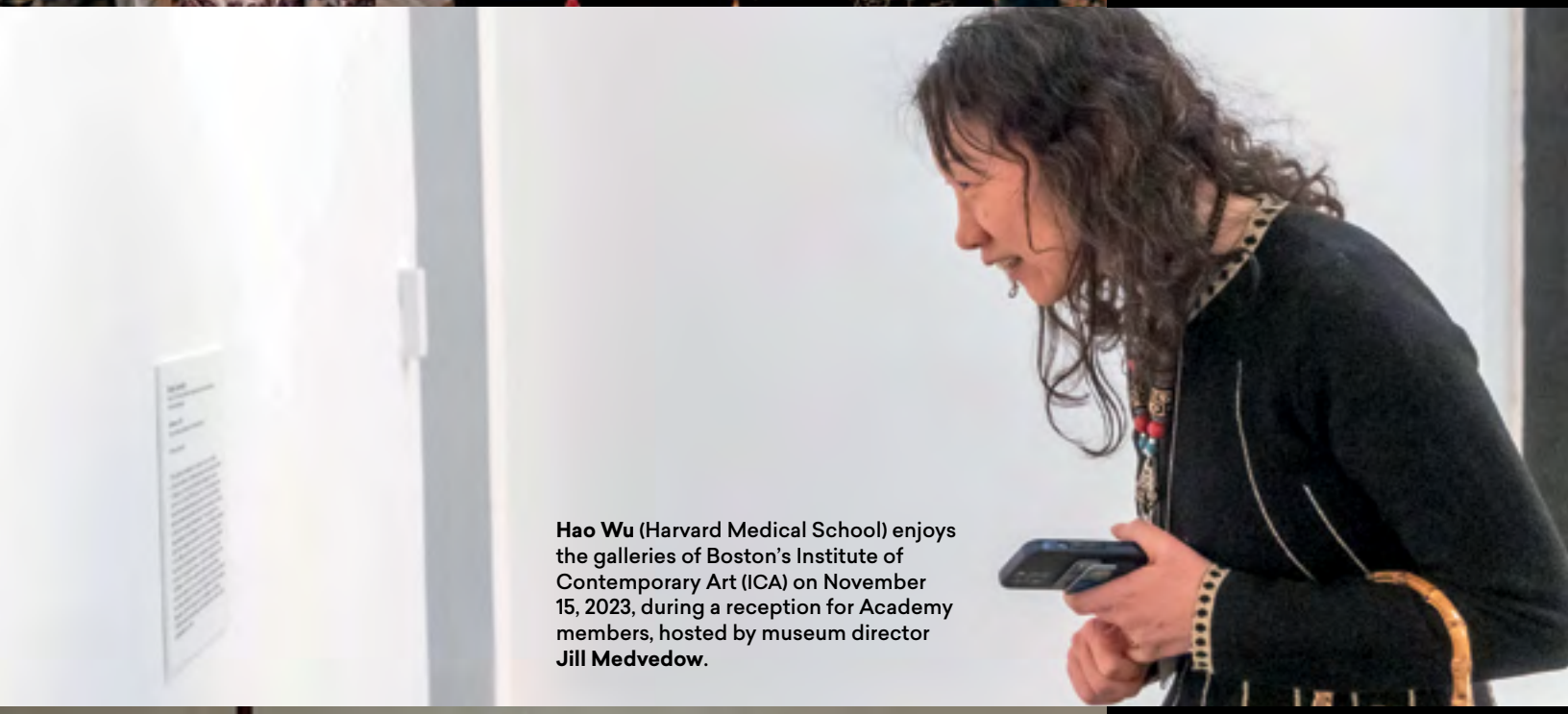
RECENT

MEMBER EVENTS

Samuel Moyn (Yale University) and **Moeshe Halbertal** (New York University School of Law and Hebrew University of Jerusalem) in conversation at a luncheon discussion held at Yale University on October 16, 2023. The event, cohosted by the Academy's New Haven Program Committee and Yale's MacMillan Center, was initially organized to consider the implications of potential reforms to the Israeli judiciary. The scope of the program was expanded in the wake of the October 7 terrorist attack. **Isabela Mares** (Yale University), cochair of the New Haven Program Committee, moderated the conversation.

Barbara Tversky (Columbia University) poses a question to the cochairs of the Commission on Reimagining Our Economy during an event to preview the Commission's final report, held on October 18, 2023, at the Yale Club of New York.

Christine Davis (Smithsonian American Art Museum), **Kevin Young** (Smithsonian Institution), and **Cynthia Chavez Lamar** (Smithsonian National Museum of the American Indian) at the Cosmos Club in Washington, D.C., on October 23, 2023, to celebrate the launch of the final report of the Commission on Accelerating Climate Action.



Hao Wu (Harvard Medical School) enjoys the galleries of Boston's Institute of Contemporary Art (ICA) on November 15, 2023, during a reception for Academy members, hosted by museum director **Jill Medvedow**.

Angela Bae, **Justin DeFilippis**, **Russell Houston**, and **Benjamin Zannoni** of the Balourdet Quartet perform Beethoven's String Quartet No. 13 in B flat major, Op. 130 at the House of the Academy on December 14, 2023.

In Memoriam: Arthur Gelb (1937–2023)

Arthur Gelb, a prominent member of the American Academy since 2000, died on November 8, 2023. He served as the Chairman of the Academy's Investment Committee and as a member of the Academy Trust. For many Academy Induction ceremonies his role was to introduce the Class I speaker (in the mathematical and physical sciences).

Arthur lived a life that can be described as the fulfillment of the proverbial American dream. Over his noteworthy career, he was deeply engaged as a scientist, entrepreneur, investor, philanthropist, supporter of medical research, and lover of music.

Arthur was born in 1937, the child of immigrant parents. He was orphaned at the tender age of sixteen. From that point forward, he became the primary organizer and manager of his life and career. After attending high school in Brooklyn, he graduated from the City College of New York, and received a master's degree in applied physics from Harvard and a doctorate in systems engineering from MIT.

He then began a lifelong relationship with the MIT community and cofounded The Analytic Sciences Corporation (TASC) in 1966. Under his leadership as Chairman and CEO, TASC produced twenty-seven consecutive years of growth while employing more than two thousand three hundred people in twenty-five locations worldwide. During this period, TASC became known for solving some of the most difficult top security problems in information management, decision support, and engineering for the U.S. government and other customers.

Following TASC's acquisition, Arthur became president of Four Sigma Corporation, which focused on the development and use of algorithmic trading methods for financial markets. This work, and his related efforts as an independent investor, consultant, and advisor, further developed and utilized the analytical and decision-making skills he employed at TASC.

A scientist by nature, he published more than twenty-five papers in technical journals. His passion was solving difficult problems, and he turned his philanthropic focus to curing cancer, a disease that was intensely personal for him. A member of the Executive Committee of the Board and later a Distinguished Trustee of the Dana-Farber Cancer Institute, Arthur saw a rare opportunity to bring the talents of MIT's Koch Institute and the Harvard/Dana Farber Cancer Institute together in 2010 under The Bridge Project, which has become a highly successful research collaboration attracting extensive funding.

As a philanthropist, he contributed time and financial support to the organizations he believed in and where he felt his contributions would do the most good. As he wrote in his autobiography, "Each of us must recognize our duty to work for the betterment of society by sharing our one truly priceless asset: our time." He also had a lifelong love of music, was an Overseer Emeritus of the Boston Symphony Orchestra, and would often say, "Music moves me emotionally the way few things can."

Throughout his remarkable life of achievement, Arthur was recognized by a wide range of organizations. In addition to being a member of the American Academy of Arts and Sciences, he was a member of the National Academy of Engineering. He served on the Board of Directors of the Massachusetts Port Authority and the Massachusetts Board of Regents of Higher Education. He was a Life Member Emeritus of the MIT Corporation, a member of the visiting committees for several departments at MIT, and a member of the Lincoln Laboratory Advisory Board. He was a Fellow of the Institute of Electrical and Electronics Engineers and a Fellow of the American Institute of Aeronautics and Astronautics.

Arthur will be remembered as a caring husband, father, and grandfather. He was devoted to his wife, Linda. He was loved, admired, and cherished by his ten grandchildren, who came to him constantly for advice, which he generously shared.

Arthur Gelb's wonderful passion for life, his sense of humor, his love and devotion to his family, his continuous focus on trying to make things better and to always search for the truth, are qualities all of us should attempt to emulate.

Arthur L. Goldstein
Chairman and CEO Emeritus,
Ionics, Incorporated

Select Prizes and Awards to Members

Recipients of the National Medal of Science, 2022

Huda Akil
(University of Michigan)

Barry C. Barish
(California Institute of Technology)

Eve E. Marder
(Brandeis University)

Gregory A. Petsko
(Harvard Medical School; Brigham & Women's Hospital)

Subra Suresh
(Massachusetts Institute of Technology; Brown University)

Shelley E. Taylor
(University of California, Los Angeles)

Sheldon Weinbaum
(The City University of New York)

Other Prizes and Awards to Members

Kenneth S. Abraham (University of Virginia School of Law) received the 2024 Prosser Award from the Association of American Law Schools.

José Alvarez (New York University School of Law) is the 2024 recipient of the Manley O. Hudson Medal, given by the American Society of International Law.

Guillermo A. Ameer (Northwestern University) was elected a Fellow of Biomaterials Science and Engineering by the International Union of Societies for Biomaterials Science and Engineering. Dr. Ameer was also awarded the Biomedical Engineering Society's Athanasiou Medal of Excellence in Translational Bioengineering and the 2023 Excellence in Biomaterials Science Award from the Surfaces in Biomaterials Foundation.

R. Douglas Arnold (Princeton University) received the 2023 Gladys M. Kammerer Award from the American Political Science Association.

Nadine Aubry (Tufts University) was elected to the Royal Academy of Engineering.

Michele Barry (Stanford University) received the Consortium of Universities in Global Health Distinguished Leader Award.

Jacqueline K. Barton (California Institute of Technology) received the 2023 Welch Award in Chemistry.

Bonnie L. Bassler (Princeton University) received the 2023 Princess of Asturias Award for Technical and Scientific Research. Dr. Bassler shares the award with **Jeffrey Gordon** (Washington University in St. Louis) and **E. Peter Greenberg** (University of Washington).

Bonnie L. Bassler (Princeton University) was awarded the 2023 Albany Medical Center Prize in Medicine and Biomedical Research. Dr. Bassler shares the prize with **Jeffrey Gordon** (Washington University in St. Louis) and Dennis L. Kasper (Havard Medical School; Brigham and Women's Hospital).

Moungi G. Bawendi (Massachusetts Institute of Technology) was awarded the 2023 Nobel Prize in Chemistry. Dr. Bawendi shares the prize with **Louis E. Brus** (Columbia University) and Alexei I. Ekimov (Nanocrystals Technology).

Squire J. Booker (Pennsylvania State University) received the 2023 Percy L. Julian Award from the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers.

Janet M. Box-Steffensmeier (The Ohio State University) received the 2023 Frank J. Goodnow Award from the American Political Science Association.

Haïm Brezis (Université Pierre et Marie Curie, Paris VI; Rutgers University) was awarded the 2024 Steele Prize for Lifetime Achievement by the American Mathematical Society.

Louis E. Brus (Columbia University) was awarded the 2023 Nobel Prize in Chemistry. Dr. Brus shares the prize with **Moungi G. Bawendi** (Massachusetts Institute of Technology) and Alexei I. Ekimov (Nanocrystals Technology).

José A. Cabranes (United States Court of Appeals for the Second Circuit) is the 2023 recipient of the Edward J. Devitt Distinguished Service to Justice Award.

María Magdalena Campos-Pons (Vanderbilt University) was awarded a 2023 MacArthur Fellowship.

Dana Carroll (University of Utah School of Medicine) received the University of Utah's 2023 Rosenblatt Prize for Excellence.

Emily A. Carter (Princeton University) was awarded the William H. Nichols Medal by the American Chemical Society.

Raj Chetty (Harvard University) was awarded Harvard University's George Ledlie Prize. Professor Chetty shares the prize with Michael Springer (Harvard Medical School).

Michelene Chi (Arizona State University) was awarded the 2023 Yidan Prize for Education Research.

César Conde (NBCUniversal News Group) received the 2023 Hispanic Heritage Media Award, given by the Hispanic Heritage Foundation.

Joy Connolly (American Council of Learned Societies) is the 2023 recipient of the Council of Colleges of Arts and Sciences Advocacy Award.

Neta Crawford (University of Oxford) is the recipient of the 2024 University of Louisville Grawemeyer Award for Ideas Improving World Order.

Michael C. Dawson (University of Chicago) received the 2023 Charles E. Merriam Award from the American Political Science Association.

Caroline Dean (John Innes Centre) was awarded the Barbara McClintock Prize for Plant Genetics and Genome Studies by the Maize Genetics Executive Committee.

Edward P. Djerejian (Harvard Kennedy School) received the Lifetime Achievement Award from the Armenian National Committee of America–Western Region.

Jennifer Doudna (University of California, Berkeley) was awarded the Kimberly Prize in Biochemistry and Molecular Genetics by the Simpson Querrey Institute for Epigenetics.

Rita Dove (University of Virginia) received the 2023 Medal for Distinguished Contribution to American Letters from the National Book Foundation.

James G. Fujimoto (Massachusetts Institute of Technology) was awarded a National Medal of Technology and Innovation 2022 Team Award. Dr. Fujimoto shares the award with Eric Swanson (Massachusetts Institute of Technology) and David Huang (Oregon Health & Science University).

Herbert Gleiter (Institute of Nanotechnology, Germany) was elected a Fellow of the Core Academy.

Thelma Golden (The Studio Museum in Harlem) was awarded the Dorothy and Lillian Gish Prize.

Claudia Goldin (Harvard University) was awarded the 2023 Nobel Memorial Prize in Economic Sciences.

Ananda Goldrath (Allen Institute for Immunology) is the recipient of the 2023 Frederick W. Alt Award for New Discoveries in Immunology, given by the Cancer Research Institute.

Robert Gooding-Williams (Columbia University) was awarded the Wilbur Cross Medal by the Yale Graduate School of Arts and Sciences Alumni Association.

Jeffrey Gordon (Washington University in St. Louis) received the 2023 Princess of Asturias Award for Technical and Scientific Research. Dr. Gordon shares the award with **Bonnie L. Bassler** (Princeton University) and **E. Peter Greenberg** (University of Washington).

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E. Peter Greenberg (University of Washington) received the 2023 Princess of Asturias Award for Technical and Scientific Research. Dr. Greenberg shares the award with **Bonnie L. Bassler** (Princeton University) and **Jeffrey Gordon** (Washington University in St. Louis).

Naomi Halas (Rice University) was awarded the 2024 Mildred Dresselhaus Prize for Nanoscience/Nanomaterials by the American Physical Society.

Mellody Hobson (Ariel Investments) received the 2023 ELC Achievement Award from the Executive Leadership Council.

Peter Hotez (Baylor College of Medicine) was awarded the 2023 Anthony Cerami Award in Translational Medicine. Dr. Hotez was also awarded the inaugural Infectious Diseases Society of America Anthony Fauci Courage in Leadership Award.

Vincent Hutchings (University of Michigan) received the 2023 Hanes Walton, Jr. Career Award from the American Political Science Association.

Major Jackson (Vanderbilt University) was awarded a 2023 Academy of American Poets Fellowship.

Lily Jan (University of California, San Francisco) received the 2023 Pearl Meister Greengard Prize. Dr. Jan shares the award with **Eve Marder** (Brandeis University).

Peter A. Jones (Van Andel Institute) received an Outstanding Investigator Award from the National Cancer Institute.

William Jorgensen (Yale University) is the recipient of the American Chemical Society's 2024 Arthur C. Cope Award.

Katalin Karikó (Szeged University; University of Pennsylvania) was awarded the 2023 Nobel Prize in Physiology or Medicine. Dr. Karikó shares the prize with **Drew Weissman** (University of Pennsylvania).

Shana Kelley (Northwestern University) was named a 2023 Fellow of the National Academy of Inventors.

Marta Kutas (University of California, San Diego) is among the recipients of the 2023 Revelle Medal from the University of California, San Diego.

Eve Marder (Brandeis University) received the 2023 Pearl Meister Greengard Prize. Dr. Marder shares the award with **Lily Jan** (University of California, San Francisco).

Ann Masten (University of Minnesota) is the recipient of the 2024 University of Louisville Grawemeyer Award in Psychology.

Scott Miller (Yale University) received the 2022 Ira Remsen Award of the American Chemical Society.

Tirin Moore (Stanford University) is the recipient of the Andrew Carnegie Prize in Mind and Brain Sciences.

Eric J. Nestler (Icahn School of Medicine at Mount Sinai) is the 2023 recipient of the Peter Seeburg Integrative Neuroscience Prize, awarded by the Society for Neuroscience and the Schaller-Nikolich Foundation.

Christos Papadimitriou (Columbia University) was awarded the John von Neumann Theory Prize. Dr. Papadimitriou shares the award with **Mihalis Yannakakis** (Columbia University).

Richard H. Pildes (New York University School of Law) received the John Hart Ely Prize in the Law of Democracy from the Association of American Law Schools.

Theodore M. Porter (University of California, Los Angeles) was awarded the 2023 Sarton Medal by the History of Science Society.

Marcia Rieke (University of Arizona) was awarded the Catherine Wolfe Bruce Gold Medal by the Astronomical Society of the Pacific.

Sebastião Salgado (Amazonas Images) received the Sony World Photography Awards Outstanding Contribution to Photography.

J. Marshall Shepherd (University of Georgia) is the recipient of the 2023 Environmental Achievement Award, presented by the Environmental Law Institute.

Ruth J. Simmons (Harvard University) was named the 2023 Jefferson Lecturer in the Humanities by the National Endowment for the Humanities.

Theda Skocpol (Harvard University) received the 2023 James Madison Award from the American Political Science Association.

Larry Smarr (University of California, San Diego) is among the recipients of the 2023 Revelle Medal from the University of California, San Diego.

Robert Socolow (Princeton University) received the 2023 John Scott Award. Professor Socolow shares the award with Michael E. Mann (University of Pennsylvania).

Deepak Srivastava (Gladstone Institutes) received the American Heart Association's Distinguished Scientist Award.

Bruce Stillman (Cold Spring Harbor Laboratory) received the American Society for Biochemistry and Molecular Biology's Earl and Thressa Stadtman Distinguished Scientist Award.

Ashvin Vishwanath (Harvard University) received the 2024 Oliver E. Buckley Condensed Matter Physics Prize from the American Physical Society.

Kay WalkingStick (Cornell University) received the Benjamin West Clinedinst Memorial Medal, awarded by The Artists' Fellowship, Inc.; the Pratt Institute 2023 Legend Award; and the New York Historical Society History Makers Award.

Paul Weiss (University of California, Los Angeles) was named a 2023 Fellow of the National Academy of Inventors.

Drew Weissman (University of Pennsylvania) was awarded the 2023 Nobel Prize in Physiology or Medicine. Dr. Weissman shares the prize with **Katalin Karikó** (Szeged University; University of Pennsylvania).

Nieng Yan (Tsinghua University) was elected a member of the Chinese Academy of Sciences.

Mihalis Yannakakis (Columbia University) was awarded the John von Neumann Theory Prize. Dr. Yannakakis shares the award with **Christos Papadimitriou** (Columbia University).

Phillip D. Zamore (University of Massachusetts Chan Medical School) was elected a member of both the National Academy of Sciences and the National Academy of Medicine.

New Appointments

Danielle Allen (Harvard University) was appointed a member of the Board of the Massachusetts Department of Higher Education.

Jelani Cobb (Columbia Journalism School) was appointed to the Board of Directors of the American Journalism Project.

Deborah Cohen (Northwestern University) was named Interim Executive Director of the Roberta Buffett Institute for Global Affairs at Northwestern University.

Joan Conaway (University of Texas Southwestern Medical Center) was named President-Elect of the American Society of Biochemistry and Molecular Biology.

Michele Dougherty (Imperial College London) was elected President of the Institute of Physics.

Helene D. Gayle (Spelman College) was appointed a member of the President's Advisory Council on African Diaspora Engagement in the United States.

Risa Goluboff (University of Virginia School of Law) was named Chair of the Advisory Board of the UVA Karsh Institute of Democracy.

Kay Bailey Hutchison (Dallas, Texas) was appointed to the External Advisory Board of the Hagler Institute for Advanced Study at Texas A&M University.

David Henry Hwang (Columbia University) joined the Board of Directors of the Dramatists Guild Foundation.

C. Kirabo Jackson (Northwestern University) was appointed a member of the President's Council of Economic Advisers.

Sheila Johnson (Salamander Collection) was elected to the PBS Foundation Board of Directors.

Dina Katabi (Massachusetts Institute of Technology) was appointed to the Board of Directors of Cyclerion Therapeutics.

Paula A. Kerger (Public Broadcasting Service) was appointed to the Board of Directors of the Dana Foundation.

Larry Kramer (William and Flora Hewlett Foundation) was appointed President and Vice Chancellor of the London School of Economics and Political Science (LSE).

Jacob J. Lew (Lindsay Goldberg LLC) was confirmed as U.S. Ambassador to Israel.

Nadya Mason (University of Illinois at Urbana-Champaign) was appointed Dean of the Pritzker School of Molecular Engineering at the University of Chicago.

Alondra Nelson (Institute for Advanced Study) was appointed to the Board of Directors of the Mozilla Foundation. Dr. Nelson was also elected to the Board of Directors of the Innocence Project.

Angela Olinto (University of Chicago) was named Provost of Columbia University.

Penny Pritzker (PSP Capital Partners) was appointed Special Representative for Ukraine's Economic Recovery.

John Quelch (University of Miami) was named Executive Vice Chancellor of Duke Kunshan University in China.

W. Kimryn Rathmell (Vanderbilt University School of Medicine) was appointed Director of the National Cancer Institute.

Donna E. Shalala (University of Miami) was named Interim President of The New School.

Margaret Sullivan (Duke University) was named Executive Director of the Craig Newmark Center for Journalism Ethics and Security at Columbia Journalism School.

Kevin Young (Smithsonian's National Museum of African American History and Culture) was appointed a member of the President's Advisory Council on African Diaspora Engagement in the United States.

Daniel Ziblatt (Harvard University) was named Director of the Minda de Gunzburg Center for European Studies at Harvard University.

Select Publications

Poetry

Jane Hirshfield (Mill Valley, California). *The Asking: New and Selected Poems*. Knopf, September 2023

Major Jackson (Vanderbilt University). *Razzle Dazzle: New and Selected Poems, 2002–2022*. W. W. Norton & Company, September 2023

Fiction

Roz Chast (*The New Yorker*). *I Must Be Dreaming*. Bloomsbury Publishing, October 2023

Teju Cole (Harvard University). *Tremor*. Random House, October 2023

Michael Cunningham (Yale University). *Day: A Novel*. Random House, November 2023

Sigrid Nunez (New York, New York). *The Vulnerables*. Riverhead, November 2023

Zadie Smith (London, United Kingdom). *The Fraud*. Penguin Press, September 2023

James Stavridis (The Carlyle Group; U.S. Navy, ret.) and Elliot Ackerman (formerly, U.S. Marine Corps). *2054*. Penguin Press, March 2024

Paul Theroux (East Sandwich, Massachusetts). *Burma Sahib: A Novel*. Mariner Books, February 2024

Nonfiction

Robert Alter (University of California, Berkeley). *Amos Oz: Writer, Activist, Icon*. Yale University Press, September 2023

Elizabeth Anderson (University of Michigan). *Hijacked: How Neoliberalism Turned the Work Ethic Against Workers and How Workers Can Take It Back*. Cambridge University Press, September 2023

Edward L. Ayers (University of Richmond). *American Visions: The United States, 1800–1860*. W. W. Norton & Company, October 2023

Victor Brombert (Princeton University). *The Pensive Citadel*. University of Chicago Press, October 2023

Lorraine Daston (Max Planck Institute for the History of Science). *Rivals: How Scientists Learned to Cooperate*. Columbia Global Reports, October 2023

Anthony Grafton (Princeton University). *Magus: The Art of Magic from Faustus to Agrippa*. Harvard University Press, December 2023

Temple Grandin (Colorado State University). *Different Kinds of Minds: A Guide to Your Brain*. Philomel Books, November 2023

Walter Isaacson (Tulane University). *Elon Musk*. Simon & Schuster, September 2023

Katalin Karikó (University of Pennsylvania). *Breaking Through: My Life in Science*. Crown Publishing Group, October 2023

Linda Katehi (University of California, Davis). *Higher Ground: My American Dreams and Nightmares in the Hidden Halls of Academia*. Amplify Publishing, August 2023

Michèle Lamont (Harvard University). *Seeing Others: How Recognition Works–and How It Can Heal a Divided World*. Atria/One Signal Publishers, September 2023

Jill Lepore (Harvard University). *The Deadline: Essays*. Liveright, August 2023

Michael Lewis (Berkeley, California). *Going Infinite: The Rise and Fall of a New Tycoon*. W. W. Norton & Company, October 2023

Fei-Fei Li (Stanford University). *The Worlds I See: Curiosity, Exploration, and Discovery at the Dawn of AI*. Flatiron Books, November 2023

Michael Mann (University of California, Los Angeles). *On Wars*. Yale University Press, August 2023

Carl Nathan (Weill Cornell Medicine). *An Arrow's Arc: Journey of a Physician-Scientist*. Paul Dry Books, February 2024

Viet Thanh Nguyen (University of Southern California). *A Man of Two Faces: A Memoir, A History, A Memorial*. Grove Press, October 2023

Heather Cox Richardson (Boston College). *Democracy Awakening: Notes on the State of America*. Viking Press, September 2023

Lynne Sharon Schwartz (New York, New York). *My Life at the Wheel*. Delphinium Press, January 2024

Laurence Senelick (Tufts University). *The Crooked Mirror: Plays from a Modernist Russian Cabaret*. Northwestern University Press, August 2023

Rajiv Shah (Rockefeller Foundation). *Big Bets: How Large-Scale Change Really Happens*. Simon Element, October 2023

Ruth J. Simmons (Harvard University). *Up Home: One Girl's Journey*. Random House, September 2023

Cass R. Sunstein (Harvard Law School) and Tali Sharot (University College London). *Look Again: The Power of Noticing What Was Always There*. Atria/One Signal Publishers, February 2024

Kip Thorne (California Institute of Technology). *The Warped Side of Our Universe: An Odyssey Through Black Holes, Wormholes, Time Travel, and Gravitational Waves*. Liveright, October 2023

Judith Tick (Northeastern University). *Becoming Ella Fitzgerald: The Jazz Singer Who Transformed American Song*. W. W. Norton & Company, December 2023

Calvin Trillin (*The New Yorker*). *The Lede: Dispatches from a Life in the Press*. Random House, February 2024

Neil deGrasse Tyson (American Museum of Natural History) and Lindsey Nyx Walker (StarTalk). *To Infinity and Beyond: A Journey of Cosmic Discovery*. National Geographic, September 2023

J. Craig Venter (J. Craig Venter Institute) and David Ewing Duncan (University of California, Berkeley). *The Voyage of Sorcerer II: The Expedition that Unlocked the Secrets of the Ocean's Microbiome*. Belknap Press, September 2023

Oprah Winfrey (Harpo, Inc.) and Arthur C. Brooks (Harvard Kennedy School). *Build the Life You Want: The Art and Science of Getting Happier*. Portfolio, September 2023

Albums and Exhibitions

Chandrika Tandon (Tandon Capital Associates). *Ammu's Treasures*. Soul Chants Music, September 2023

Kay WalkingStick (Cornell University). "Kay WalkingStick/Hudson River School" at the New York Historical Society, through April 7, 2024

We invite all Fellows and International Honorary Members to send notices about their recent and forthcoming publications, new appointments, exhibitions and performances, films and documentaries, and honors and prizes to bulletin@amacad.org.

THE MINERVA SOCIETY

Planned Giving

The Minerva Society was established in 2022 to honor members who have provided for the future of the Academy through their estate or other planned gift. If you have already created a planned gift to benefit the Academy, or would like to explore making one, we invite you to join the Minerva Society today. For more information, please contact Kara Stepanian at 617-576-5016 or by email at kstepanian@amacad.org.

Minerva Society Members

Joanne Berger-Sweeney

Louise H. Bryson and John E. Bryson

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WAYS TO ENGAGE
WITH THE ACADEMY

There are several ways members can be involved in the life and work of the Academy.

Participate in the Member Election Process

Members may submit nominations, vote for candidates, and serve on selection panels.

Connect Locally

A national network of Local Program Committees and Representatives provides opportunities for members to connect with the work of the Academy and with each other in the communities where they live.

Contribute to *Dædalus*

Each issue of *Dædalus*, the Academy's quarterly journal, explores a single theme or subject from a multidisciplinary perspective in essays written by Academy members and other experts. Members are encouraged to propose topics for issues of *Dædalus* and to serve as guest editors.

Attend an Event

The Academy holds events in person and virtually. These gatherings bring members and others in their communities together to explore important topics through an interdisciplinary lens that draws on the Academy's breadth and expertise.

Share the Academy's Work

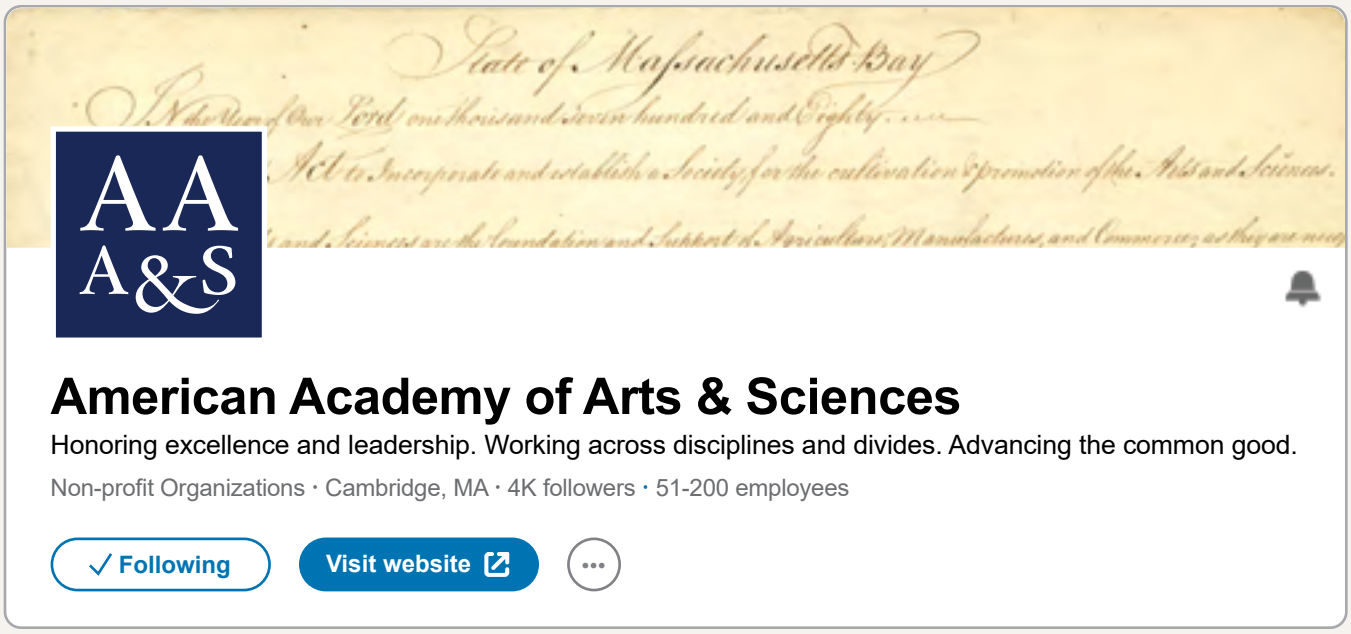
Members play a vital role in disseminating the Academy's work to policymakers, the media, scholars, students, and leaders in higher education, nonprofit organizations, business, and philanthropy.

Watch Academy Videos

The Academy shares event and feature videos on YouTube. Panels, performances, presentations, and more are online at youtube.com/americanacad.

For more information about becoming involved, please contact Laurie McDonough, Morton L. Mandel Director of Membership Engagement, at lmcdonough@amacad.org.

The American Academy of Arts & Sciences is on LinkedIn.



The Academy uses LinkedIn to share news about projects, publications, and events, as well as reach new audiences. Some of the posts Academy followers have seen on LinkedIn recently include:

THE ACADEMY CAN BE FOUND AT:
www.linkedin.com/company/american-academy-of-arts-and-sciences

Some of the original and archival cases of more than fifty hours of meetings held between 1965 and 1971, recorded on 7-inch reels of magnetic audiotape, contained within the records of the Commission on the Year 2000.

By **Michele Lavoie**, *Director of Archives*, and **Timothy Rodriguez**, *former Archives Intern*

Interest in the new millennium surged in the mid-twentieth century with anticipation of the world to come, full of new technologies, shifting policies, and a changing role for the United States in the global arena. To explore these challenges and opportunities, in 1964 the Academy established the Commission on the Year 2000. Chaired by Daniel Bell, a sociologist at Harvard University and an Academy member (elected in 1964), the Commission's task was to imagine the future and identify the social and intellectual questions likely to be central by the year 2000. Among the topics discussed were biomedical sciences and technology, economic and intellectual institutions, the individual and their life cycle, science and society, the social impact of the computer, the U.S. government, and rights and values.

In addition to an issue of *Dædalus* published in 1967, the Commission produced the following two publications: *Toward the Year 2000: Work in Progress*, ed. Daniel Bell and Stephen R. Graubard (The MIT Press, 1967, 1968, 1997); and *The Future of the U.S. Government: Toward the Year 2000*, ed. Harvey S. Perloff (George Braziller, Inc., 1971).

The records of the Commission on the Year 2000 are housed in the Academy's Archives, and have proven to be of great interest to scholars worldwide, with researchers from France, Germany, and throughout the United States visiting the Archives to review the paper records in person. A finding aid for the materials is available on the Academy's website.[1] The Commission's records also contain dozens of hours of audio recordings from its meetings.

Several researchers have contacted the Archives staff, asking for digital copies of some of the Commission's materials. Supported by funding from the Jack, Joseph, and Morton Mandel Foundation, many of the records of the Commission have been digitized, resulting in preservation quality images of more than twelve thousand pages and audio files from more than fifty magnetic reels. The Archives staff is working to make many of these digital surrogates available via the Academy's website to scholars and researchers worldwide.

1. A finding aid for the records of the Commission on the Year 2000 is available at www.amacad.org/archives/fa/year-2000.

Bulletin
of the American Academy of Arts & Sciences

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Bulletin Winter 2024 • Volume LXXVII, No. 2

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The Bulletin of the American Academy of Arts & Sciences (ISSN 0002–712X) is published quarterly by the American Academy of Arts & Sciences, 136 Irving Street, Cambridge, MA 02138. Periodicals rate postage paid at Boston, MA, and at additional mailing offices. Postmaster: Send address changes to *Bulletin*, American Academy of Arts & Sciences, 136 Irving Street, Cambridge, MA 02138.

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