A man with dark hair and a beard, wearing a light-colored t-shirt and a white apron, is focused on shaping a large, round piece of dough. He is in a kitchen setting with a tiled wall and various kitchen equipment, including a large industrial mixer and several pots on a shelf in the background. In the foreground, a wooden table holds several smaller, round pieces of dough and a white rectangular object.

# Bulletin of the American Academy of Arts & Sciences

## Reimagining the American Economy

THE SEARCH FOR  
LEONARDO'S GENOME

2022 INDUCTION:  
OPENING CELEBRATION

2022 INDUCTION  
CEREMONY

WINTER 2023



SELECT

# UPCOMING EVENT



## *The Heart of the Matter*

The Humanities and Social Sciences

*for a vibrant, competitive, and secure nation*



**March 30, 2023**

House of the Academy, Cambridge, MA and Online

A Celebration of the *Heart of the Matter* at 10

Featuring **Danielle Allen** (Harvard University), a member of the Academy's Commission on the Humanities and Social Sciences

Details about this and other upcoming events are available at [amacad.org/events](https://amacad.org/events).





A large crowd gathers for the 2022 Induction: Opening Celebration

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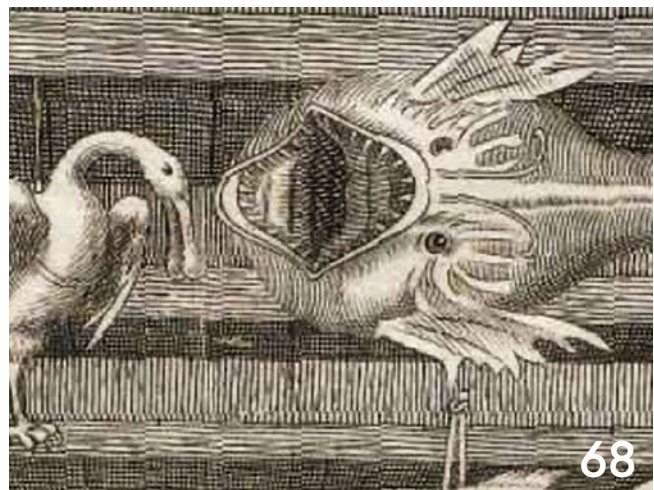
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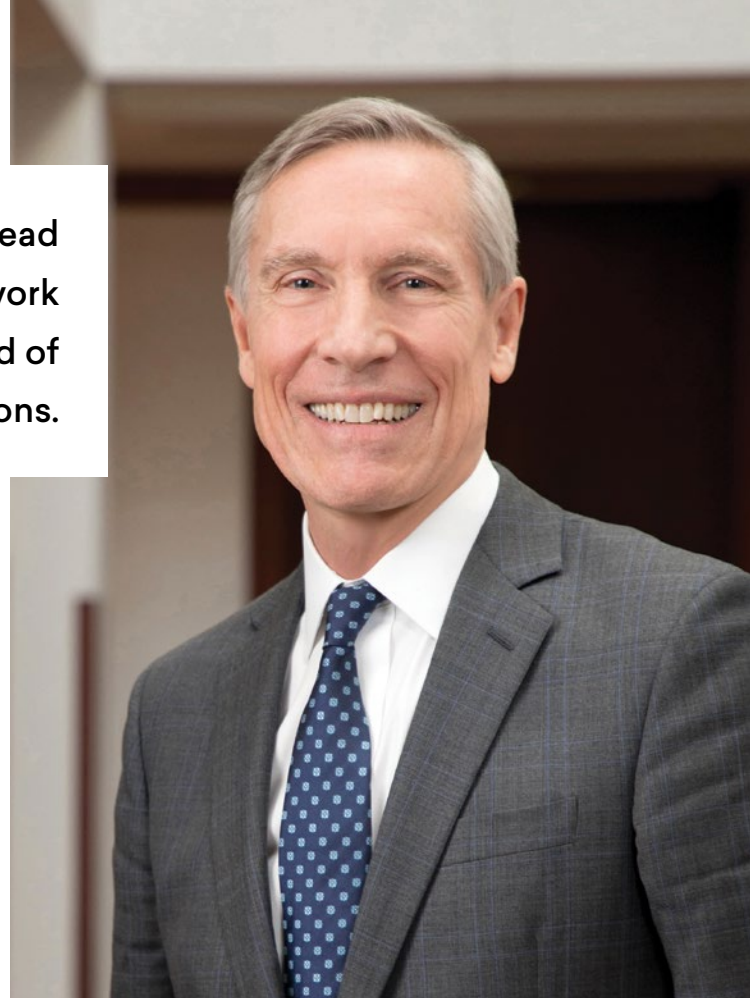
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**ON THE COVER:** Taken by Adam Perez on August 21, 2022, this photograph is part of a photo project, which is a component of the work of the Academy’s Commission on Reimagining Our Economy. Here, baker Gregorio Rodriguez, in Tulare County, California, reflects about making bread and working in his nephew’s bakery: “It’s my whole life. I could spend all day in there.”





“An increasingly common thread running through the Academy’s work is how to address the trend of declining trust in institutions.”



## From the President

Since coming to the Academy as President in 2019, I have had the privilege of leading an organization that seeks to connect all forms of knowledge to help shape policy in the areas of American institutions; education and the development of knowledge; humanities, arts, and culture; global security and international affairs; and science, engineering, and technology.

As you will see in the pages that follow, an increasingly common thread running through our work is how to address the trend of declining trust in institutions. For example, in September 2022, the Academy convened an exploratory meeting on “The Effects of Prolonged War on Democracy,” which examined the stress placed on our democratic system by extended military commitments. In October, the Academy hosted a Stated Meeting that featured U.S. Representatives Jim Himes and Bryan Steil, Chair and Ranking Member, respectively, of the House Select Committee on Economic Disparity and Fairness in Growth, to discuss Americans’ declining faith in the economy and explore ways to increase equity and opportunity. And in December, the Academy hosted a three-day virtual conference on “Reinventing Democracy: How Hometowns Are Strengthening America,” which convened local leaders from across the country to discuss approaches to strengthen our political institutions, civic culture, and civil society.

Beyond our project work, this edition of the *Bulletin* features a particularly timely issue of *Dædalus* on

“Institutions, Experts, and the Loss of Trust.” Guest edited by Academy members Henry E. Brady (University of California, Berkeley) and Kay Lehman Schlozman (Boston College), the volume explores, in the words of the guest editors, “what institutions do and why trust matters for their success.” In one essay, “The Discontents of Truth & Trust in 21st Century America,” Academy member Sheila Jasanoff addresses the bright line commonly drawn between science and politics, with expert authority extolled and the skeptical views of the public too often dismissed. In her words, “trust can be regained with more inclusive processes for framing policy questions, greater attentiveness to dissenting voices and minority views, and more humility in admitting where science falls short and policy decisions must rest on prudence and concern for the vulnerable.”

The Academy seeks to pursue such an approach in all its work. The *Our Common Purpose* report was informed by conversations with hundreds of Americans across the country, and our current commissions on reimagining the economy and accelerating climate action are placing a similar emphasis on inclusion. In doing so, it is my hope that we can strengthen trust in the Academy as an institution and, ultimately, in the democratic institutions we serve.

David W. Oxtoby





Protestors question medical authorities and the government at a march against vaccine and mask mandates in September 2021.

## *Dædalus* Explores the Loss of Trust in Institutions and Experts

By *Dædalus* Editorial

Institutions are critical to our personal and societal well-being. They facilitate relationships; they regulate behavior. They develop and disseminate knowledge, enforce the law, keep us healthy, and uphold social and religious norms.

*Distrust* of institutions is nothing new: partisan distrust dates to the emergence of America's first political parties, and scandals and crises from Teapot Dome to the Great Recession have periodically reminded Americans not to place too much trust in institutions' abilities to police themselves. But over the past

three years, resistance to public health guidance about COVID-19, demonstrations against police violence and racism, and the violent rejection of the results of the 2020 U.S. presidential election have highlighted the growing *polarization* of trust. If institutions and the people who lead them have lost legitimacy in the eyes of the people they are meant to serve, how can they fulfill their missions? Can this loss of confidence be reversed?

The Fall 2022 issue of *Dædalus*, made possible in part by a generous gift from the John S. and James

L. Knight Foundation, explores the causes and consequences of the loss of confidence in not just government institutions like the Supreme Court and the legislature, but also institutions previously thought of as nonpolitical, like medicine, the media, science, religion, and law. Led by Academy members Henry E. Brady and Kay Lehman Schlozman, the authors investigate these declines in trust by examining fifty years of polling data as well as public behaviors like compliance with and resistance to institutional guidance and norms.



One general finding in the volume is that our extreme political polarization maps neatly onto the perceived legitimacy of these institutions: conservatives are more distrustful of the press, public schools, science, and the administration of elections, while liberals are more distrustful of banks, Wall Street, the police, and the military. This point is captured by the artwork that appears in the issue: a man questioning the validity of the presidential election, protestors against the repeal of *Roe v. Wade* and an increasingly politicized Supreme Court, a woman visiting a memorial to Black victims of police violence, and a rally opposing the mandated use of masks and vaccines against COVID-19.

Is this really all bad? Or as Brady and Schlozman ask, “Should we trust major American political, economic, and social institutions when the people associated with those institutions are fallible and even, on occasion, venal or criminal?” Shocks like Watergate, the invasion of Iraq, and the exposure of child sexual abuse in the Catholic Church generate *justified* distrust. But too little trust carries its own risks, and there is a necessary balance. The authors acknowledge that without perceived legitimacy, our institutions’ abilities to function and, therefore, serve the public degrades. And in some contexts, as the response to public health recommendations about COVID-19 has shown, the consequences can be counted in lives lost.



“Institutions, Experts & the Loss of Trust” is available on the Academy’s website at [www.amacad.org/daedalus/institutions-experts-loss-trust](http://www.amacad.org/daedalus/institutions-experts-loss-trust). *Dædalus* is an open access publication.

## The Fall 2022 issue of *Dædalus* on “Institutions, Experts & the Loss of Trust” features the following essays:

### **Introduction**

Henry E. Brady & Kay Lehman Schlozman

### **The Discontents of Truth & Trust in 21st Century America**

Sheila Jasanoff

### **Fifty Years of Declining Confidence & Increasing Polarization in Trust in American Institutions**

Henry E. Brady & Thomas B. Kent

### **Trust in Medicine, the Health System & Public Health**

Robert J. Blendon & John M. Benson

### **American Trust in Science & Institutions in the Time of COVID-19**

C. Ross Hatton, Colleen L. Barry, Adam S. Levine, Emma E. McGinty & Hahrie Han

### **From Anti-Government to Anti-Science:**

#### **Why Conservatives Have Turned Against Science**

Naomi Oreskes & Erik M. Conway

### **Networked Trust & the Future of Media**

Lee Rainie

### **What Does “Trust in the Media” Mean?**

Michael Schudson

### **Trust & Models of Policing**

Tracey L. Meares

### **Race & Political Trust:**

#### **Justice as a Unifying Influence on Political Trust**

Cary Wu, Rima Wilkes & David C. Wilson

### **Religion, Democracy & the Task of Restoring Trust**

Robert Wuthnow

### **Trustworthy Government:**

#### **The Obligations of Government & the Responsibilities of the Governed**

Margaret Levi

### **Trust in Elections**

Charles Stewart III

### **Specific Sources of Trust in Generals:**

#### **Individual-Level Trust in the U.S. Military**

Max Margulies & Jessica Blankshain





## The Effects of Prolonged War on Democracy

By **Michelle Poulin**, *Program Associate for Global Security and International Affairs at the Academy*, and **Melissa Chan**, *Program Coordinator for Global Security and International Affairs at the Academy*

**O**n September 22–23, 2022, the Academy convened an exploratory meeting to discuss the effects of prolonged war on democracy. Chaired by Neta C. Crawford (Montague Burton Professor of International Relations, University of Oxford) and Scott D. Sagan (Caroline S.G. Munro Professor of Political Science, Stanford University), the meeting was held under the Chatham House Rule. The participants included political scientists, historians, lawyers, policymakers, anthropologists, and academics as well as retired U.S.

military personnel and a Washington, D.C., reserve police officer. The attendees shared their expertise in militarization, civil-military relations, democratic erosion, gender and security issues, White supremacy movements, and budgeting and public finance to explore the relationships between long-term militarization, extremism, and democracy, both within the United States and abroad.

As a response to the concern that the world is still feeling the aftershocks of the U.S.-led wars in the post-9/11 era, the participants

focused on whether prolonged war erodes the foundations of democracy by exacerbating conditions of inequality and political polarization. They considered how long-term militarization affects the democratic ethos within the armed forces, with a particular focus on the United States. Some participants expressed concern that the U.S. military has inadvertently and indirectly contributed to the rise of White nationalism and other extremist views. Observing the 2020 U.S. presidential election and its aftermath, including the Capitol riots on



January 6, 2021, of which 20 percent of the instigators had military backgrounds, the participants articulated a fear that prolonged war, even after the withdrawal of U.S. troops from Iraq and Afghanistan, may have persistent and damaging consequences on democracy within the United States.

The meeting focused on two concerns: 1) Does the mobilization for war, and war itself, foster or diminish democratic norms, institutions, and practices? 2) What are the linkages between military bias, militarism, and extremism, and, in parallel, between militarization and democratization?

### KEYNOTE ADDRESS: ADDRESSING EXTREMISM IN THE U.S. MILITARY

The exploratory meeting began with a keynote address on possible causal links between American military participation and political extremism and the potential solutions to ameliorate future radicalization. Drawing upon their public- and private-sector experience, the speaker analyzed the U.S. military's capacity to support veterans' transition to civilian life. They noted that a lack of sufficient post-service social support has contributed to higher rates of self-harm and political radicalization among former soldiers and Department of Defense contractors (compared to civilian populations).

Although many American policymakers agree that providing services to improve veterans' mental health and prevent radicalization should be a nonpartisan issue, the speaker observed that increased politicization of the issue and polarization in the armed forces have impeded efforts to make significant improvements. This, in turn, has created a feedback loop in which civilians are becoming more aware of radicalized veterans, which aggravates an existing atmosphere of

distrust between veterans and civilians. Distrust begets further radicalization, which amplifies distrust on both sides. The speaker warned that this deterioration of the military-civilian relationship could hasten democratic erosion and may also enable future autocrats to use the military for their own goals.

### CONCEPTS AND THEORIES OF MILITARISM, DEMOCRATIZATION, AND DEMOCRACY

During the first panel of the meeting, the presenters considered the extent to which the past two decades of American militarism have affected the health of democracy in the United States. They noted that nationalist values are promoted and exacerbated in countries that fight long wars with ill-defined goals and no clear winner, and they predicted that both military spending and militarism in the United States will increase in the years to come. The panelists cautioned that this increase will threaten American democracy, as it will provoke extremist frameworks, including dehumanization of the other and overestimation of the efficacy of violence. The panelists discussed that new technology is making war itself less democratic because mass mobilization is no longer necessary to engage in war; for example, drones and nuclear weapons can be deployed using relatively few people.

Several participants indicated interest in examining how countries transition from military-industrial models to environmental equity models. They questioned the effectiveness of democracy in supporting such a transition and noted that authoritarianism can allow for rapid investment in green industries (e.g., China's investment in electric cars) while policy change in democracies like the United States can be slow and limited in scope.

The discussants agreed that reconciling environmental equity goals with democratic mechanisms will be complicated and deserves further discussion.

### COMPARATIVE PERSPECTIVES ON MILITARIZATION, DEMOCRATIZATION, AND DEMOCRACY

The second panel focused on civilians' declining trust in democracy and their increasing faith in and deference to the military in the United States, Australia, and many African countries. The panelists noted that overall military spending is not predictive of civilian trust in the military; rather, the lack of civilian trust in institutions and politicians is predictive of civilian trust in the military.<sup>1</sup> When the military fails, civilian trust in the military does not decrease; the public instead doubles down on its distrust of civilian institutions. In the case of America's invasion of and withdrawal from Afghanistan, for example, the public tends to blame insufficient civilian financial, legal, and political support for the military's failure.<sup>2</sup> In certain cases, civilian acceptance of blame for poor military outcomes may indicate that democracy is functioning.

While many Americans believe that engaging in war protects American democracy, research shows that the opposite can be true. Soldiers conduct repressive activities

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1. Ronald R. Krebs, Robert Ralston, and Aaron Rapport, "No Right to Be Wrong: What Americans Think about Civil-Military Relations," *Perspectives on Politics* (2021): 1–19, <https://doi.org/10.1017/S1537592721000013>.

2. Laura Santhanam, "Here's Who Americans Blame for U.S. Failures in Afghanistan," *PBS NewsHour*, September 2, 2021, <https://www.pbs.org/newshour/politics/most-americans-think-u-s-failed-in-afghanistan>.





Rioters surrounding the U.S. Capitol on January 6, 2021.

abroad in ways that would not typically be acceptable within the borders of the United States. When soldiers finish their tours and join police forces and paramilitary organizations, some tend to normalize the use of repressive tactics on civilians back home.<sup>3</sup> Several of the participants noted that soldiers are not the only culprits; in Iraq and Afghanistan, more than half of the Department of Defense's representatives were non-military contractors.<sup>4</sup> These civilian contractors are just as likely to use and capable of importing and imposing repressive war-related tactics as their military counterparts.

3. Christopher J. Coyne and Abigail R. Hall, *Tyranny Comes Home: The Domestic Fate of U.S. Militarism* (Stanford, Calif.: Stanford University Press, 2018), <https://www.sup.org/books/title/?id=27060>.

4. Heidi M. Peters, "Department of Defense Contractor and Troop Levels in Afghanistan and Iraq: 2007–2020" (Washington, D.C.: Congressional Research Service, February 22, 2021), <https://sgp.fas.org/crs/natsec/R44116.pdf>.

### U.S. MILITARISM AND EXTREMISM

Presenters in the third panel discussed the recent rise in veterans' recruitment to White supremacist extremist groups. The panelists grappled with the challenge of reintroducing traumatized survivors of war to civilian life; the evidence shows that veterans often struggle to find purpose and meaning in both their experience at war and their new experiences at home. When combatants return from wars that are difficult to justify, like those in Iraq and Vietnam, they may feel angry that their fellow soldiers and contractors died in vain. In the post-Vietnam era, racist extremist groups gained momentum by taking advantage of returning veterans' despondence. They recruited and continue to recruit veterans by characterizing the world as facing an impending apocalypse and offering order and community amid this chaos.

Unlike conscripted soldiers of the Vietnam era, the panelists explained

that today's volunteer veterans are more insulated from civilians, who they feel do not understand the sacrifices made at war. This lack of understanding makes veterans more likely to seek community among other veterans, ultimately gravitating toward one another in extremist groups. The discussants emphasized, however, that there is no one path to radicalization. As one panelist stated, "There are as many paths to White supremacy as there are White supremacists."

As paths to extremism have multiplied and grown, so has militarization of historically civilian roles and institutions in the United States. Over the past few decades, the military has significantly increased its budget to cope with the expanding list of duties it is asked to perform, from vaccination administration to event security and border patrols. As the military's responsibilities grow, it is natural to ascribe possible threats to those activities. As one panelist stated, "We've come to view an ever-wider range



of international threats through the laws of war,” particularly the Law of Armed Conflict and International Humanitarian Law. Where the armed forces were historically and primarily responsible for fighting wars, they now increasingly oversee humanitarian responses within their enlarged capacity, so there is a growing tendency to view nonviolent security threats, like health and education, through the lens of war.

The same panelist noted that the Law of Armed Conflict is “tolerant of state secrecy, violence, coercion, and reduced human rights, but is met with less accountability.” According to Article 2(4) of the United Nations Charter, armed conflict toward another state is permissible in cases of self-defense.<sup>5</sup> The relationship between threats, war, and the military is not clear cut, but perceptions of security threats can be used to promote national defense, which in turn can contribute to the rise of U.S. militarism and a corresponding increase in militaristic operations.

### THE EFFECTS OF WAR ON THE RULE OF LAW, DEMOCRACY, AND STATE CAPACITY

During the final panel of the meeting, the presenters described the material and opportunity costs of war. Historically, wars were financed at least partially by civilians. The Iraq War was the first American conflict in which there were no cuts to non-military domestic spending; the wars in Iraq and Afghanistan were funded by off-budget emergency spending. Taxes did not increase during this period as they had during previous wars, and in fact were reduced three times. This created an economic disconnect between civilians and war, and this

5. UN Charter, Article 2(4), [https://legal.un.org/repertory/art2/english/rep\\_supp7\\_vol1\\_art2\\_4.pdf](https://legal.un.org/repertory/art2/english/rep_supp7_vol1_art2_4.pdf).

## Does the mobilization for war, and war itself, foster or diminish democratic norms, institutions, and practices? What are the linkages between military bias, militarism, and extremism, and, in parallel, between militarization and democratization?

superfluous spending, according to the panelists, lacked accountability and bred corruption, profiteering, and ghost spending for projects that did not exist.

The last two decades of emergency war funding allowed Congress to appropriate money for war efforts without making any trade-offs. This significantly relaxed congressional pressure to contain military spending and led to increased militarization of America’s foreign policy strategy.

The participants shared that this expansion of unfettered military funding has been accompanied by an increase in domestic policing. Through the Department of Defense’s 1033 program, more than \$1.6 billion in military equipment has been transferred to domestic police since September 11, 2001.<sup>6</sup> This massive supply and accumulation of military-grade equipment among domestic police forces have incentivized law enforcement to use force, often excessively and problematically, to address ordinary infractions that historically were resolved without recourse to military intervention.

The group shared that domestic police forces lack oversight by

the communities they police. The panelists predicted that increases in police militarization and a lack of accountability may lead to more American civilians living with the threat of police violence. The panel members also observed that decreasing accountability post-9/11 has resulted in an uptick in unchecked National Security Agency (NSA) surveillance, a nationwide increase in aggressive sting operations, and growing domestic and international terrorist watchlists.

### NEXT STEPS

The meeting ended with a discussion of topics for further exploration, such as:

- veterans’ recruitment into right-wing extremist organizations;
- the psychological and social elements that influence which veterans fall into extremism and which do not;
- crucial next steps to counter imminent threats to democracy; and
- the need for a comparative study of the political beliefs of demobilized soldiers in twentieth-century wars.



The Academy is exploring future work and research efforts for the Global Security and International Affairs program area. For current work, visit [www.amacad.org/topic/global-affairs](http://www.amacad.org/topic/global-affairs).

6. Jessica Katzenstein, “The Wars Are Here: How the United States’ Post-9/11 Wars Helped Militarize U.S. Police,” Watson Institute of International and Public Affairs, Brown University, September 16, 2020, [https://watson.brown.edu/costs\\_of\\_war/files/cow/imce/papers/2020/Police%20Militarization\\_Costs%20of%20War\\_Sept%2016%202020.pdf](https://watson.brown.edu/costs_of_war/files/cow/imce/papers/2020/Police%20Militarization_Costs%20of%20War_Sept%2016%202020.pdf).

# Reinventing Democracy: How Hometowns Are Strengthening America

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



When looking at American politics at the national level, it is easy to become cynical about the future of our democracy. High levels of polarization persist, and the headlines all too often are dominated by stories of government dysfunction.

Looking at the local level, however, reveals a very different picture. Cities and towns across the United States are taking steps to make government more responsive and to bring new, diverse voices into the decision-making process. In December 2022, the Academy hosted a three-day virtual conference, **Reinventing Democracy: How Hometowns Are Strengthening America**, to highlight and help build on these stories of democratic renewal.

## OUR COMMON PURPOSE AT THE LOCAL LEVEL


The conference stemmed from the Academy's ongoing commitment to advance the recommendations in *Our Common Purpose: Reinventing American Democracy for the 21st Century*, the 2020 report of the Academy's bipartisan Commission on the Practice of Democratic Citizenship. *Our Common Purpose* is premised on the idea that political institutions, civic culture, and civil society reinforce one another, and that reform is needed across all three to improve the health of our democracy. To that end, the report offers six broad strategies and thirty-one specific and actionable recommendations.

A great deal of the progress that has been made toward these recommendations has come from the local level, as communities across the country have adopted reforms like ranked choice voting, clean elections programs, participatory budgeting, and more. Inspired by these successes, the conference aimed to provide practical advice to local leaders interested in bringing the *Our Common Purpose* recommendations to their own communities.

## CONVENING LOCAL LEADERS

In addition to keynote speeches from Judy Woodruff, anchor of PBS's *NewsHour*, and Eric Liu, founder of Citizen University and cochair of the Commission on the





Practice of Democratic Citizenship, the program featured six panel discussions. Each panel focused on a different set of recommendations and brought together subject-matter experts and local leaders with experience implementing the reforms.

The first panel looked at ranked choice voting (RCV) in local elections. In this increasingly popular system of voting, voters rank candidates in order of preference. If no candidate wins a majority of first-choice votes, the lowest-ranked candidate is eliminated and votes for that person are allocated to the voter's next choice. This process continues until a candidate earns more than 50 percent of the votes. As the *Our Common Purpose* report explains, "in the ranked-choice model, candidates have an incentive to speak to a broader group of voters. The result: more moderate candidates and campaigns, a more welcoming environment for third-party candidates, and greater confidence among voters that their votes are not being wasted or distorting the outcome."

RCV has now been adopted in more than fifty jurisdictions across the country, and the panel reflected the broad range of communities that have implemented this reform. The panel included Kelleen Potter, the former mayor of Heber City, Utah, whose seventeen thousand residents used RCV for the first time in 2021, and Rosemond Pierre-Louis, who served as an Executive Board Member of the Committee for Ranked Choice Voting in New York City. These panelists and other experts shared some practical advice for other communities considering adopting this reform.

On a later panel, local officials from Petaluma, California, and Durham, North Carolina, shared their cities' successful programs to increase citizen participation. Since

2019, Durham has had a participatory budgeting program that has allowed residents to suggest and vote on projects that improve their community. Last year, Petaluma used a lottery-selected citizen panel to bring new perspectives into the decision-making process on a contentious issue involving the future of a key piece of property. Both programs are consistent with the recommendations in Strategy 3 of the *Our Common Purpose* report and have had far-reaching positive effects. "Local government needs to grab hold of the wonderful resources and the expertise in our community and run with it," Petaluma City Manager Peggy Flynn remarked.

Other panels focused on adult civic learning and engagement, K-12 civic education, and local campaign finance reform programs such as "democracy vouchers" and public matching funds. The final panel explored the role of community groups and "civic infrastructure" – the local places, programs, and people that encourage all residents to interact, find common ground, and solve problems together – in creating a healthy local democracy.

The online audience included mayors, city councilors, and other local government officials from across the country, as well as scholars, advocates, and non-profit leaders. The conference was truly nationwide, with audience members joining from forty-three different states.

Several of the speakers stressed the importance of conversations like those featured at the conference. In her keynote speech, Judy Woodruff noted that "time and time again, we've seen that it's at the local level where solutions bubble up, where people are tackling some of the toughest problems of our lives." Pete Peterson, dean of Pepperdine's School of Public

Policy, who moderated the adult civic education panel, echoed this sentiment: "So often the discussions around civic learning and the state of our public square are focused on the national or federal level. To look at these issues at the local level, at the grassroots level, sometimes is lost. I'm so grateful to the Academy for organizing this event to really look at what's happening at the local level."

## LAUNCHING THE OUR COMMON PURPOSE COMMUNITIES PROJECT

The conference also launched a new initiative: the Our Common Purpose Communities Project, which aims to connect communities committed to democratic reform to each other and to experts who can help advise and support their efforts. Lexington, Kentucky, is the first city to join this network. Lexington Mayor Linda Gorton announced that her city will work toward adopting two *Our Common Purpose* recommendations: 3.1 (Making Public Meetings More Accessible) and 6.5 (Investing in Civic Education). "We look forward to collaborating with the Academy and the OCP Champion community to continue to find new ways to enrich our democracy at the local level," she said. The Our Common Purpose Communities Project, like the conference that launched it, is grounded in a recognition that local leaders will play a pivotal role in reinventing our democracy and that they deserve our attention and support.



For more information about the conference and the Our Common Purpose Communities Project, visit [www.amacad.org/ourcommonpurpose](http://www.amacad.org/ourcommonpurpose).





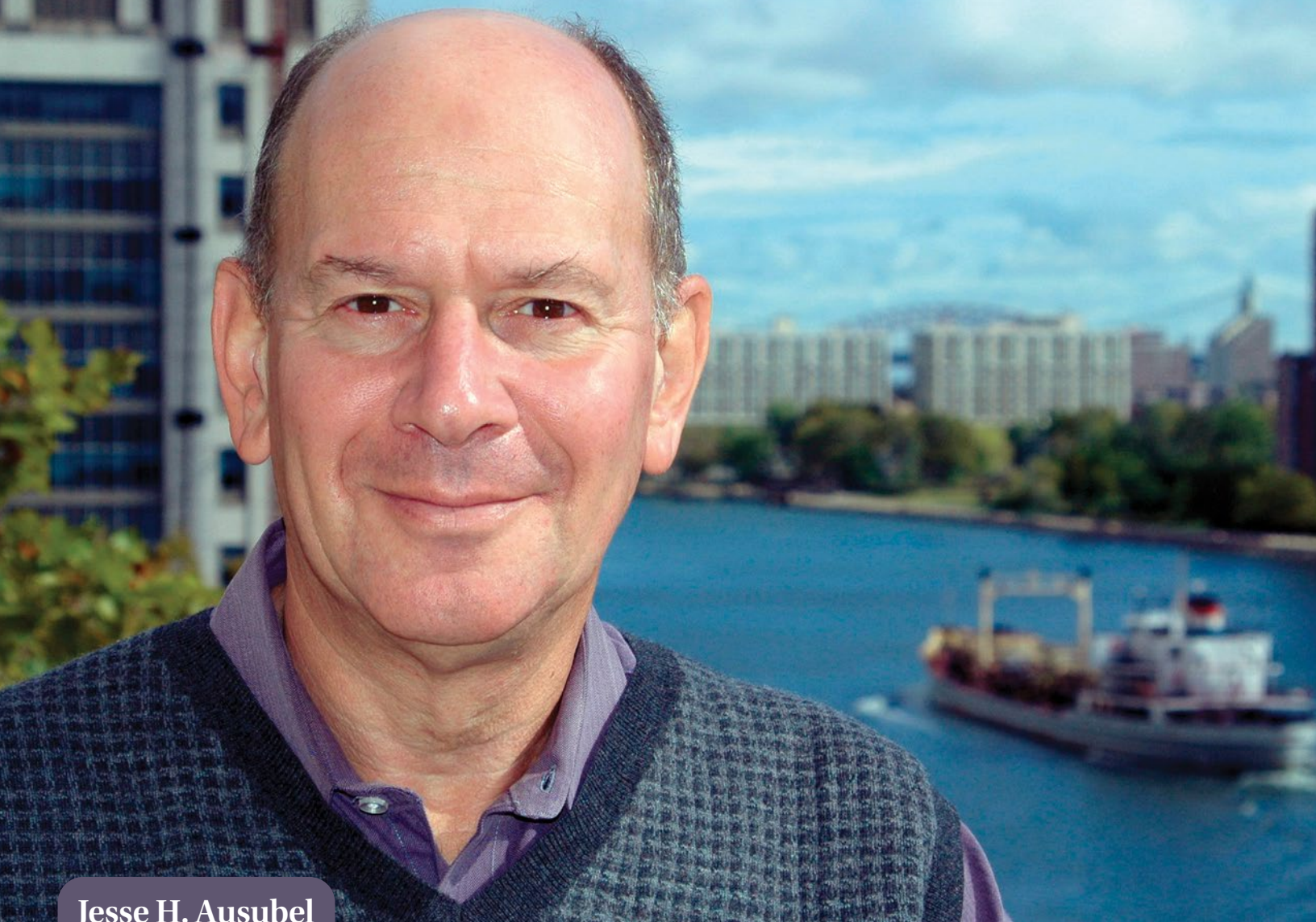


# The Search for Leonardo's Genome

On June 6, 2022, the Academy's **New York Program Committee** hosted a dinner discussion on *DNA and Art: In Search of the Genome of Leonardo da Vinci*, featuring **Jesse H. Ausubel**, director of the Program for the Human Environment at The Rockefeller University. The evening followed the model of a "Jeffersonian Dinner" in which a group of guests curated for their various perspectives engages in a wide-ranging conversation about a chosen topic over the course of the meal. Eighteen Academy members gathered at the University Club of New York for this dinner conversation. Committee cochair **Kenneth Wallach** (Central National Gottesman Inc.) served as host and provided opening remarks.

During the dinner, Mr. Ausubel described the project he is leading, which is aiming to employ the latest techniques from molecular biology and genetics to make discoveries about da Vinci's attributes and ancestors. Members at the table, who represented various fields, including art history, dance, mathematics, and law, drew on their own expertise to ask salient questions about methodology, application, and the ethical implications of the project. The conversation was lively and continuous, with each member in attendance contributing to the discussion. A lightly revised and extended version of Mr. Ausubel's presentation follows.





## Jesse H. Ausubel

Jesse H. Ausubel is Director of the Program for the Human Environment and Senior Research Associate at The Rockefeller University. He was elected to the American Academy in 2011.

I would like to extend my thanks to Carol Gluck, Ken Wallach, and the Academy's New York Program Committee for the opportunity to launch this new round of in-person events; to Laurie McDonough and Patrick Meade on the Academy staff for persevering organizationally through the oscillations of the COVID-19 pandemic; and to all of you for coming to this program.

I propose as our subject the potential benefits of a more frequent marriage of new biology, in particular genomics and microbiology, with art, art history, and the conservation of cultural heritage.

To begin, let's consider a trio of entertaining studies of the scandalous power of human genomics. In a large survey of parenthood conducted in the United Kingdom, in which parenthood was not in dispute, one in twenty-five fathers was not the biological parent. In a similar survey in which parenthood was disputed, 30 percent of the fathers were not the biological parents. In a 2019 study conducted at the U.S.-Mexico border, 30 percent of those tested were unrelated to the children they claimed as their own. Biology can both end and begin mysteries.

Now let's consider the power of art as demonstrated by money. The global art market today is valued at approximately \$65 billion annually, and about 40 percent goes through New York City. Hong Kong is the second art market capital, followed by London, Paris, and Geneva. Most of the demand is for postwar, contemporary, and



modern art. Sales of Old Masters, such as Leonardo and others who worked in Europe before 1800, make up less than 5 percent.

Attribution and authentication are crucial matters for buyers, sellers, and intermediaries, including dealers and auction houses. Hundreds of years ago the art market invented blockchain, a fancy word for reliable provenance. Provenance and connoisseurship – intelligence without artificiality – establish identity in art markets.

Identity requires comparison – a reference and hopefully a match. The match can pair fingerprints, retinas, voices, faces, or other images or attributes. Natural history museums and botanical gardens preserve a so-called holotype, a single physical example of a reliably described organism, in a jar or drawer as a reference specimen against which to establish the identity of other specimens. Taxonomists build botany and zoology on such collections of plants and animals.

**The art world has been utilizing chemistry and physics for a long time. X-rays and other types of radiation reveal images; carbon-14 and other radioactive isotopes disclose dates; and mass spectrometry and gas chromatography identify materials used in the art. ”**

Mentioning the description of animal species offers me a chance to explain a thread in my own story. I have devoted much of my career to censusing the diversity of marine life. Until recently, to identify most marine animals one had to capture them, which can be harmful, or photograph them extensively, which is often difficult in a vast dark ocean. Over the past twenty-five years, I have been part of a community that has developed affordable, scalable techniques for identification that are much less harmful to the organisms, such as collecting the DNA that the animals shed in sea water and recording the sounds the animals make.

Short “DNA barcodes” of as few as one hundred letters representing the four bases (cytosine [C], guanine [G], adenine [A] or thymine [T]) that make up a DNA strand, a tiny fraction of the genome, usually suffice to identify the species of a fish from the Hudson River or from the middle

of the Atlantic Ocean. Of course, a carefully documented specimen that was properly preserved in a jar in a museum provided some tissue whose DNA offers the sequence, deposited in a reliable database, against which we make the match. In addition to DNA, other molecules can accomplish these identifications. So too can the collection or profile of microbial organisms that live on a critter or inside its cheek, what we call a microbiome. These microbiomes are ubiquitous; our world is not sterile. Microbes abound in your carpet, on a piece of wood, and on the surface of a sheet of canvas or paper.

The art world, exemplified by the extraordinary research labs of the Metropolitan Museum of Art in New York, the Smithsonian in Washington, D.C., the Getty in Los Angeles, and their counterparts in England, France, Italy, and other countries, has been utilizing chemistry and physics for a long time. X-rays and other types of radiation reveal images; carbon-14 and other radioactive isotopes disclose dates; and mass spectrometry and gas chromatography identify materials used in the art.

In cultural heritage, biology has tended to be treated like dirt or contamination to be cleaned away. My suggestion, to use a phrase from Silicon Valley, is to treat biology as a feature and not as a bug.

Let me share another personal thread. Why and how did we become interested in Leonardo? Among my most important mentors is an Italian physicist, Cesare Marchetti, who recently turned ninety-five. About twenty-five years ago, during a visit to Marchetti’s home in Tuscany, he asked if I had studied Leonardo, to which I answered no. His response was that the English read Shakespeare, the Germans Goethe, and the Russians Tolstoy, and a good education in Italy must include Leonardo. I should not travel through life without some exposure to Leonardo. He gave me a copy of a book from the 1938 Milan exhibition, republished in 1996, about Leonardo’s achievements, spanning from astronomy to zoology.

Over the next fifteen years or so, we had endless fun with Leonardo’s puzzles and lists. I became interested in hidden images, anamorphoses, which Leonardo played with here and there. We called them cryptos. A magnificent painting in the Metropolitan Museum by Leonardo’s master Verrocchio has a hidden image of the head of a kite (nibbio), a bird featured in Leonardo’s drawings and earliest memories. Perhaps Leonardo snuck the image into the painting. His tiny or micro images are also intriguing. How could anyone draw

so precisely and accurately at the scales at which Leonardo worked?

Let's jump ahead to the year 2014. Marchetti and I are having lunch with Brunetto Chiarelli, a bone-and-tooth expert who was then the head of the Institute of Physical Anthropology at the University of Florence. Brunetto suggested we establish a project to obtain and sequence Leonardo's genome. Brunetto believed that with the collaboration of his close friend Henry de Lumley, head of the Institute of Human Paleontology in Paris, we might gain access to the tomb of Leonardo in Amboise in the Loire Valley at the Royal Chateau, where Leonardo spent the last three years of his life under the patronage of Francis I, King of France. Henry was keen to join our effort, and so the Leonardo Da Vinci DNA Project began.

Henry cautioned us that the Count of Paris, another Henri, who was the head of the Fondation St-Louis that controls the Chateau, was unlikely to let us disturb the beautiful tomb, except possibly as a capstone to the entire project if much of

person brought from the Middle East or from Circassia north of the Black Sea. Did Leonardo have an unusual parental combination?

A third set of questions, which makes the project appropriate for The Rockefeller University, a largely biomedical research institution, refers to Leonardo's extraordinary visual acuity both in space and time. Project member David Thaler (University of Basel) has published a remarkable paper exploring the evidence for extraordinary visual acuity in Leonardo's comment on a dragonfly.<sup>1</sup>

Could Leonardo have played major league baseball? Famous art historians and biographers such as Sir Kenneth Clark and Walter Isaacson have written about Leonardo's "quick eye" because of the way he accurately captured fleeting expressions, wings during bird flight, and patterns in swirling water. Until now no one had tried to put a number on this aspect of Leonardo's extraordinary visual acuity. Thaler notes that flicker fusion frequency (FFF) – akin to a motion picture's frames per sec-

**“ We know a lot about the family of Leonardo's father, a consequential notary, but distinguished Leonardisti hold widely divergent views about his mother, who was probably a local Tuscan peasant or, more dramatically, an enslaved person brought from the Middle East or from Circassia north of the Black Sea. Did Leonardo have an unusual parental combination? ”**

what we did was successful. We needed strong reference materials, like holotypes, against which to compare the materials that may or may not be in the tomb. By the way, the tomb was moved and opened during the French Revolution and again later in the nineteenth century, and perhaps on other occasions too. In any case, the animating question for the project became, do the relics that lie in the Amboise tomb contain Leonardo's DNA?

Our list of questions quickly grew and included a few about Leonardo's ancestry, in particular, about his mother. We know a lot about the family of Leonardo's father, a consequential notary, but distinguished Leonardisti, such as Martin Kemp and Alessandro Vezzosi, hold widely divergent views about his mother, who was probably a local Tuscan peasant or, more dramatically, an enslaved

ond – is used to quantify and measure “temporal acuity” in human vision. When frames per second exceed the number of frames the viewer can perceive individually, the brain constructs the illusion of continuous movement. An average person's FFF is between 20 to 40 frames per second; motion pictures today present 48 or 72 frames per second. To accurately see the angle between dragonfly wings

1. David S. Thaler, “Evidence for Extraordinary Visual Acuity in Leonardo's Comment on a Dragonfly,” in Henry de Lumley, ed., *Actes du Colloque International d'Amboise: Leonardo de Vinci, Anatomiste. Pionnier de l'Anatomie comparée, de la Biomécanique, de la Bionique et de la Physiognomonie* (Paris: Centre national de la recherche scientifique, in press), <https://phe.rockefeller.edu/wp-content/uploads/2020/06/LeonardoFlickFusionSfumatoPortraitJune182020.pdf>.



would require temporal acuity in the range of 50 to 100 frames per second. Further study could compare the genome of individuals like Leonardo and species with unusually high FFF.

A fourth set of questions relates to Leonardo's diet and health. From verified bones, we may be able to learn whether he maintained a vegetarian diet for much of his life, as is widely believed.

**One aim of our project is to match the DNA of the descendants against materials found in the tombs of descendants in the Vinci area from say 1600 or 1700. Eventually we might try to open the tomb of Leonardo's father, Ser Piero, and half-brothers in the beautiful Badia Fiorentina near the Palazzo Vecchio in central Florence.** ”

A fifth question, or possibility, is to reconstruct Leonardo's appearance, that is, to go from genotype to phenotype. With enough of the genome, one can now do a reasonable job of reproducing physiognomy. Team members from Craig Venter's Institute have pioneered a technique using genomes to predict what faces look like. Carmen Bambach, curator of drawings and prints at the Met and the author of a monumental four-volume study of Leonardo, neatly summarizes a long-standing debate about representations of Leonardo, including the famous image in Turin that may or may not be a self-portrait.

In the same spirit, team members Francesco Galassi and Elena Varotto of Sicily's Forensic Anthropology, Paleopathology, and Bioarcheology Research Center analyzed shoes that belonged to Michelangelo Buonarroti to estimate his height at 157 centimeters (5 feet 2 inches).

How do we set off on this journey that might conclude at Leonardo's tomb in Amboise? An obvious route is via possible living descendants. Leonardo was gay, and no mention has ever been found that he sired children. While he was the only (and illegitimate) offspring of his father and mother, his father sired seventeen other children by several wives. In July 2021, under the leadership of historians Alessandro Vezzosi and Agnese Sabato, the project published "The New Genealogical Tree of

the Da Vinci Family for Leonardo's DNA: Ancestors and Descendants in Direct Male Line Down to the Present XXI Generation," an open access ninety-page booklet with a 690-year genealogy that identifies fourteen possible living descendants.<sup>2</sup> Bastards, of course, could intervene, but during April 2022 six of the fourteen possible descendants gave their saliva to David Caramelli's Laboratory of Anthropology, Molecular Anthropology, and Paleogenetics at the University of Florence in order to study their Y chromosomes, which are passed largely unchanged from father to son.

One aim of our project is to match the DNA of the descendants against materials found in the tombs of descendants in the Vinci area from say 1600 or 1700, tombs that for artistic reasons are not very remarkable. Eventually we might try to open the tomb of Leonardo's father, Ser Piero, and half-brothers in the beautiful Badia Fiorentina near the Palazzo Vecchio in central Florence. Renaissance historian Anne Leader has identified the likely spot of the tombs,<sup>3</sup> and we have conducted studies with ground-penetrating radar. But opening an artful historic tomb is a serious matter in Florence as it is in Amboise, and the Florence floods of 1966 may have damaged the contents.

What is most intriguing is the possibility of getting DNA off the pages of notebooks or from the pages of drawings, in particular drawings made by metal or silver point, in which saliva is used to prepare the paper, a possibility introduced and explored by artist Karina Aberg. The laboratory of Tom Sakmar, a colleague at Rockefeller, has been working with great success on techniques to obtain DNA off papers of diverse kinds and ages. The late scholar and dealer Fred Kline provided the Project with fourteen works on paper with reasonably good provenance and/or authentication that are being used in our experiments. Colleagues in Spain, such as Jose Lorente and Christian Galvez, who are interested in Cervantes and other Spanish historical figures are also advancing the techniques, and exploring the possibility to obtain samples from the six hundred pages of Leonardo's

2. Alessandro Vezzosi and Agnese Sabato, "The New Genealogical Tree of the Da Vinci Family for Leonardo's DNA: Ancestors and Descendants in Direct Male Line down to the Present XXI Generation," *Human Evolution* 36 (1–2) (2021): 1–90, <https://doi.org/10.14673/HE2021121077>.

3. Anne Leader, *The Badia of Florence: Art and Observance in a Renaissance Monastery* (Bloomington: Indiana University Press, 2011), <https://iupress.org/9780253355676/the-badia-of-florence>.

notebooks held by the Spanish National Library in Madrid, some of which appear to have Leonardo's fingerprints on them.<sup>4</sup>

While writers and artists tend to handle the edges or borders of sheets of paper, leaving DNA there, more historical and artistic value may be found in text and images that are more centrally located. In any case, contamination from many people handling the pages of the notebooks or other sheets as well as other works, such as paintings, is a concern. Our lead contamination expert, Dr. Rhonda Roby, now at California's Alameda County Sheriff's Office, has extensive forensic experience.

Finally, other relics, such as hair or a ring, might merit examination. Unsurprisingly, collectors often contact us about objects they hope to associate with Leonardo, for example, a globe made from an ostrich egg that depicts what Europeans called the New World.

In any case, the key to the game is a match of two or more sources, such as a living descendant's Y-chromosome DNA with a comparable sequence from a notebook page. Once we have that key, we hope to grow the reliable sequence and search systematically, for example, for the genes that influence vision. Our aim and hope are to report some success by the end of 2023.

While Leonardo presents particularly intriguing challenges, the ideas of the project are now "in the air." In 2014, the English were excited to find, with a 99 percent probability, the bones of Richard III in a parking lot in Leicester. Members of our team have been involved in obtaining the DNA of Christopher Columbus. The techniques for locating and piecing together ancient DNA are getting better. Caramelli's lab works on Neanderthals from thirty thousand years ago, as well as Etruscans and even Pompeians smothered by Vesuvius. In another fifteen to twenty years, much of the genomics and microbiology we are doing will become customary parts of history and conservation sciences. It has been great fun assembling the multidisciplinary team to do this work.

Whether or not we succeed with Leonardo's genome, a movement to integrate scholarship in biology and art is growing, led by Julie Arslanoglu at the Met and Peggy Ellis of NYU's Institute of

Fine Arts. They have hosted two conferences on "Art Bio Matters" and have started a community website.<sup>5</sup>

Let me end with a few general comments to stir some discussion.

One dimension that we did not anticipate and that elicits great interest concerns fraud and forgery. Artists such as Dali, Rothko, and Basquiat are bedeviled by these problems. Building a database of forgers' DNA and including the DNA of artists could help. Living artists might want to deposit their sequences to lessen the chance of future fraud. Project lawyer Eric Rayman has helped us raise the issue of DNA and art law.<sup>6</sup>

**“ The techniques for locating and piecing together ancient DNA are getting better. In another fifteen to twenty years, much of the genomics and microbiology we are doing will become customary parts of history and conservation sciences.**

I mentioned previously degradation and microbiomes. Team members Manolito Torralba and Karen Nelson (formerly at the J. Craig Venter Institute in La Jolla, California) and other colleagues used small, dry polyester swabs to gently collect microbes from centuries-old, Renaissance-style art in a private collector's home in Tuscany. Their findings are published open access in the journal *Microbial Ecology*.<sup>7</sup> Much remains to be learned about how to slow or reduce degradation and also about how to preserve works in conditions of changing air chemistry and climate, not only in museums but elsewhere.

5. Art Bio Matters, <https://www.artbiomatters.org>.

6. Jesse H. Ausubel, "Some DNA Issues for Art Law," MLRC MediaLawLetter, August 2021, <https://phe.rockefeller.edu/wp-content/uploads/2021/09/Ausubel-Some-DNA-Issues-for-Art-Law.pdf>.

7. M. G. Torralba, C. Kuelbs, K. J. Moncera, et al., "Characterizing Microbial Signatures on Sculptures and Paintings of Similar Provenance," *Microbial Ecology* 81 (2021): 1098–1105, <https://doi.org/10.1007/s00248-020-01504-x>.

4. During the seminar, Carmen Bambach made the excellent suggestion to consider also as a source of DNA the books kept by Leonardo's father, Ser Piero.



I also mentioned that biology is a feature and not a bug. We need to ask whether we have been cleaning too aggressively, or without proper preservation of what is removed. New York City's Morgan Library is not only a library but a biological repository that may have the DNA of Mozart, Thoreau, Gertrude Stein, and Sylvia Plath. Appreciating genetics and microbiology might increase the value of many collections.

In this vein, we may learn a lot by studying extraordinary human performance, perhaps outliers, of several kinds. The New York Public Library for the Performing Arts has begun a project with Yale University to try to obtain the DNA of Franz Liszt from materials that belonged to him. Liszt experienced synesthesia; he saw musical notes and chords as colors. DNA might also give us wonderful clues to the anonymous artists who worked in ancient Egypt or medieval Ireland or the Kingdom of Benin.

Finally, while our project is decidedly nonprofit, a lucrative entrepreneurial opportunity exists to provide services to auction houses, galleries, and collectors, most powerfully by an enterprise that encompasses genomics, artificial intelligence, and expertise. For example, scanning more than seven hundred van Gogh works might allow a machine to learn a lot about van Gogh, and his DNA could be obtained from his clothing and other personal items in the collections held by the Van Gogh Museum in Amsterdam.

I hope I have persuaded you that such marriages, exemplified by the search for Leonardo's genome, could overcome formerly daunting limits to knowledge and explore not only the unknown but what seemed unknowable.

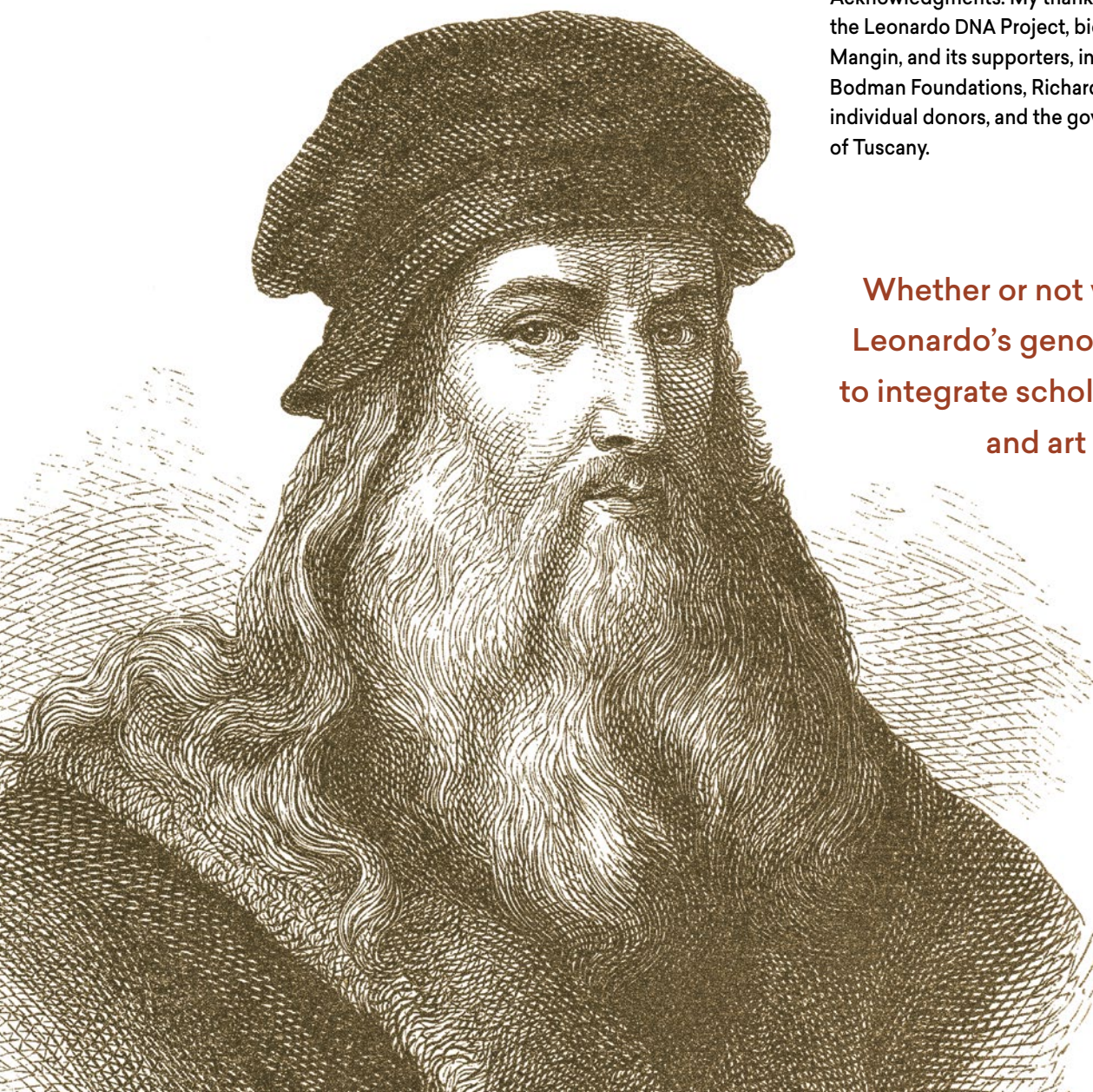
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Whether or not we succeed with Leonardo's genome, a movement to integrate scholarship in biology and art is growing. ”





2022 INDUCTION

# Opening Celebration

2107th Stated Meeting | September 9, 2022 |  
Klarman Hall, Harvard Business School |  
David M. Rubenstein Lecture

The opening program of the 2022 Induction weekend featured a conversation between **David M. Rubenstein**, Co-Founder and Co-Chairman of The Carlyle Group, and cellist **Yo-Yo Ma** that explored the meaning and honor of Academy membership, the power and universality of music, and the importance of the arts, culture, and education, among other topics. An edited version of their conversation follows.







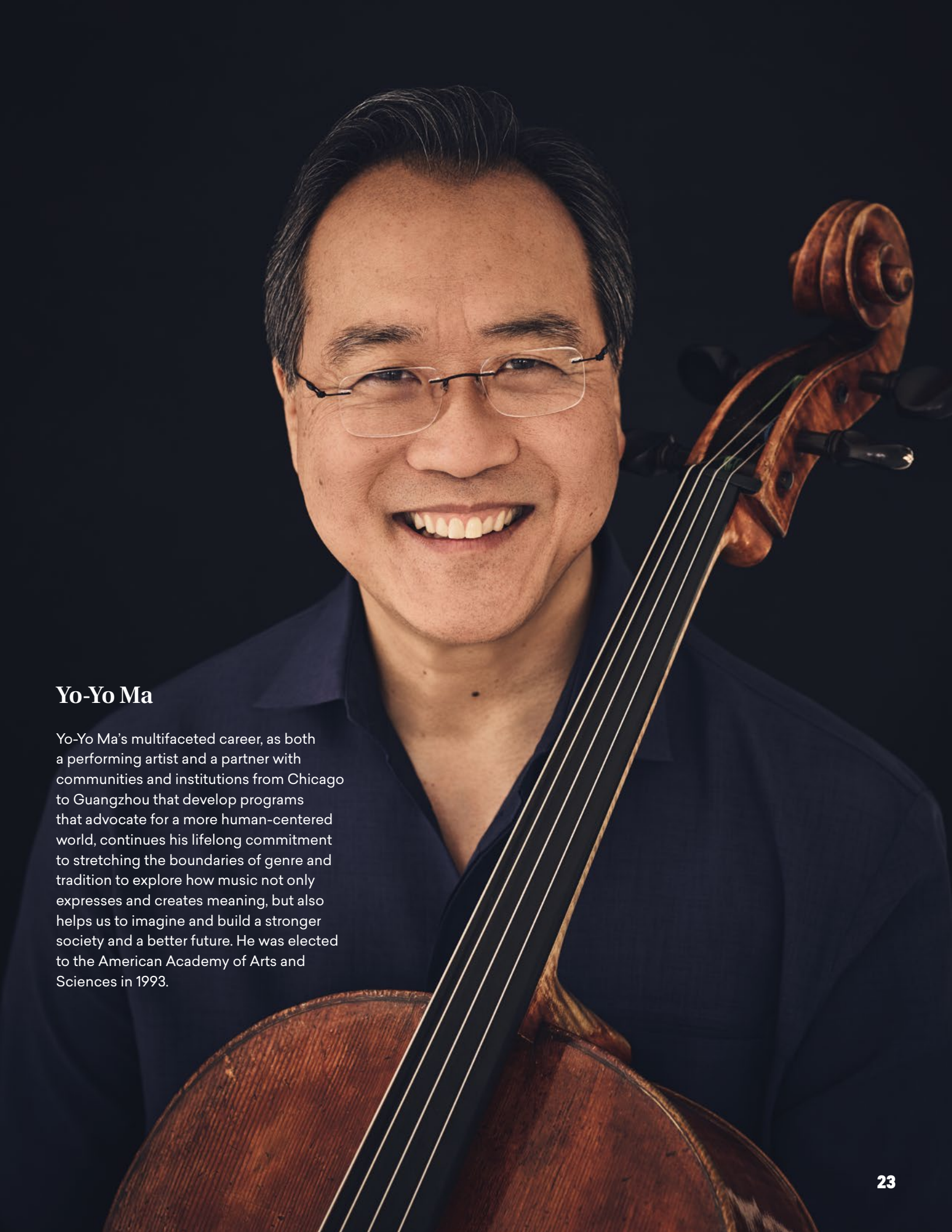




## **David M. Rubenstein**

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 serves on the Academy's Board of Directors and on the Academy's Trust.





## Yo-Yo Ma

Yo-Yo Ma's multifaceted career, as both a performing artist and a partner with communities and institutions from Chicago to Guangzhou that develop programs that advocate for a more human-centered world, continues his lifelong commitment to stretching the boundaries of genre and tradition to explore how music not only expresses and creates meaning, but also helps us to imagine and build a stronger society and a better future. He was elected to the American Academy of Arts and Sciences in 1993.

**DAVID M. RUBENSTEIN:** It is great to see you. Thank you for joining me in a conversation this evening. Do you remember what your reaction was when you were first told that you had been elected to the American Academy of Arts and Sciences? Did you wonder how you got in?

**YO-YO MA:** I thought it was a great honor. One of the reasons I went to college was to get a liberal arts education, and I thought, my goodness, the American Academy of Arts and Sciences – that’s exactly where our country should be. The arts and sciences are part of natural philosophy, which was what we had when our country started. I was elated when I was elected, and I am elated today to be here with you and with the new members of the Academy.

**RUBENSTEIN:** Let’s talk a little about the early part of your life, and how you became such a well-known and world-renowned cellist. You were born in Paris?

**MA:** I was, at least that is what I have been told.

**RUBENSTEIN:** And your father was a music teacher?

**MA:** He was a musician, and he later became a teacher. But he was always a teacher, and certainly he was my teacher.

**RUBENSTEIN:** Why did you leave Paris to come to the United States? Did your father get a job here?

**MA:** They were looking for a music teacher at a school in New York, and that’s how we came to the United States.

**RUBENSTEIN:** What was your name at birth? If I’m correct, it was something other than Yo-Yo.

**MA:** I think it was David.

**RUBENSTEIN:** Was it perhaps Ernest?

**MA:** Actually, my name is a cultural combination. Every day in the French calendar has a saint’s name assigned to it. The fact that I was born on October 7 was important. But it’s also important to note that in more recent Chinese tradition, a lot of babies are not named until they are a month old,

because of infant mortality. So, November 7th was Fête Ernest, and that became my French name.

**RUBENSTEIN:** How old were you when your parents brought you here?

**MA:** I was seven years old.

**RUBENSTEIN:** Did you speak English fluently?

**MA:** Just like right now, no, of course not.

**RUBENSTEIN:** At what age did you take up the cello?

**MA:** I was four years old. I have a sister who is four years older, and she played the violin. So, I started the violin at age two, and I played badly. Like a cat screaming, that was what it was like. My parents thought I wasn’t talented. And I should have kept that thing going, because then who knows what I would have become. I might have gone into . . .

**RUBENSTEIN:** Private equity?

**MA:** Yes, private equity.

**RUBENSTEIN:** The cello is a big instrument, and you were only four years old. How did you lug something that size around? Or did they have a smaller version for four-year-olds?

**MA:** Yes, they had a 16 size. But since I couldn’t go into private equity at age four, I wanted to play the largest instrument. Size is important to a four-year-old, and I had my sights set on something much bigger: the double bass. Obviously, I couldn’t handle that, so I downsized.

**RUBENSTEIN:** You downsized to the cello?

**MA:** That’s correct.

**RUBENSTEIN:** Some people may not remember this, but when the Kennedy Center was first established, before President Kennedy was assassinated, it was called the National Cultural Center. It was later renamed the Kennedy Center after his death. But before that tragic killing, the federal government was not supporting the National Cultural Center. The Center had to raise its own money.



They had national telethons, which Leonard Bernstein conducted. And at one of them, Bernstein said something like, “I’ve heard of a great young cellist, he’s only seven years old, but I want you to hear him.” And you played. I think President Kennedy was there. Do you remember that?

**MA:** I do, but I remember a slightly different scenario than what you described. I was an immigrant, newly arrived in the United States, and I actually played for Pablo Casals. After Casals left Spain, he moved from southern France to Puerto Rico. I played for him. A couple of weeks later, Casals was asked to play for this new National Cultural Center. He didn’t want to travel from Puerto Rico, and so they inaugurated the telecast and live coverage. He is the one who said I know this kid who plays, and that’s why my sister and I were asked to play.

**RUBENSTEIN:** Was President Kennedy there?

**MA:** He was, but what was impressive to me then was the fact that Danny Kaye was conducting the National Symphony Orchestra.

**RUBENSTEIN:** So, you are seven years old, you are playing in front of the President of the United States, and then you continue to play the cello. But as you got older, did other things intervene? Did you want to play baseball or something else? Did you lose your focus on the cello at all?

**MA:** One of the reasons I love Pablo Casals is that when he met me, he said, don’t forget to go play baseball.

**RUBENSTEIN:** Really? Did you play baseball?

**MA:** No.

**RUBENSTEIN:** Alright. You went to Julliard, yes?

**MA:** I did. But let me mention something incredible that you did yesterday. You opened a permanent exhibit at the Kennedy Center. You are the Chairman of the Board at the Kennedy Center, but also the Chairman of the Board at other places too. Why are you the Chairman of so many boards? If you are supposed to be in private equity, doesn’t that take a lot of your time?

**RUBENSTEIN:** Private equity doesn’t take as much time as you might think.

**MA:** Is investing no longer interesting to you? You are on the board of Harvard, of the American Academy, of the Smithsonian, of Duke, and of the World Economic Forum.

**RUBENSTEIN:** Well, you’re on that board too.

**MA:** Yes, but how do you have time to do all this stuff?

**RUBENSTEIN:** I don’t play golf, and that saves about ten hours a day. Now back to your life. You are a student at Julliard, which is a great school, but you leave it to go to Harvard. I mean Harvard is not bad either, but why did you decide you wanted to go to Harvard, a four-year college? Many child prodigies go to Julliard or the equivalent.

**MA:** Well, first of all, I had no idea what college would be like. I had only lived at home, and my family environment was not one in which dialogue could really take place. When you have people telling you who you are, what you think, and how you feel, I didn’t know what I thought or what I felt. But all joking aside, I had an amazing musical foundation from my home. And that allowed me to be incredibly efficient as an undergraduate.

**RUBENSTEIN:** Were you the class of ’76?

**MA:** Yes.

**RUBENSTEIN:** Anybody else famous in that class?

**MA:** Let me think.

**RUBENSTEIN:** Wasn’t there a computer guy?

**MA:** There was a computer guy in Currier House, but he ended up dropping out. And there’s a guy who’s now at the Supreme Court.

**RUBENSTEIN:** Really?

**MA:** Roberts.

**RUBENSTEIN:** Did you know him?

**MA:** No. I only found out we were in the same class when I had dinner with him.

**RUBENSTEIN:** So, you graduate from Harvard, and you want to be a professional cello performer. Would you agree that the life of a professional

classical music performer is not the easiest in the world?

**MA:** Well . . .

**RUBENSTEIN:** You must travel a lot. You are playing every night in a different place.

**MA:** First of all, when you start out, you're starving. You take any job.

**RUBENSTEIN:** Right.

**MA:** My first summer at camp, some friends asked if I wanted to play a wedding. Fifty bucks, pizza money, it was great.

**RUBENSTEIN:** Did you ever play at bar mitzvahs?

**MA:** Of course.

**RUBENSTEIN:** Early on, about how many hours a day did you practice?

**MA:** To be honest, I did not practice that much.

**RUBENSTEIN:** Really?

**MA:** Yes, but only because I'm very efficient. I told you, I had a great foundation, which meant that I could spend a lot of time doing other things or doing nothing. And that was a great advantage. I was not well schooled, I was not well prepared for college, and I didn't know how to write papers. After college, I tried to make up for the things missing in my life – from the courses and people that I met to fill in the gaps. So, in a way, my education started after college, with things that I was exposed to through my travels and meeting people at concerts.

**RUBENSTEIN:** The life of a classical music performer is a life of getting on planes, getting off planes, rushing from place to place, performing, and so forth. How do you deal with jetlag and that hectic pace?

**MA:** The life of a classical musician, or of any musician, is to find meaning every day. That's what we all try to do. That's what you do and is probably the reason why you serve on all those boards.

**RUBENSTEIN:** But in your case, I imagine that you need to practice. Last night, you played at Wolf Trap. You must have practiced a few hours before your performance.

**MA:** At least.

**RUBENSTEIN:** So, when you're practicing and you make a mistake, do you tell yourself I don't really have this piece down yet? How many times do you have to practice before you really master it?

“ What I'm fascinated with is the fact that as an investor, you characterize yourself and others who invest as people who are incredibly curious, who never stop learning, and who read everything about everything because it all helps. The exact same thing applies to what I do. In music you learn technique, and the reason I practice is so that I can transcend it.

**MA:** Let me ask you the same question. When you go to a board meeting and give a speech, how long have you practiced beforehand? And this book of yours that I'm holding, *How to Invest: Masters on the Craft*, it is not just a prop. I have actually read the book. And what I'm fascinated with is the fact that as an investor, you characterize yourself and others who invest as people who are incredibly curious, who never stop learning, and who read everything about everything because it all helps. The exact same thing applies to what I do. In music you learn technique, and the reason I practice is so that I can transcend it. What do I mean by that? If I spend 100 percent of my brain real estate concentrating on how I'm going to do something, I'm going to feel nothing. But if I can decrease the amount of brain real estate on the playing aspect of the cello, I can focus on what it's about. And if I can do that, if I can consistently focus on that – which is something that I've seen you do over and over again in your speeches when you get everything right, when



you include humor – then that is when the music begins to speak.

**RUBENSTEIN:** But even when I'm making a speech, I'm sometimes thinking about what am I going to say next? Did you ever make a mistake?

**MA:** I always make mistakes.

**RUBENSTEIN:** Do you ever forget the next note when you're playing?

**MA:** Yes, but what's important is what kind of mistake. To quote from your book . . .

**RUBENSTEIN:** Really? I should have asked you to do a blurb. I will next time.

**MA:** You say, "Learn how to admit a mistake and to correct it as soon as possible, with the least damage possible. Investors will always make mistakes, but the key for really good investors is learning when to admit them, cut losses, and go on to the next opportunity."<sup>1</sup> When I make a mistake, I just say, oh well, I made a mistake. And you let it go because there's something more important than that.

You spend a lot of time on cultural issues that are unrelated to classical music. You spend a lot of time going around the country, talking about the importance of learning the arts, the importance of education, and the importance of happiness, among other things. ”

**RUBENSTEIN:** Let's suppose you're playing with the National Symphony Orchestra, or some other great orchestra, and they make a mistake, and you know they've made a mistake. What do you do? Do you raise your eyebrows?

**MA:** I'm just going to keep quoting from your book. This is from Ray Dalio. "The company's culture was key. Having a culture in which there's thoughtful disagreement and meritocratic

decision making, so the best ideas win out, was a big thing. It was a culture in which we would challenge each other's ideas and hold each other to high standards. High-quality independent thinking, humility, working well with others, and resilience."<sup>2</sup> Working well with others means that it is more important that what you're trying to do comes through, so when somebody makes a mistake, you push through and make everybody look good. That's collaboration. Does that answer your question?

**RUBENSTEIN:** I understand.

**MA:** Did I get the answer from your book?

**RUBENSTEIN:** You seem to know the book better than I do. But I wrote it about a year ago. Now back to you. You are unique in the sense that many classical music performers just perform, and there's nothing wrong with that; they're really good at it. But you spend a lot of time on cultural issues that are unrelated to classical music. You spend a lot of time going around the country, talking about the importance of learning the arts, the importance of education, and the importance of happiness, among other things. Why do you spend so much time on things that are not related directly to your career as a classical musician?

**MA:** Because everything is connected. If I can't figure out how playing a piece by Beethoven connects to your life, to my life, and to the moment that we're in, then I'm not being a musician. All of you here this evening are incredible at something. You wouldn't be in this room otherwise. You know the content and you exist in a world that recognizes what you know. So, you're able to communicate that to other parts of the world. And if you weren't successful in doing that, again you wouldn't be in this room. And how you are able to serve the world knowing what you do is the crucial part. For me, that's the answer of why David, you are so curious. That's why all of you are members of the American Academy of Arts and Sciences. It's all connected. Now let me ask you two questions. Who said the following: "Nature has the greatest imagination, but she guards her secrets jealously." Did a scientist or an artist say that?

**RUBENSTEIN:** I would guess an artist.

1. David M. Rubenstein, *How to Invest: Masters on the Craft* (New York: Simon & Schuster, 2022), 26.

2. *Ibid.*, 193.

**MA:** It was a physicist, Richard Feynman. And who said, “We are nature. If we are disconnected from nature, it’s because we’re disconnected from ourselves.” Was it an artist or a scientist?

**RUBENSTEIN:** I would guess an artist, perhaps Leonardo?

**MA:** It was the sculptor Andy Goldsworthy, a wonderful person who works in landscape and nature. Do you believe we are part of nature?

**RUBENSTEIN:** I hope so, yes.

**MA:** It’s a good thing that you seem to think that because for the longest time, we didn’t necessarily believe that or act that way. We can learn from nature. If we really are part of nature, wouldn’t we start to make decisions a little differently?

**RUBENSTEIN:** Let me ask you about classical music. Why do you think the people who often go to classical music concerts have my hair color and seem to be a little older? Is classical music going to fade from our civilization because younger people aren’t interested, or do you think they will eventually become interested in it?

**MA:** David Oxtoby, president of the Academy, told me that this summer he saw Michael Tilson Thomas conduct the Boston Symphony. And President Oxtoby remembered that Michael conducted the Harvard-Radcliffe Chorus back in 1968. He has been following Michael Tilson Thomas’s career for more than fifty years. Michael is not only a great musician, but with his wonderful partner, Joshua Robison, he has created the New World Symphony in Miami, which trains young musicians who end up going to major orchestras. These young musicians go out and train other young people. The graying hair, yeah, there’s a lot of that. But there are people in this room who are in the music profession, who are training young people, who in turn will train even younger people. We are seeing all this being developed now. I think classical music is quite alive in many places. But we don’t know all of the results yet. You believe in the future. You believe that when you predict the future correctly, you win. Right?

**RUBENSTEIN:** Yes.

**MA:** And what we’re betting on is a future that we want to believe in. So, everything that we do – which is the third part of how we get from the content to what is being received right now – impacts our future.

**RUBENSTEIN:** Unlike some classical music performers, you do what I would characterize as *cross-over*. You work with popular musicians, like James Taylor and others. I can’t imagine Pablo Casals sitting down with James Taylor, but maybe he would have. Why do you work on non-classical music? Is it to broaden your audience? Or because you enjoy it?

**MA:** The simple answer is, I don’t think in categories.

**RUBENSTEIN:** So, you see it all as music?

**MA:** Music is energy. Music is sound. And sound is energy. It moves air molecules, which hit your eardrums, and then your brain interprets what these sounds mean. It has nothing to do with whether it is any particular type of music. It is the reason I went to college: to ask the question, if I hear some sounds, who did it, and why? Does that answer your question?

**RUBENSTEIN:** It does. Let me ask another question. When you fly on a commercial plane, do you get a seat for your cello?

**MA:** I do.

**RUBENSTEIN:** If you could play in any music hall in the world with the best acoustics, which hall would it be?

**MA:** Every hall – and by the way, Klarman Hall is a beautiful hall and music would sound fantastic here – is like an instrument. It is not static; it has characteristics. Is there a best horse in the world? A best car in the world? A best house in the world? You learn to accommodate what a house is, what a car does, what a horse is. And it’s the same thing with a hall. Symphony Hall is gorgeous. It’s rectangular, and it has certain characteristics, which if you play jazz in it, it is going to sound too swimmy. But it sounds great when you play Brahms. So, you need to find the best hall for certain types of music.







**RUBENSTEIN:** So, Carnegie Hall is no better than Symphony Hall?

**MA:** Is there a best parent in the world? Why do we have to have the best of something? Why can't we just say that these are the characteristics of something, and if you're going to do X activity in it, you need to know that. Now I don't know anything about basketball, but my friend Lynn Chang tells me that Larry Bird used to spend hours in the old Boston Garden, throwing a basketball so that he could learn every little nook and cranny on the floor and use that information. It was his version of curiosity: to know the floor that he would be playing on so that no matter the angle of the ball, he would know what the reaction was going to be. That same thing applies to music halls. If I'm playing in a hall that I don't know, I spend an extra fifteen minutes in the space. If I'm playing a recital with piano, well a piano and cello have a very different acoustic projection. With the piano lid open, the sound projects in a very wide way. For the cello, the way you point the F-holes, which are the holes in the front of the cello, determine where the sound goes. So, what are my choices? In this hall, there's an overhang over there, so there shouldn't be any problem with the sound. There are a lot of

music theaters that are converted movie theaters from the 1930s, and they have a long overhang. So, what happens? The sound doesn't get a chance to bounce into that part of the hall. In those cases, I would point my cello, the F-holes, toward that specific part, because the people beneath it will naturally hear less. In this hall, I need to get more projection so by moving my chair six inches back, I can use the back wall. This is the type of fiddling that is normal.

**RUBENSTEIN:** Do you think this is a good hall for you to play the cello? Are the acoustics good here?

**MA:** I think the acoustics would be fine.

**RUBENSTEIN:** Let me ask you about a piece you played yesterday. You and I were at the Kennedy Center for its 50th anniversary celebration. Let me acknowledge Deborah Rutter, president of the Kennedy Center, who is in the audience with us tonight. One of President Kennedy's granddaughters was there for the celebration. In your remarks, you talked about President Kennedy and how Pablo Casals did not want to play in certain countries that were supporting Franco. But he made an exception for the United States because we had done

other good things. So, Casals played at the White House. And then you played the very piece that he had played in the 1960s. Could you play that for us? And my other question is, suppose you have somebody who's 73 years old, and he wants to learn the cello. Do you think it's possible at that age to become a cello player?

**MA:** Let me ask you a question. If there's an Asian musician who's 66 years old, past retirement age, and he reads your book, could he learn how to invest?

**RUBENSTEIN:** I would encourage that person to hire some good money managers. The reality is I'm not going to be a great cellist and you're not going to be a great private equity investor.

**MA:** This is the difference between us. I know I'm not going to be a good private equity person. But a person as intelligent as you, why wouldn't you want to be a cellist?

**RUBENSTEIN:** Well because I would want to be Yo-Yo Ma. You have a great life, and people sometimes recognize you. You are world famous, while private equity people are a dime a dozen compared to great cellists.

**MA:** But the only private plane I own is a five-inch model that I keep in my home. The difference between investing and playing an instrument is this: when you play an instrument, it doesn't matter who thinks you played well. If you use your head, your heart, and your hands together, and you get pleasure from that, then that is the meaning. Now, if I started investing with that same intention, the results would be disastrous.

Let me quote again from your book. This is from your interview with Seth Klarman, who is in the audience with us today. He is answering your question about whether he has any interest in writing an updated version of his book. And Seth says, "I would write about the criticality of team. Who's on your team? How do you motivate them? Culture is critical for every organization."<sup>3</sup> It's interesting that you spend a lot of time building your team so that the culture is just right. There's another place in the book in which Larry Fink says,

3. Ibid., 178.

"Culture is what binds an organization. Culture is what makes an organization differentiated and unique. I spend at least 30 percent of my time focused on culture if not more."<sup>4</sup>

And there's more. Ray Dalio says that out of three things that are important, "Third, the company's culture was key. Having a culture in which there's thoughtful disagreement and meritocratic decision-making, so the best ideas win out, was a big thing."<sup>5</sup>

**RUBENSTEIN:** My next book is going to be on how to play a musical instrument, and I'll have you in that one.

**MA:** You give ten principles that are important for young investors. Let me point out a few of them. One is, "Follow up on commitments and promises." In other words, honor your word. Another one is, "Focus on developing a reputation for humility, cooperation, and ethical behavior. . . . A reputation for being willing to listen to others, accept advice, not brag, and help others will go a long way toward building a successful and admirable career. And do not be tempted to cross ethical lines." Another is, "Learn how to admit a mistake and to correct it as soon as possible." And the last principle is, "Find areas outside of investing that can enable you to broaden your scope as a human, and experience things other than the pursuit of money and professional success. Working around the clock just on investing is honestly not a prescription for success on a long-term basis in the investing world."<sup>6</sup>

**RUBENSTEIN:** So, are you saying that playing classical music all the time is not going to make you happy?

**MA:** We are basically talking about the same thing. Building a culture, rebuilding our democracy or renewing it: that is where one-third of our effort should be. That is what I do in music. After I learn the content and after I learn to play in tune, the last third is how is it received? Is what I'm doing being absorbed or living in somebody else? Because if it isn't, then whatever I do is dead on arrival.

4. Ibid., 36.

5. Ibid., 193.

6. Ibid., 25–26.





**RUBENSTEIN:** Speaking of democracy, how about Pablo Casals's piece? Are you ready?

**MA:** Another value is persistence. One reason I love Casals, even as a nine-year-old, was because he used to say: I'm a human being first, a musician second, and a cellist third. And to my nine-year-old ears, that sounded really good. But to my sixty-six-year-old ears, I really believe it. About three years ago, before the pandemic, I went to visit his house outside of Barcelona, which is now a museum, and one of the things I saw was the very careful accounts that he kept of the several fortunes he gave away to refugees who were in need both during the Spanish Civil War as well as during World War II. And the accounts are reams. And I also saw the letters that he wrote after the war to newspapers, to politicians, to diplomats about what the Allies promised they were going to do to get rid of fascist governments, and they didn't. In protest, he gave up playing. And it was out of admiration for President Kennedy that he broke his vow to stop playing. That White House concert was a signature part of the Kennedy administration, so much so that we remember that concert sixty-one years later. I think everything that we do at one level is connected with how we create memory, how we pass on things that are valuable to another generation. How we define that is the essence of all of our work.

At the end of the concert, Casals said, "I am going to play for you the piece that means the most to me. It is a folk song from my native Catalonia, and it is called 'The Song of the Birds.' Every Catalan knows this song because it means freedom." Everything that we do at the American Academy right now is about how we are going to make sure that the democracy that we believe in can thrive and continue to thrive in ways that benefit our entire population. Birds are migrating right now. They are crossing borders; they are crossing silos. So, whether it's the arts or the sciences, I know the Academy is attempting to cross borders.

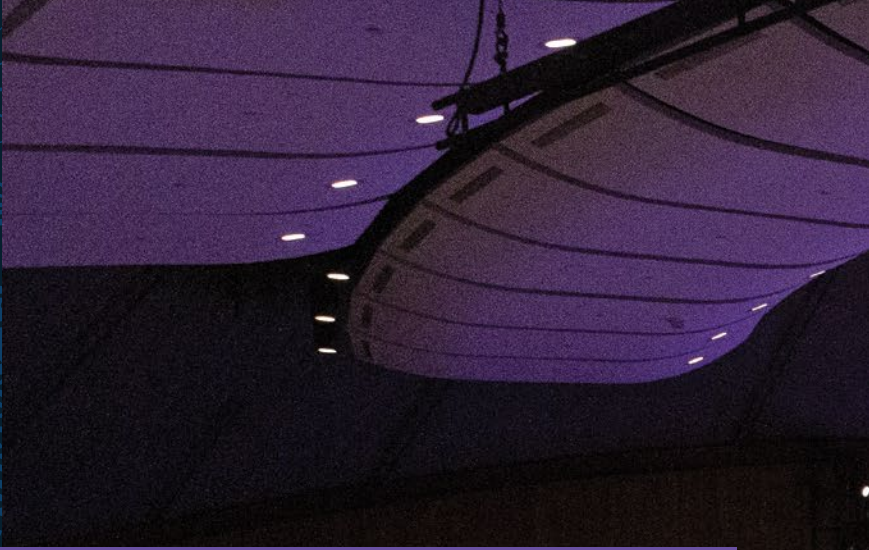
[At the end of the conversation, Yo-Yo Ma performed Pablo Casals's "The Song of the Birds."]

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To view or listen to the presentation, visit [www.amacad.org/events/2022-Induction-September](http://www.amacad.org/events/2022-Induction-September).





# 2022 INDUCTION CEREMONY

2018th Stated Meeting | September 10, 2022 |  
Kresge Auditorium, Massachusetts Institute  
of Technology

The importance of public-private partnership; the assault on science and scientists; the attacks on knowledge, ideas, education, and democracy; the history of the American West and the American military; and the power of stories to teach, build bridges, and bring about social change – the class speakers at the Induction Ceremony for members elected in 2020 and 2021 addressed major issues facing the world today, with calls to action and calls for change. The ceremony featured presentations from engineer **Lisa T. Su**; neurosurgeon, medical reporter, and writer **Sanjay Gupta**; scholar and writer on civil rights and critical race theory **Kimberlé W. Crenshaw**; historian **Patricia Limerick**; and labor union activist **Mary Kay Henry**. An edited version of their presentations follows.







AMERICAN ACADEMY  
OF ARTS & SCIENCES



## Lisa T. Su

Lisa T. Su is Chair and Chief Executive Officer of Advanced Micro Devices, Inc. (AMD). Over the course of her tenure as CEO, Dr. Su has transformed AMD to become a leader in high-performance and adaptive computing and one of the fastest growing semiconductor companies in the world. She was elected to the American Academy of Arts and Sciences in 2020.

It is such an honor to be here today, to be inducted into the American Academy of Arts and Sciences with so many distinguished members and colleagues, and to speak on behalf of Class I, the Mathematical and Physical Sciences.

Being in Kresge Auditorium on the MIT campus feels like a homecoming. In many ways, this is where it all began for me. I grew up in a family of mathematicians. My dad was a statistician, and my mom was an accountant and entrepreneur. They instilled in me a strong sense of respect for the sciences. For as long as I can remember, I have had a passion for math and science. But it wasn't until I came to MIT that I fell in love with engineering and, in particular, semiconductors.

I was an undergrad working down the street from here when I built my first semiconductor chip. I remember distinctly thinking how amazing it was to have the ability to design and build a chip no bigger than a quarter that could have such a huge impact on the world. It has been incredibly exciting to be a part of the evolution of this industry for the last thirty years.

At dinner parties, when I told people that I worked in semiconductors, I would often have to work hard to explain what a chip was. Over the last several years, and especially during the pandemic, when I would tell people that I worked in semiconductors, people would ask me whether I could help them get a few chips for their car, or their new computer, or even the newest game consoles!

It has been incredible to see how essential and pervasive semiconductors have become, and it is inspiring to know there is so much more we can make possible over the coming years as advances in semiconductor technologies enable us to push the boundaries on scientific discovery further, and faster, than ever before.

At the onset of the COVID-19 pandemic, there was a universal desire to collaborate across disciplines to understand the virus, overcome the pandemic, and adapt how we live. There were many public-private efforts with government agencies, in health care, and in other industries. For those of us in the computing industry, one such effort was a COVID-19 high-performance computing consortium, in which those of us in the computing world donated equipment and cycles on our machines to researchers around the nation and the globe to accelerate their learning about the pandemic.

Using high-performance computing, massive amounts of data were processed to simulate, predict outcomes, and create actions. Data analyses that used to take weeks were done in days or hours, enabling the rapid development of vaccines and mitigations that have played a large role in fighting the pandemic.

Computing also helped us adapt to how we work and learn remotely, while keeping us connected and entertained despite our need to be physically separated for extended periods of time. As we look forward to the next decade, there is no question that semiconductors are becoming even more essential to our daily lives as every aspect of our life relies on more sophisticated chips.

At Advanced Micro Devices (AMD), we are focused on pushing the envelope on high-performance computing, and operating at the bleeding edge of technology. Just a few weeks ago, I was at the Oak Ridge National Laboratory in Tennessee to commemorate the launch of the fastest supercomputer in the world and the first to break the exaFLOP barrier. The new supercomputer was a close collaboration between Oak Ridge National Laboratory, the U.S. Department of Energy, Hewlett Packard Enterprise, and AMD. It is named Frontier because of the important role it will play driving science into new frontiers.

Frontier is able to perform more than one quintillion calculations per second. To put that performance in context, if each person on Earth completed one calculation per second, it would take more than four years to do what Frontier can do in one second. Not only is the Frontier supercomputer the fastest and most energy efficient in the world, but it is more powerful than the next seven fastest computers combined.

Frontier is so much more than a very fast computer. It is a catalyst to enable large-scale science



“ Although there is a lot we can do as individual companies and institutions, this pales in comparison to what we can do when we can truly harness collective resources across government, academia, and industry.



research that was previously not possible, leading to new discoveries in physics, medicine, climate research, energy, and much more.

Let me close by talking about the importance of public-private partnership. Although there is a lot we can do as individual companies and institutions, this pales in comparison to what we can do when we can truly harness collective resources across government, academia, and industry. Recently, the United States has taken a significant step in that direction with the passage of the CHIPS and Science Act with strong bipartisan support.

This is a once-in-a-generation opportunity for us to accelerate the rate and pace of innovation in semiconductors, and an incredible opportunity for us to come together across government, academia, and industry in public-private partnership.

I have never been more excited about the future of the semiconductor industry. There is so much more we can accomplish as we build more powerful and capable chips to solve some of the world's most challenging problems. Together, we can turn what was previously impossible into the possible.

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## Sanjay Gupta

Sanjay Gupta is a practicing neurosurgeon, the Chief Medical Correspondent for CNN, and host of the CNN podcast *Chasing Life*. In addition to his work for CNN, Dr. Gupta is an Associate Professor of Neurosurgery at Emory University Hospital and Associate Chief of Neurosurgery at Grady Memorial Hospital in Atlanta. He was elected to the American Academy of Arts and Sciences in 2021.



I would like to address something vital, something I have thought and written about for a long time, and frankly, something that worries me.

It is the ongoing assault on science, scientists, and the institutions of knowledge that produce both. ”

I am honored to offer these remarks on behalf of Class II: the Biological Sciences. I don't think anyone who has been inducted into the Academy ever feels worthy of this honor, especially after you reflect on the remarkable history and legacy of this institution and read about its magnificent and extraordinary members. It is enough to induce both a great sense of pride and a full-on case of imposter syndrome. On top of that, I am the father of three teenage daughters, and they can be as brutal as they are beautiful. Despite being a trauma neurosurgeon and a war-zone reporter, there is no amount of Kevlar that can protect you from that. When I told them about the Academy, it quickly became a game of which of these does not belong with the other? Short answer, me.

So, I am honored, and I am humbled. And I am convinced, more than ever, about the importance of an organization like this – not only for what it accomplishes, but for what it represents.

I would like to use my few minutes today to address something vital, something I have thought and written about for a long time, and frankly, something that worries me. It is the ongoing assault on science, scientists, and the institutions of knowledge that produce both. I am not referring to skepticism or legitimate debate; they can make us better and more finely tuned. I am talking about misinformation, which can travel faster and cause more destruction than a virus. Misinformation can be dangerous, and it can be deadly. So, I thought I would offer five pearls of wisdom that I have gleaned over the last twenty years from living at the intersection between medicine and media.

Number one: be humble. Over the past few decades, scientists have been increasingly perceived as arrogant, and like many of you, this saddens me

because the very nature of science is one of humility: the tedious gathering of data, the replication of findings, the sharing of conclusions, and the willingness to admit when those conclusions change. Too often people say, just trust the science; just believe the science. And I worry about that message. I worry about its lack of humility, but also the conflation and the intermingling between science and faith. Science is different. There is no Bible. It is a book that has not yet been written. If there is anything that should be trusted, it is the scientific process. So as often as we can, we should let people in on that process. We should show them the inner workings of that process, take them on a journey to explain the process, and along the way, with transparency and humility, be clear about what we know, and what we don't know.

Number two: spend the time learning to communicate the message in a way that people really understand. This is not easy to do. One of the biggest concerns I hear from scientists who appear on television or have social media platforms is that it is too brief a time, too few a character count, too short to explain things well. That is a fair point. But it is no excuse to dumb things down or commit sins of omission.

One of my favorite quotes, often attributed to Mark Twain, is, "I would have written you a shorter letter, but I didn't have the time." It takes work to be concise. For a five-minute television segment, I will spend hours. For a documentary, I will spend months, even years. Most of the best subject matter experts I have ever met were not natural communicators; it did not come easy to them. They practiced, and they trained, and they have tried their messages on all sorts of people, including their critics, and especially their critics. As it

turns out, I have three teenage daughters who fit that bill very well. So, I am always making sure I can explain things to them.

Number three: read everything. Yes, there is a lot of noise out there, and it is true that some of the loudest voices have only one goal: to create chaos and sow doubt. We see that a lot when it comes to things like vaccines. But there are others who scream loudly because they have concerns born out of fear, and a desire to do the right thing for themselves and the people they love. They are the more honest skeptics, with their antennas raised high, constantly monitoring for any sort of threat, and yes, sometimes seeing threats where none exist, but also sometimes catching things everyone else missed. These individuals don't see themselves as creators of chaos; they see themselves as the Guardians of the Galaxy. So read everything, and I would add, talk to everyone. Or at least to as many people as you can. Get out there, talk to your colleagues, talk to your friends, talk to your neighbors. It is remarkable to me that 80 percent of Americans cannot name a single living scientist. If they meet you and they know you, I think it could make all the difference.

Number four: understand that sometimes things are just novel. They are new. They do not fit neatly into any known pattern, as was the case with COVID-19. We humans, especially adults, are not very good at dealing with things that are truly novel. We are seized by this desire to put things into a context bubble that we understand, and that fits our narrative. Circulating virus among humans in China, oh well, that belongs in the SARS bucket from 2003. Or a new respiratory virus only spreads when someone is ill because it is going to behave like flu. But sometimes, things are just novel. They don't belong in either one of those buckets because there is not yet a bucket. The lesson is to take the evidence as it arrives and, in a way, dispense with preconceived notions without dispensing with wisdom. It is not easy, especially if you

have dedicated your life to the field, to treat something as novel because it can feel uncomfortable. After all, when is the last time you really experienced something for the first time?

Number five can also be uncomfortable, but it is very important: lean into uncertainty and embrace it. Most lay people think science is about proof. Science is about likelihood, given the evidence. In his critique of pure reason, Immanuel Kant, in 1781, right around the time this Academy was formed, described what he believed was one of the greatest ills of society: a false confidence bred from an ignorance of the probabilistic nature of the world, from a desire to see black and white where we should rightly see gray. Kant even proposed a solution to address false confidence using a scenario of physician and patient. In his example, after receiving a diagnosis, the patient asks the physician, how confident are they? Would they be willing to bet it is the correct diagnosis? And if so, how much would they bet? A few dollars, their horse, their happiness? This may sound ludicrous, but what Kant was trying to do was quantify confidence in a probabilistic world. Now to be clear, I am not suggesting anyone bet their happiness, but rather to be unflinching about uncertainty. I think it is perhaps one of the most critical ingredients to building trust.

Finally, take the time to relish the achievements, the remarkable progress, and the markers of a forward-moving humanity – moments like this – and share those moments with those you love. My wife is here today, and there is no one I would rather share this with than her. Also, this will shock no one, but my teenage daughters are not here. Truth is, my kids are marvelous, they are marvels, they inspire me every day, and they make me tremendously optimistic about the future. I have great hope in my kids, and I have great hope in all of your kids as well. Thank you to the Academy for this privilege. I am honored, and I am humbled.

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“ I cannot shake off the worry that the attacks on knowledge and on our very democracy have reached unimaginable heights in part because of the unfinished work of grappling with our nation’s racial history and our profound discomfort in talking about it.



## Kimberlé W. Crenshaw

Kimberlé W. Crenshaw, Cofounder and Executive Director of the African American Policy Forum (AAPF) and Faculty Director of the Center for Intersectionality and Social Policy Studies (CISPS) at Columbia Law School, is a pioneering scholar and writer on civil rights, critical race theory, Black feminist legal theory, race, racism, and the law. She is the Isidor and Seville Sulzbacher Professor of Law at Columbia Law School and the Promise Institute Chair in Human Rights at UCLA Law School. She was elected to the American Academy of Arts and Sciences in 2021.

First and foremost, I would like to thank the Academy for this incredible honor. I am simply awed to be in the company of so many of our country’s most brilliant academic, creative, and scientific minds. And because of this, I am exceptionally proud and incredibly nervous to have been tapped to speak on behalf of Class III: the Social and Behavioral Sciences.

As delighted as I am to be standing here today, celebrating the gifts that the sciences and the arts have given to the world, I cannot shake off the worry that the attacks on knowledge and on our very democracy have reached unimaginable heights in part because of the unfinished work of grappling with our nation’s racial history and our profound discomfort in talking about it.

This discomfort, of course, knows no political ideology. Yes, it is being weaponized by those who stand against societal progress and who wax nostalgic for a time when freedom was enjoyed by only a privileged few. But it is also shared by all too many who are truly horrified by our past, who are discomforted by its long shadow, and who choose to deal with our nation’s ugliness by ignoring it.

It is thus that colorblindness has become a sweet spot between a radicalized faction that seeks to return to the past by making racism and its continuing legacies literally *unspeakable*, and those who sincerely hope we can create a better future by circumnavigating that past.

Of course, the resort to being silent about endangering conditions would make little sense in the context of, say, the toxic consequences of substances built into our physical infrastructure, like asbestos or lead. It would make no sense at all to refuse to identify the presence of such toxins, to preclude the skills necessary for their removal, or to condemn the knowledge necessary to do so as divisive. And it makes no more sense to suppress vital knowledge about the toxic dimensions of our history that are similarly embedded in our economy, politics, and the law – stories that begin but do not end with the appropriation of land, of labor, and of the wombs of Black women to build the United States.

We are at a point where the colorblind sweet spot has created a bitter harvest. Racism has been a route through which antidemocratic politics have become mainstream. But in the same way that the overthrow of Reconstruction was not simply a product of the Confederate factions regaining power, but of the permissions granted by Unionists who sought reconciliation at the cost of our democracy, today's crisis is also abetted by those who cannot see or refuse to name how White supremacy is again facilitating our descent into tyranny. The Confederate flag that entered the U.S. Capitol for the first time in history on January 6 was no accident; the men and women who sought to retake a nation they believed to be stolen from them were far from colorblind in their grievance about what they were losing and to whom. And yet, despite the clear and present danger that finds our democracy teetering on the edge of implosion, we have witnessed a discomfort in grappling with the White supremacist conditions of this possibility, a condition that disables the nation's ability to sound the alarms that are now overdue.

In the face of insurrection, political violence, and a nearly successful political coup, we hear refrains that “this is not who we are,” despite the fact that violent coups, vicious repression, and utter tyranny are clearly part of who we have been. When I hear that “it” can't happen here, despite the fact that it already has, I wonder what it is about racism that makes what is done under its hood unrecognizable as the denial of democracy that it truly is.

These are the questions that critical race thinking takes up. And it is perhaps why the manufactured moral panic over Critical Race Theory has

been used to justify some of the most dramatic assaults on ideas, education, and democratic participation since the McCarthy era. Racial grievance is the Trojan Horse that has brought authoritarianism to the center of American politics; liberal discomfort is its enabler.

Want to ban books, discredit and defund public education, undermine democratic participation, and gain a greater toehold in the terrain of higher education? Create a racial boogeyman, load it up with the kind of frights that send your disgruntled base screaming into local school boards, and then count on the mainstream press to launder your disinformation by applying its “both sides” reporting to this newly minted “controversy.” Meanwhile, others simply wait to see whether the mob will come for them. Of course, they will, and they have. But as Pastor Martin Niemöller famously wrote, by the time they do, there will be no one left to speak out for them.

“ We are at a point where the colorblind sweet spot has created a bitter harvest. Racism has been a route through which antidemocratic politics have become mainstream.

The damage that antidemocratic forces have been able to inflict is not because they are particularly stealth. They have been clear about their objectives to return to a mythic past, to dismantle public institutions that stand in the way, to change the rules so that they can win, and to generate alternative facts when the real ones don't work for them. Majorities in this country oppose all of these moves. But our collective avoidance of uncomfortable conversations about race – and the negligence in teaching our children about it – allows this agenda to fly under the radar. When fewer than 10 percent of high school seniors can correctly identify that slavery was the cause of the Civil War, the clear and present threat isn't too much education about our history, but too little.

If all of this sounds personal, I confess, these past few years have not been a walk in the park. To watch a community of ideas and scholarship that many of us in this room have contributed to for over three decades become recoded, appropriated,



and burned, seemingly effortlessly, is sobering, to say the least.

Too many times well-meaning witnesses to this arson – pundits, colleagues, and allies – have paused before picking up a bucket or a hose to put out the fire, waiting to understand what the building actually holds before contributing to the effort to contain the burn. Well, what exactly is Critical Race Theory (CRT) they will ask while the arsonists slip away from behind their gaze. I tell them what I know – that CRT is knowledge from and about lives lived in the twilight of an aborted racial reckoning, in a nation that has yet to meet Dr. King’s demand to fund the promissory note. CRT is subaltern knowledge, elder wisdom, mother wit, survival literacy, description, prism, and practice. CRT is the reason some of us place our hands at the 10 o’clock and 2 o’clock positions when we see the flashing lights in our rearview mirror. It is the talk many of us must give our children to improve their odds of survival. It is the mirror we hold up to our whole society. It is the recognition that if people are unaware of the policies, politics, and practices that created segregated housing markets, the criminal injustice system, gaping wealth and health disparities, and more, they will default to understanding these conditions as natural, neutral, just there, leaving efforts to redress them to appear to be preferential. It is the knowledge brought into universities by generations of students who upon our arrival, set about to interrogate how our disciplines historically shored up an unjust status quo. If racism is the asbestos that is packed into our institutions, then Critical Race Theory is the blueprint that endeavors to reveal where it is, how it endangers us all, and what practices we all can learn to diminish its toxicity.

But here’s the problem: thinking that the issue is really about defining Critical Race Theory allows this racial panic to function as the Trojan Horse for antidemocrats to eviscerate the achievements of the Civil Rights Movement, to reboot the last seventy years, and to destroy the democratic routes that brought us this far. While pundits scour European history for the “signs” of democratic collapse, they seem to overlook what is in plain sight: faculty being barred from testifying in lawsuits in Florida, teachers being made to take loyalty oaths in New Hampshire, monitors being placed in classrooms, and bounties being placed on teachers for exposing students to divisive subjects like the history of genocide and segregation. When we see the banning of more than one thousand books nationwide, including those by Nobel Prize winner Toni Morrison and civil rights pioneer Ruby

Bridges, when we see foreign nations exploiting our racist tendencies to execute disinformation campaigns to drive us apart, we can see that it is because of the unfinished business with our discomforting legacies.

I am grateful that the American Academy demonstrates how to put difficult history into context better than even the current majority of the Supreme Court, who consult the founding fathers not to correct their failings but to tie the possibility of what we can become to their cramped view of who deserves to be included. Imagine consulting the founders’ vision on whether someone like me would be voted into a community like this. Actually, most of us would be gone in a rapturous heartbeat.

What we celebrate here is not being forever bound to the practice, myths, and beliefs of the past. But we can and should do more to protect the legacy of the last seventy years by defending academic freedom in our faculty senates, real reporting in our editorial desks, real accountability in our boardrooms, real history in our classrooms, and sustained actions to diversify our institutions. If we blink in the face of what we are confronting, give into the ambivalence grounded in discomfort, we will leave it for another generation to solve our unfinished business, with fewer tools to do so.

When my students ask me where in the midst of this unfolding crisis I find room to hope, I remind them that the founding mothers and fathers of the nation had no concrete reason to be hopeful for a better America. But Frederick Douglass, Charles Hamilton Houston, Fannie Lou Hamer, Pauli Murray, and others knew that the very possibility of a future that reflects our highest aspirations turns on sustaining our belief that such a future is right and worth fighting for.

The pursuit of knowledge, like freedom and democracy, is a constant struggle. It is not a one-and-done scenario; we don’t get to keep what was won in one generation without struggling to name it, retain it, institutionalize it, and protect it. I for one do not want to be that generation that failed to pass the baton to the next in a better position than the one I received it in. I hope we will not be the generation that the future will judge as a failure because we could not muster the wherewithal to lance the boil that has disfigured our nation. Du Bois said that the challenge of the twentieth century was the color line; its descendent that we must come to terms with in the twenty-first century is the distortions of the color-blind.



## Patricia Limerick

Patricia Limerick is Professor of History of the American West, Director of the Applied History Initiative, and the former Faculty Director of the Center of the American West at the University of Colorado, Boulder. She was elected to the American Academy of Arts and Sciences in 2021.



Many of the student veterans, enrolled in universities and colleges nationwide, have emerged from military service as high achievers in narrative art, in the appraisal of human nature, and in the survival skill of keeping humor in play even when – especially when – they are navigating through perilous situations. ”

Speechless is not my normal condition, but getting elected to the Academy left me in search of words. And then the invitation to give these remarks – with so many amazingly accomplished folks in my Class, the Humanities and Arts – sent me off on another round of speechlessness. But then this date approached, and staying speechless did not seem tenable, and so I am now, I fear, *speechful*.

I begin with a limerick.

Divided into fragments and parts,  
This nation burdens our souls and hearts.  
So we'll need all hands on deck—  
To save democracy from wreck—  
By deploying the Humanities and Arts.

And, no, in case you are wondering, President Biden did not ask for my help in preparing his now famous speech at Independence Hall, nor did he ask me about the propriety of stationing Marines in his proximity for that speech.

Speaking of Washington, D.C., let me tell you what I love most about the U.S. Congress. When a Member of Congress stops speaking, he makes that clear by using this beautiful phrase: “I yield to the gentlewoman or gentleman from somewhere.”

I love that phrase, “I yield to,” and that feeling has now taken shape as a limerick:

Those in right OR in left field  
Cannot be persuaded to yield.  
So those in the middle  
Are now stuck with the riddle—  
*Will our nation EVER be healed?*

In fact, it is my dream that, over the next hours, many of the people I am now speaking to will introduce themselves to me so I can then “yield to them” and listen to any remarks they would give in response to what I am going to say in the next few minutes.

Here is an experience I have had that *I think* is distinctive, if not unique. I once predicted the future, and I got it right. In the late 1980s, I predicted that the field of Western American history was

on the edge of a renaissance. After the publication of my book, *The Legacy of Conquest: The Unbroken Past of the American West*, I placed these prophetic remarks on public record as if I knew them to be true.

And yet, in the late 1980s, I was fully aware that my predictions met all the criteria for “unlikely,” “implausible,” and “improbable.”

What did I know, and when did I know it?

When I started attending the Western History Association, I learned that the drop in attendance at annual conventions had been tracking the trajectory of the stock market in October 1929. And, in professional folklore, stories circulated of departments in which the retirement of the Western American historian would be greeted by the statement, “Now we’ll be able to hire someone in an *important* field.”

There was no reason in the late 1980s for me or for anyone else to predict that a renaissance in the field of Western American history was about to dawn.

And history – or, I guess, historiography – proved me right. I can report this finding with confidence because the Mellon Foundation has made it possible for me to host “Academic Skills Repurposing Workshops” in applied history, and so I spend a good share of my time, in-person and on Zoom, with a dazzling and very diverse pool of young Western American historians.

So, really, with one big triumph in prophecy, why not try for another improbable success?

Here is my implausible prediction for the third decade of the twenty-first century. Even though the great majority of Americans have paid only sporadic attention to the deployment of American soldiers in the “forever wars” of the Global War on Terrorism, that condition of obliviousness is about to be transformed. At universities and colleges nationwide, humanities and arts professors – working in alliance with student veterans – will be key figures in that transformation.

What leads me to make that prediction? Through a sequence of improbable events, I now

hold the official title, at the University of Colorado, of Campus Partner for Academic Affairs at the Veteran and Military Affairs office.

Here is what I have learned since I took this position. Many of the student veterans, enrolled in universities and colleges nationwide, have emerged from military service as high achievers in narrative art, in the appraisal of human nature, and in the survival skill of keeping humor in play even when – especially when – they are navigating through perilous situations. In other words, whatever their majors, there is a very good chance that student veterans have cultivated practices of expression and reflection that bear a very direct resemblance to the customs of the inductees in the Arts and Humanities class of the American Academy of Arts and Sciences.

I will restate this with more brevity: the student veterans I have come to know are agile and nimble operators in the terrain of the arts and the humanities, even though this was not an explicit or designed part of their military training.

Let's say that professors in a humanities or arts department are concerned about declining enrollments in their majors and about a lack of appreciation from the general public. Let's say that these professors realize that they and many of their colleagues need their sense of vocation refreshed.

Here's what they can do. They can visit the Veteran and Military Affairs office on their campus, and they can build an alliance between their home department and the Veteran and Military Affairs office. And if there is no such office, there needs to be one.

And now for a limerick that sums up the transformation I envision:

The civilian/military divide  
Must be bridged, challenged, and defied.  
But if the magic of alliance  
Receives our compliance,  
Empathy will finally preside.

And now to give this speech coherence. It is time to reveal the tie between my commitment to Western American history with my commitment to relieving the misfortune of civilian obliviousness to the Global War on Terrorism.

Published in 1987, just twelve years after the fall of Saigon, my overview of Western American history was called *The Legacy of Conquest*.

And yet, undertaking to replace the terms “frontier” and “westward expansion” with the honest word “conquest,” this book said next to nothing about the military in the history of the American West. The author of *The Legacy of Conquest* was strangely evasive when it came to a reckoning with the official conduct of violence in American history.

Well, better late than never.

Two University of Colorado student veterans, Domenick DeMartini and Bob Draughon, are both history majors. The three of us are now in the beginning stages of planning a co-authored book, premised on this recognition: we cannot understand the history of the American West unless we understand the history of the American military, and we cannot understand the history of the American military unless we understand the history of the American West. My co-authors were deployed in the Global War on Terrorism, and the plans for this book are constantly enriched by their grounded, experienced perspectives and reflections.

Taking advantage of my obligation to write a monthly *Denver Post* column, I have co-authored op-ed pieces with these two student veterans. Here is a short passage from a column co-authored by Domenick DeMartini and me in July 2022.

The testimony of veterans can help civilians recover from their inattention to this nation's heavily freighted history of violence; [the veterans'] spoken and written words can replace obliviousness with a forthright reckoning with our heritage. . . . In a time when innumerable lines of fracture run through the nation and meaningful conversation collapses at the fault lines, it is our conviction that finding a remedy for civilian inattention could benefit the nation in ways beyond estimation.

And now a final prediction, with this vision condensed into a limerick and with the particular intention of addressing the alliance between the sciences and the humanities and arts:

We swing from gloom to defiance,  
From resistance to passive compliance.  
But as despair and fear  
Get worse every year,  
Our very best choice is alliance.

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## Mary Kay Henry

Mary Kay Henry is the International President of the Service Employees International Union. She was elected to the American Academy of Arts and Sciences in 2021.

**Y**ou have all heard by now that a group of Black, Brown, and immigrant fast-food workers – mostly women, mostly family breadwinners – won historic legislation in California that puts them at the table with fast-food corporations.

I was in California when it happened, celebrating with workers who took incredible risks to win change. I celebrated with Crystal Orozco and Maria Bernal, who both worked two jobs at McDonald's and Jack in the Box. They took part in leading

hundreds of strikes, lobbying legislators, and facing down multi-billion-dollar, multinational fast-food corporations.

Early in the pandemic, the big fast-food companies like McDonald's and Wendy's lobbied to be declared "essential," meaning Crystal and Maria were going to work while most of us were staying in our houses. Their coworkers at other stores were told to wear doggie diapers as masks. Told that heat exhaustion from 120-degree kitchens was just "hot flashes." Told if they objected

to their managers touching them – grabbing their breasts or buttocks – they would lose hours on the schedule, hours they need to feed their children. Told that they weren't worth keeping safe.

Crystal and Maria decided to go on strike, to take a risk and make a demand with their coworkers. Their managers threatened to call ICE (U.S. Immigration and Customs Enforcement).

It reminds me of Tina Watson in South Carolina, who worked through the pandemic for \$8 an hour at Wendy's. Tina told me about a police officer handcuffing her eleven-year-old son and frisking him on their front lawn. The sheriff was evicting the neighbor next door and saw her son holding a toy gun.

"Next time, something bad will happen," the sheriff told her little boy.

Tina filed a report on the police officer who violated her son. And Crystal and Maria went on strike again.

These women are part of the Fight for \$15 and a Union. They knew other workers, union organizers, and community members who supported them. So, they called them. They weren't alone. They could take a risk to demand dignity because they are part of a union and part of a movement that demands better.

These stories resonate deeply. Tina's determination to safeguard her son in the face of violent racism. The power Crystal and Maria find in uniting with other workers to make their jobs and community safer and better. Their wisdom as women fighting for justice. The risks they are willing to take to win it.

These stories have power.

We are all storytellers. That is how humans connect. It is how we cover the distance between us, how we teach each other, and how we build bridges. The best policy for social change – for social good in a civil society – is built from a deep engagement with people's stories, with our lives, and with the real impacts on our communities.

But stories can also separate us. They can create deep division and even hate.

Being a storyteller is a responsibility. Hearing and sharing stories across race, faith, and generations requires real care. I ask you all here today: what story will we build together? Will you work with me to build a story of hope? Will you take the risks required to tell a new story?

I am honored to be here with you today as an inductee of Class V: Leadership, Policy, and Communications. The work of the Academy – to build America's democracy, to lift up justice, to find the solutions that will build thriving communities, to write the story of America – is all of our lives' work.

So let me tell you a story. It's a good one.

It's about power. The unchecked corporate power that threatens to unravel the fabric of civil society. The power of CEOs willing to sacrifice human lives to pad their profits. Who pay so little that tens of millions of Americans live paycheck to paycheck without health care or paid leave. Who exploit Black and Brown communities, extracting resources and joy, leaving behind pollution, asthma, and cancer. Who spend hundreds of millions of dollars on lobbying to keep workers of color from having a seat at the table.

**“ We are all storytellers. That is how humans connect. It is how we cover the distance between us, how we teach each other, and how we build bridges. The best policy for social change – for social good in a civil society – is built from a deep engagement with people's stories, with our lives, and with the real impacts on our communities.**

The divisive power of scapegoating immigrants, of anti-Black racism enforced by police brutality, of structural racism built into the bones of our country, and White supremacist ideology packaged as “pro-business” policy. The power of racist voter suppression laws, of gerrymandering, of billionaires buying politicians, of packing the courts with political extremists.

But wait. It isn't just the villains who have power in this story. Because this is also a story about taking risks. About being brave enough, about believing in what we can achieve together through collective action, about a North Star of justice.

It's about Polly Henry and Black women working at nursing homes who go on strike to demand



PPE (personal protective equipment) as their residents and coworkers are dying of COVID.

It's about Erika Morales and Latina janitors who banded together to put a stop to rampant sexual assault for nightshift workers.

It's about women workers demanding the right to autonomy – because choice is about abortion and it's *also* about having access to health care and earning enough to care for a family.

It's about the determination of workers of every race, bolstered by the incredible leadership of Black and Brown women workers, to win good union jobs and stop being invisible.

This is a story about power, about Unions for All, and everyone here has a part to play in this story.

I grew up in Michigan, just outside Detroit, one of ten kids. I learned early on, in that union town, the power working people have when they come together to tell the story of how our jobs and our communities – how our economy and our democracy – could be.

Even then I knew that getting there – getting to a just, inclusive America – required being willing to take big risks. And I learned early on – and kept learning – that the folks who are willing to risk the most, to be the bravest, to push the hardest, are almost always the most at risk themselves.

Melissa Duze was a single mom who worked at a hospital in California back when I was starting out as an organizer. There was a huge hole outside Melissa's trailer, and you had to walk around it to get to her door. It looked like if you fell in, it would swallow you up.

"Why don't you tell the landlord to fix it," I asked.

"I'm deciding between buying my kids clothes or school supplies," Melissa told me.

You decide which holes you can live with. And then she decided to win her union.

Melissa could live with the hole outside her trailer, but she couldn't live with a job that paid her too little to take care of her kids, with staffing that put patients at risk, or with bosses who didn't respect her.

The two million members of the Service Employees International Union picked a hole to fix ten years ago when we took on multinational fast-food corporations that make billions but pass out employee welcome packets that include instructions on how to apply for food stamps.

The Fight for \$15 and a Union was a big risk. Plenty of people told us not to take it, told *me* not to take it. But by telling their stories, by taking

militant action, by putting their livelihoods on the line to join strike after strike, by lobbying and voting and marching and acting like a union, fast-food workers turned that risk into a reckoning.

A reckoning on race, on the economy, and on our democracy. A reckoning to disrupt centuries of racism, generations of corporate exploitation, and decades of anti-union attacks, with the goal to build a just, inclusive America.

Will you let them risk more than you?

This is where you can use your power as storytellers, as organizers, as policy-makers, as leaders in this country. This is where *you* stand up and take a risk. Demand Unions for All.

In building a civil society, we work to fill in the holes that threaten to swallow working families.

We can no longer ignore the deadly impacts of structural racism in America's economy and democracy. We must demand solutions from government that dismantle racist policies. We must challenge corporate power so that the private sector contributes to our communities and our country rather than extracting resources, labor, and joy without accountability.

What workers have won in California is just the beginning. We must rewrite all the racist, sexist, outdated rules to make sure every family is healthy, safe, and secure, no matter our race, our job, or where we live. And the right for every worker to join a union must be embedded in every effort to fix our economy, so working people can build – and hold – economic and political power.

Our story – the story of working people across America – is a story of hope. But it is not finished.

Fellow inductees of the American Academy of Arts and Sciences, as we write together the story of this country, as we use our position and privilege to create a more just, equitable America, as the White leaders in this room reckon with our responsibility to uproot structural racism and White supremacy and lift up our fellow leaders of color, I ask that you remember always your power as a storyteller. And alongside Tina, Crystal, Maria, Melissa, and millions of workers fighting to win their unions, I encourage you to embrace your power as a risk-taker.

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To view or listen to the presentations, visit [www.amacad.org/events/2022-Induction-September](http://www.amacad.org/events/2022-Induction-September).

# Reimagining the American Economy

2109th Stated Meeting | October 3, 2022 |

In-Person Event, American Academy of Arts and Sciences |  
Morton L. Mandel Conversation

In 2021, the Academy launched the Commission on Reimagining Our Economy (CORE) to rethink the values, policies, narratives, and metrics that shape the nation's political economy. Rather than focus on how the economy is doing, the Commission seeks to direct a focus onto how Americans are doing, elevating the human stakes of our economic and political systems. But what does a reimagined political economy look like? What should be the role of government, markets, and civil society in fostering well-being? The Academy convened a distinguished panel of experts – U.S. Representative **Jim Himes**, Chair of the House Select Committee on Economic Disparity and Fairness in Growth; U.S. Representative **Bryan Steil**, Ranking Member of the House Select Committee on Economic Disparity and Fairness in Growth; Justice **Goodwin H. Liu** of the California Supreme Court; CORE cochair **Ann Fudge**; and Academy President **David W. Oxtoby** as moderator – to explore how a reimagined economy could enable opportunity, help communities that have been left behind, and cultivate a healthier democracy. An edited version of the panelists' remarks follows.





# DOLLAR



## David W. Oxtoby

David W. Oxtoby is President of the American Academy of Arts and Sciences. He was elected to the Academy in 2012.

Good evening and welcome. As President of the American Academy of Arts and Sciences, it is my pleasure to formally call to order the 2109th Stated Meeting of the Academy. I would like to begin by acknowledging that today's event is taking place on the traditional and ancestral land of the Massachusett, the original inhabitants of what is now known as Boston and Cambridge. We pay respect to the people of the Massachusett Tribe, past and present, and honor the land itself, which remains sacred to the Massachusett people.

This event has the distinction of being a Morton L. Mandel Conversation, made possible by the generosity of the Jack, Joseph, and Morton Mandel Foundation. Morton Mandel was an Academy member who understood the necessity of connection and dialogue when addressing the world's challenges. We are grateful to the Mandel Foundation for this opportunity to come together for tonight's conversation on Reimagining the American Economy.

Earlier today, we convened a meeting of the Academy's interdisciplinary and cross-partisan Commission on Reimagining Our Economy. The Academy launched this Commission out of a concern that the state of the economy was having an adverse effect on Americans' well-being and the health of our institutions. The Commission has made great progress to date rethinking the values, policies, narratives, and metrics that shape our nation's political economy.

This evening we are excited to continue this conversation and to welcome local Academy members and guests who can contribute their own distinct perspectives on the challenges facing the nation's political and economic systems.

The Academy is committed to strengthening the impact that our work has on the world. As part of that effort, we seek opportunities to build connections with policy-makers and to host collaborative conversations with elected officials from around the country. Tonight, we have the pleasure of hearing from the leadership of the United States House of Representatives Select Committee

on Economic Disparity and Fairness in Growth. Congressman Jim Himes represents Connecticut's Fourth District in the United States House of Representatives and serves as the Chair of the Select Committee. In addition to his work on the economy, Congressman Himes serves on the House Permanent Select Committee on Intelligence. We are also pleased to have Congressman Bryan Steil, who represents Wisconsin's First Congressional District in the United States House of Representatives, and is the Ranking Member of the Select Committee on Economic Disparity and Fairness in Growth. Congressman Steil also serves on the House Financial Services Committee and is a co-founder of the Congressional Future of Work Caucus. We are grateful to Representatives Himes and Steil for joining us today, and for lending their time and expertise to this important topic.

“The Academy launched the Commission on Reimagining Our Economy out of a concern that the state of the economy was having an adverse effect on Americans' well-being and the health of our institutions.

We are also pleased to be joined by the Honorable Goodwin Liu, Associate Justice of the California Supreme Court. Justice Liu was previously professor of law and Associate Dean at the UC Berkeley School of Law. He was elected to the Academy in 2019 and serves on the Academy's Board of Directors and on the Academy's Trust, and is a member of the Academy's Commission on Reimagining Our Economy.

It is also my pleasure to introduce Academy member and Cochair of the Commission on Reimagining Our Economy, Ann Fudge. Ann is the former Chairperson and CEO of Young & Rubicam Brands, as well as a committed philanthropist and civic leader. She currently serves on the boards of Northrop Grumman and Novartis, and is Chair of the Board of WGBH Public Media. Ann was elected to the Academy in 2019, and is a member of the Academy's Trust. Ann will provide a brief introduction to the work of the Commission, and then our conversation will follow.



“ Our work is built on the idea that well-being is not simply a matter of dollars and cents but is based on the degree to which people feel their voice is valued, that they think the rules are fair, and that they can trust their leaders and their neighbors.

## Ann Fudge

Ann Fudge is the former Chairperson and CEO of Young & Rubicam Brands. She was elected to the Academy in 2019, is a member of the Academy's Trust, and is a cochair of the Academy's Commission on Reimagining Our Economy.



**G**ood evening, everyone. Thank you for joining us. In October 2021, the American Academy launched the Commission on Reimagining Our Economy with the goal of elevating the human stakes of our economic and political systems. Too often there is a focus on how the economy is doing, and we wanted to direct a focus on how Americans are doing. Our interdisciplinary and cross-partisan Commission includes scholars, journalists, artists, and leaders from the faith, labor, business, and philanthropic communities. Our work is built on the idea that well-being is not simply a matter of dollars and cents but is based on the degree to which people feel their voice is valued, that they think the rules are fair, and that they can trust their leaders and their neighbors.

The impact of economic challenges in the United States has broad implications. The belief that the economy does not give everyone a fair chance literally threatens the nation's social fabric and its constitutional democracy. The Commission's meeting earlier today marks the end of a year-long

fact-finding phase. We have been holding listening sessions with Americans across the country to hear from voices that have typically been excluded from conversations around economic policy, and we have been working on developing a new set of metrics to reimagine how we measure well-being. We hope to release our final report next year, followed by a sustained period of outreach and implementation.

I look forward to our conversation this evening about some of the most pressing challenges facing the nation. I would like to thank Chairman Himes and Ranking Member Steil for coming to Cambridge and meeting with the Commission this afternoon.

**OXTOBY:** Thank you, Ann, for that overview and for your invaluable leadership of this Commission. Let me start with a question for Chairman Himes and Ranking Member Steil. Would you briefly explain the mission of the Select Committee, and why each of you personally wanted to take a leadership position in these efforts?



## Jim Himes

Jim Himes is serving his seventh term representing Connecticut's Fourth District in the United States House of Representatives. He is the Chair of the House Select Committee on Economic Disparity and Fairness in Growth; Chair of the Subcommittee on National Security, International Development and Monetary Policy of the House Financial Services Committee; and a member of the House Permanent Select Committee on Intelligence.

I would like to thank the Academy for inviting me to join this conversation. I have been in town all day and have appreciated the opportunity to learn from the members of the Academy's Commission on Reimagining Our Economy.

The mission of the Select Committee on Economic Disparity and Fairness in Growth is fairly straightforward; it is to look at the difference between the most fortunate and least fortunate Americans in this country—a difference that is as intense now as it has ever been in our history—to think about why that is true today, and to propose policy solutions to address it. Our politics are broken because we are in an immensely polarized moment right now. Bryan and I are working hard to try to demonstrate that there is an opportunity to address this important problem in a civil way.

As to why I sought the chairmanship of this Committee, there is a short and honest answer to that question: Speaker Pelosi asked me to, and

you don't say no to Speaker Pelosi! But let me give a more interesting answer. I think the work of this Committee is important for at least two reasons. One, the moral-ethical reasons. I subscribe to what the Conference of Catholic Bishops said in the 1960s, that great wealth is a sin in the context of great poverty. And that is where we are trending in this country now. Two, the economic reasons. The economists in the room are the experts, but I believe substantial disparity leads to reduced aggregate production. What is interesting to me and what really engages me is that at the core of our broken politics is the sense that more Americans than ever before feel that they do not have the chance to live the American dream, that they do not have a stake in the system. And Americans who feel that way are going to seek out radical and extreme political answers. We see that happening right now.

**OXTOPY:** Thank you. Congressman Steil?



## Bryan Steil

Bryan Steil represents Wisconsin's First Congressional District in the United States House of Representatives. First elected in 2018, and now in his second term, he was appointed as the Ranking Member of the House Select Committee on Economic Disparity and Fairness in Growth. He also serves as the Ranking Member of the Subcommittee on Elections for the Committee on House Administration and is a member of the House Financial Services Committee.



**T**hank you for the opportunity to participate in this program. I think the economy is far too often overlooked in our national dialogue. We want to make sure that people can sustainably move into the middle class, but the most disadvantaged among us are seldom able to do this. It is not simply a math problem that says that poverty can be solved by a simple wealth transfer. That process does not sustainably allow people to enter the middle class and to be able to chart their own course in the long term. So, the policy objective is to make sure that we are leveraging the American capitalist structure to allow people to enter the middle class and move forward.

We have experienced challenging years because of the pandemic, and during the past two years we have seen the crises worsen. We have an opportunity to find those areas of common ground and to say here are the policies that can substantively and meaningfully help people to move ahead, policies that we can put forward in Washington that can improve our country.

**OXTOPY:** Thank you. Justice Liu, let me turn to you. Ann offered some background on the Commission, and the Chairman and Ranking Member provided some motivations for their work. What is the problem facing the nation that inspired you to join the Academy's Commission?

## Goodwin H. Liu

Goodwin H. Liu is an Associate Justice of the California Supreme Court. He was elected to the Academy in 2019, is a member of the Academy's Board of Directors, a member of the Academy's Trust, and a member of the Academy's Commission on Reimagining Our Economy.



It is an honor to be on the stage with the Chairman and the Ranking Member of the Select Committee on Economic Disparity and Fairness in Growth, which has done tremendous work already. I encourage you to go to the website and look at all the things that are going on in this Committee.

I wear several hats. Tonight I will speak as a Commission member who has had the benefit of listening. In my work as a judge, we see these issues, though not in a direct way. We see the consequences of economic inequality in terms of who has access to the courts and the gap between rights on paper and rights in practice. But let me hearken back even further. Before I became a judge, I was

a law professor and an avid student of education policy. But maybe the easiest way to answer your question, David, is through a more personal lens. I grew up in this country as a child of immigrants; my parents came to the United States in the late 1960s. My mom said that she came with \$500 in her pocket – not to spend, but for the return ticket home in case things did not work out.

I was born in Augusta, Georgia, which is a far distance from here. And I grew up in a very small town in the southern part of Florida before finally moving to Sacramento, which I consider my hometown. My parents were family practice doctors. They never made a fortune, but they lived perfectly good lives and were able to provide a very



There are a lot of Americans who do not feel that they get a fair shake in the economy – people on the political left, people on the political right, and people who do not fit anywhere on the scale – and engaging in dialogue with these people as to why they feel that way is important as we craft and create policies to allow the economy to work for everyone. By going out and speaking to people, you are forced to see how these policies play out in the real world. ”

decent life for my brother and me. We never wanted for anything. Most importantly, we had great public schools, and this was toward the end of the time when California had the best schools in the country; now they are often ranked in the bottom third of the country. Needing to get a private education or have an alternative to get ahead in life was a remote concept. There was no thought that you couldn't just rely on the basic surroundings that you had to have the economic stability and the resources to live decently and get ahead.

My parents exemplify what it meant to work hard, play by the rules, and be rewarded. Now as a parent myself with a teenager and a soon-to-be teenager, I think the ground rules look very different. I have a child in private school. I wonder about the opportunities that are afforded people who do not have the privileges that my family has. I can see the difference between my own upbringing and the more unequal society my children inherit today. And that more than anything is why I felt compelled to be a part of this Commission.

**OXTOBY:** Thank you. Now let me ask a question to all of you. One of the things that we have talked about is listening to American voices. This has been a major part of the work of the Academy's Commission. We have had thirty-some listening sessions around the country, and the Select Committee has had quite a few listening sessions as well, listening to Americans who are not always included in conversations about the future of the country. I am curious about what your experience has been with these conversations, and what you have learned from them that we might not learn from other sources. I will start with Representative Himes and Representative Steil, and then turn to a few members of the Commission.

**HIMES:** If you serve on a congressional committee, the danger is that you will never leave the twenty square miles of the District of Columbia. And so early on, we made a commitment to spend a lot of

our time outside of Washington. And, in fact, we kicked this off two years ago with a visit to Lorain, Ohio, an old steel town. Part of the point was to highlight the voices of people. When you are in Congress, it is tempting to listen to the voices from the Brookings Institution or from the American Enterprise Institute. In our report, we will feature stories as a way to differentiate our report from other congressional reports. We know that stories are far more powerful at moving people than policy arguments, and so we will feature those stories. We are also working on a documentary that will highlight people because we want to offer not only policy recommendations but to share a product that we hope will create some empathy that Americans might feel for each other. There is a real deficit of that in the country today.

We are asked by social media and our politics to regard the other as the other, as the enemy, as the person who is wrong. For us, it is as much about learning, and this is probably true of people at the top of their professions regardless of the profession. When you stop listening, you stop observing. One of the problems in the country now is the disconnect between what happens in Washington and what happens in Lorain, Ohio, or at the Texas border. I think my friend Bryan would agree that when you are out in the world, you see that the world is much more complex, rich, and less subject to simple political shibboleths than you do when you are sitting and arguing in Washington.

**STEIL:** Chairman Himes has done a great job by bringing us out of Washington, D.C., and taking us across the country – from Seattle, Washington; to Kenosha, Wisconsin, near my home; to Lorain, Ohio. I think there are two things that are playing out here. First, there are a lot of Americans who do not feel that they get a fair shake in the economy – people on the political left, people on the political right, and people who do not fit anywhere on the scale – and engaging in dialogue with these people as to why they feel that way is important as we craft

and create policies to allow the economy to work for everyone. Second, as Chairman Himes referenced, by going out and speaking to people, you are forced to see how these policies play out in the real world. It is one thing to have an academic conversation about how government transfers wealth, about how different programs have worked, but it is another to speak to people outside of Washington and to listen to them.

**OXTOBY:** We have a few people in the audience who have some experience going around the country and asking people about their experience in the economy. Jim Fallows, could you say a little bit about what you have done, and pose a question if you wish to the group?

**JIM FALLOWS:** It has been a privilege to be part of this Commission and to have the two members of the Select Committee on Economic Disparity and Fairness in Growth join us at our Commission meeting this afternoon. What the Select Committee and its members are doing is extremely valuable.

What has impressed me among the many things in the Commission's work are the listening sessions, which is the working group that I participate in: hearing the sophistication of Americans talking about their own predicament. You realize when you talk to people about their situation in life that they are not stereotyped in having the kind of polarized answers you hear on cable news. People are smart when you ask them about their own situation. They know what their responsibility is; they know the things that are open to them, or maybe stacked against them.

I think there is great potential for bipartisan agreement on ways to make the American economy seem fairer for more people because you can work around the normal political divides – when people sense that there should be more opportunity for more Americans to play by what most people recognize as being the rules of the game and have better futures for themselves and their family. I think there is natural overlap and complementarity between what you all are doing in Congress and what the American Academy's Commission is trying to do.

**HIMES:** If you spend time with Bryan and me, you will hear a civil and maybe even unusually

thoughtful treatment. That is not an accident, and it is no credit to us. It is because both of us represent purple districts, so we have the luxury and the room to do that. The problem with the kind of nuance that Jim Fallows talks about is that it is not in anyone's interest to see the world that way. It is certainly not in social media's interest, where what grabs attention is rage and anger. I am far from an expert on this, but anger and rage drive engagement.

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In the political world, the most powerful story is the human story: good versus evil. The moment you get into the nuance that lives out in the real world, you are in a place that is profoundly uncomfortable if there is a zero-sum game between the two parties. There are a lot of reasons why this is different from how it was fifty or one hundred years ago. You don't win if you move away from the good versus evil story that seeks to persuade Americans that the sole reason for their economic problems is, on my side of the aisle, the greedy monopolistic corporations; or, on Bryan's side of the aisle, immigrants or Mexicans. The point is we have a system that is driven by the need to dumb down the good versus evil story.

**OXTOBY:** Goodwin, in your role as a judge, do you see this type of dynamic when you need to make judgments?

**LIU:** In the courts, the hallmark of our work is civil and rational examination of disputes that people bring to us. We have rules of procedure and evidence; it isn't a matter of who shouts the loudest. And judges know that many issues are not good versus evil but rather have nuance and require careful listening. One of the best parts of the Commission has been the voices of citizens from across the country in the listening sessions. When you listen to people, a lot of the polarization melts away because they are not talking in the terms that pundits and commentators use, or what you see on



social media. They are talking in much more practical terms about their lives. One way to help reduce some of the polarization is to have these conversations on those terms.

In a different capacity, I sit on a medium-sized foundation board in California called the Irvine Foundation, which is dedicated to low-wage workers and worker mobility. Two weeks ago we did a site visit. We went to San Bernardino in the Inland Empire, which is one of the biggest logistics transportation hubs in the country. Amazon, FedEx, UPS, Staples, and Walmart have huge operations there. In fact, warehouses now occupy more than a billion square feet of the land in these places that used to be farmland. People reminisce about missing the smell of manure, but that has been replaced by other things that are causing environmental problems because of all the trucks that are coming in and out of the community. Though the jobs are plentiful, they are low-wage and often do not result in advancement. And that is why in many of these warehouses there is over 100 percent worker turnover within the span of a year and a half. These communities are trying to figure out how are we going to sustain these industries because they are chewing through the workers so rapidly.

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On the other hand, there are positives, like housing – a lot of Los Angeles transplants are going there – and educational institutions and infrastructure. It is an area that is full of possibility, but the economic model is keeping the area from realizing its full potential because it is fundamentally extractive, according to some of the people there. The externalities of these companies are concentrated in that physical space, but the benefits are worldwide. Our packages that are going all over the country are getting there on time because these workers are hustling, with the benefits going elsewhere. That is a structural issue – place-based disparities really make an impression. We often see these issues – wages, working conditions,

development and environmental issues – play out in the courts.

**OXTOBY:** One of the things that we have been talking about at the Academy is the future of American democracy. In 2020, the Academy’s Commission on the Future of Democratic Citizenship published *Our Common Purpose: Reinventing American Democracy for the 21st Century*. There are intersections between the economic world and strengthening American democracy. Is the Select Committee looking at these questions?

**STEIL:** I would view it as a key piece of the puzzle. I don’t know that it is the inherent driver of the Select Committee, which is more focused on how we make sure that everybody has a shot at the American dream, whatever that may mean to you. How do we get people sustainably into the middle class? I don’t want to speak for the Chairman, but I don’t think it is lost on either of us that if there are a lot of people in this country on the left, on the right, and off the scale altogether, who don’t believe that the system is fair, who don’t believe that they are getting a fair shake, then they are going to look for alternatives. Right now, there are many people who do not feel that the economy is working for them. And so we are looking at what other policies can we put in place that allow this structure to work for you and your family. And if we are successful in that, then there are tangential benefits to American democracy.

**HIMES:** I agree with Bryan. Earlier I said that what really grabs me is how economic disparity drives political rage. If I can offer a note of optimism to the Academy’s Commission, I think the problems that we are struggling with, namely, economic disparity, are really hard. They are intellectually and politically hard. How do we disrupt a system of education that still hearkens back to the nineteenth century? Both of my daughters have the summer off. How do you disrupt the health care system that, in my opinion, has not served us well? Everyone is telling us that we have to do a lot better with childcare. And yet, we are having a hard time coming up with a policy proposal to get there.

I stand by my comment that economic disparity drives political instability. You can tick off six things that theoretically you could do very quickly: nonpartisan commissions for the drawing of congressional district lines, ranked choice voting around the country, Supreme Court eighteen-year terms, and the like. They are not that intellectually

hard. More and more states are adopting ranked choice voting. These are technical things that you could do to depower the extremes in our politics and empower the center. I am not sure that the economic problems lend themselves to those theoretically quick technical solutions.

**OXTOBY:** Let's turn now to the audience for some questions.

**AUDIENCE MEMBER:** As a retired professor from Harvard Business School, I worry a lot about the economic issues that you are raising. It is wonderful that the Select Committee and the Academy's Commission have been going around the country listening to people's voices. So, why is nothing being done? My argument is that we know what the problems are. The challenge is, how do you deal with the short-term nature of virtually every area of our world – from solving environmental problems to addressing income issues?

**STEIL:** You have hit on an aspect of human nature that a group of psychologists could comment on better than I am prepared to do. But it is a political challenge, and has been so since the founding of the country. The average person is concerned about tomorrow rather than next year. The challenge of policy-making is to say we have been running this American idea experiment for about 250 years. How do we take that and prepare ourselves to go into the next 100 years? We have huge challenges in front of us: for example, making sure that Social Security and Medicare are solvent for generations to come. So, I think it is a human nature challenge as much as it is a policy challenge.

**HIMES:** I think the collapse of the United States Senate into a short-term, politicized body has made things worse. The whole concept of the Senate, apart from tempering the passions of the House, was that Senators could abstract themselves away. With six-year terms instead of two-year terms, they could remove themselves from the demands of the right now in favor of a longer-term view. But for reasons that I cannot explain, the Senate has become as near-term focused as the House.

**AUDIENCE MEMBER:** I want to thank you for modeling civil dialogue. I am puzzled by some of

these persistent policy challenges that you identify. Representative Himes mentioned childcare, health care, and education. There are countries around the world that have solved these problems by providing universal childcare and universal health care. Is the Select Committee or the Academy's Commission looking at international models of how to do this better than what the United States has managed to do?

**HIMES:** The answer is yes. The Select Committee had an interesting meeting with representatives of the OECD. I began my career in the private sector, so I am always looking at comparables. I think there are two political reasons why this is hard for us to do. One, we invest our money in the populations who vote, that is, our senior citizens. Just about half of the federal budget – through Medicare, Social Security, and Medicaid – goes to the people who vote. Prenatal Americans don't vote. The problems that come from underinvesting in two- and three-year-olds do not manifest themselves for several years. Two, the world has outsourced global security to the United States. So instead of investing in kids, we spend \$800 billion a year on global security, and I don't just mean on our national security. When it comes time to help the Ukrainians defeat the Russians, that is largely on us. You could argue whether that is good or bad, whether we should be the policeman of the world, but the fact of the matter is we spend \$800 billion, which is an inconceivable amount of money. Five years ago, China spent more on defense than the next ten countries combined spent on their own security. So, we have challenges politically that prevent us from engaging with some of the fairly obvious solutions that have been modeled by other countries.

**STEIL:** I would offer that there is a lot more nuance in the data when we look at the comparables. What Chairman Himes just referenced on the security side is real. The land war playing out in Europe with their dependence on U.S. military technology is one piece of that puzzle. If you look at the quality of health care in the United States, it is often seen as being superior to that in other countries. If we look at overall consumption in the United States and the standard of living across the board, we see a much more nuanced analysis on



the comparables between the United States and other countries.

**OXTOBY:** The Academy's Commission is looking globally for examples that we might try to model. We are looking at the American situation, of course, but using ideas from other countries. For example, one of the issues we discussed earlier today concerned people coming out of prison and what their opportunities are. Other countries are way ahead of us in this area.

**JIM FALLOWS:** The question for our three public officials here is discussed in a recent article by Peter Leyden entitled "The Great Progression." His argument is that we often compare the problems of this era to the Gilded Age, and compare the hope for reforms to those in the Progressive Era. Leyden says that progressive reforms are already happening across the United States and that the media and our political narrative have not caught up. He notes that we will look back upon this era as a time when a lot of loosely affiliated reform movements around the country were dealing with problems and they suddenly found some coherence in the next years. Does Leyden's argument make sense to you in your public roles?

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**LIU:** I think as evidenced by the work of this Select Committee as well as that of the Commission and allied efforts that it would be premature to say that some new Progressive Era is dawning. I think what is happening is a serious reexamination of the social contract, and it is being called for by precisely the voices that the Select Committee and the Commission have been hearing from. Many of the basic underpinnings of how the economy was built and how prosperity was to be shared are not the same as they were or they don't exist as they did forty or fifty years ago. I would not hazard a strong prediction as to where this is all headed. Some of the efforts that we see going on right now are

testing some basic assumptions that have been in our economy for a long time.

**STEIL:** I think we have some time before we are able to look in the rearview mirror and say which policies were successful, and which were not. If we use a European comparison to look at energy policy and when you have an energy supply that is not nationally secure – and that is going to happen to our European allies this winter – the policy decisions could be very significant and very severe. In the rearview mirror, we will have a different perspective than they probably did even four years ago as Germany was moving to close nuclear power plants, making themselves further dependent on Russian oil and natural gas.

We could look at the labor policies we put in place in the United States. Before the pandemic we saw real wages at historic highs across demographic groups, and above the median for women, Blacks, Hispanics, Asians, and veterans. We are now in a period of rising inflation and high costs. The Chairman and I will get into long debates, neither of us with a PhD in economics, as to the cause and the driver of that inflation, but we have seen real wages falling for many folks. Previously, the tight labor market uniquely benefited those in the lowest quintile, with significant and meaningful benefits to our country as a whole. We have also seen some labor policies put in place that I think have moved us in the wrong direction. I think we will look back and identify some things that turned out correctly and some things that didn't, and that is part of our American experience and experiment.

**HIMES:** I have not read Leyden's article, but I have been sitting here thinking, should I feel optimistic? Is this, in fact, an era of progressivism? I would describe myself as a temperamental optimist. The Affordable Care Act didn't fix our health care system, but it was an improvement over what existed before. Twenty million Americans were covered and that was an improvement. Institutions are grappling with race and gender more intensely than I have seen in my lifetime, and it was accelerated in May 2020 when America watched the horror of what happened to George Floyd. The private sector – J.P. Morgan, Walmart, and Amazon – is saying we have to do better.

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“ Though we can find bright spots, I come back to the fact that the basic foundations of prosperity – for example, the housing market – are not serving us well. People cannot afford to live where the jobs are. Our educational system is not penetrating down to the people who really need to be uplifted. We are still so far away from a logical and smart health care system.

jobs are. Our educational system is not penetrating down to the people who really need to be uplifted. We are still so far away from a logical and smart health care system. So until we see these sectors brought into the twenty-first century, we are going to have a difficult time saying we are living in a new Progressive Era.

**AUDIENCE MEMBER:** In the wake of Hurricane Ian, has the public perception of disaster events related to the climate crisis shifted the needle in terms of housing or national security policy?

**HIMES:** That is a very broad question. In my fourteen years of service in the House, the conversation on climate change has improved significantly. And we have achieved some things. It was sadly not bipartisan, but we did pass a bill that included a \$400 billion investment in the migration of our energy system toward something more sustainable. The problem has been that we are moving far too slowly. The repeated devastation of coastal areas has not been enough to accelerate what we need to do.

What I am going to say may annoy some people in the room, but the events of the last two years, in particular, the spike in gasoline prices and of energy prices generally, have in some ways helped us to have a saner conversation than before. Now that America has spoken about how it feels about a world in which Russian hydrocarbons are not on the market, we are having a more pragmatic and, therefore, constructive conversation. I hope Bryan comments on this. My Republican friends are not saying, “Don’t migrate to sustainable energy sources.” Rather they are saying, “Just don’t do it in a way that is devastating to economies and to households.” So if you are a hard-core climate person, politically speaking, you may not be happy about this, but where we work, it is good to have a

pragmatic, fact-based conversation because that is how we make progress.

**STEIL:** To build on that, I am not an energy policy expert per se, but I see a need to have a secure energy supply. We are watching on the world stage right now in real time the risks of not having a secure energy supply. In terms of national security for the United States, we need to make sure that there is a nationally secured supply of energy. I think there is a lot of middle ground in our energy approach. Nuclear is going to be a part of that conversation, even though it is always pushed to the side.

**OXTOBY:** As some of the people in the audience know, the American Academy has a Commission on Accelerating Climate Action that is looking at these questions. Our Climate Commission is bringing together people from the military and from the private sector, and talking about how best to communicate about these issues so that the general public understands them better.

This has been a fascinating discussion. I would like to thank Representative Himes and Representative Steil for their time, insight, and work on these important issues, and for participating in our program this evening. I would also like to thank Justice Liu and Ann Fudge for their comments. And finally, thank you all for joining us.

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To view or listen to the presentation, visit [www.amacad.org/news/bipartisan-economy-congress-himes-steil](http://www.amacad.org/news/bipartisan-economy-congress-himes-steil).



## Select Prizes and Awards to Members

**Chimamanda Nogzi Adichie** (Lagos, Nigeria) was awarded Harvard University's W. E. B. Du Bois Medal.

**Anita L. Allen** (University of Pennsylvania) is the recipient of the Hastings Center's 2022 Bioethics Founders' Award and the 2022 Privacy Award of the Berkeley Center for Law & Technology. She was also elected to the American Philosophical Society.

**Chieko Asakawa** (IBM Research) was awarded the 2022 Okawa Prize by the Okawa Foundation in Japan.

**Jesse H. Ausubel** (The Rockefeller University) was awarded the 2022 Nierenberg Prize for Science in the Public Interest.

**Carolyn R. Bertozzi** (Stanford University) was awarded the 2022 Nobel Prize in Chemistry. Dr. Bertozzi shares the award with Morten Meldal (University of Copenhagen) and **K. Barry Sharpless** (Scripps Research).

**Kirsten Bibbins-Domingo** (University of California, San Francisco) was awarded the 2022 Population Research Prize by the American Heart Association.

**Squire J. Booker** (Pennsylvania State University) received the ASBMB-Merck Award and the Ruth Kirschstein Diversity in Science Award from the American Society for Biochemistry and Molecular Biology (ASBMB).

**Richard H. Brodhead** (Duke University) received the 2022 University Medal for Distinguished Meritorious Service from Duke University.

**Rodney Brooks** (Robust AI; Massachusetts Institute of Technology) was awarded the 2023 IEEE Founders Medal.

**Myles Brown** (Dana-Farber Cancer Institute; Harvard Medical School) is the recipient of the 2023 Gerald D. Aurbach Award for Outstanding Translational Research, given by the Endocrine Society.

**Elizabeth J. Cabraser** (Lief Cabraser Heimann & Bernstein LLP) received a 2022 Excellence in Ethics in Complex Litigation Award.

**Adele Chatfield-Taylor** (American Academy in Rome) was awarded the Albert Simons Medal of Excellence by the College of Charleston's School of the Arts.

**Patricia Churchland** (University of California, San Diego) was awarded a 2022 Revelle Medal by the University of California, San Diego.

**Douglas Diamond** (University of Chicago) was awarded the 2022 Nobel Memorial Prize in Economic Sciences. Professor Diamond shares the award with Ben S. Bernanke (Brookings Institution) and Philip H. Dybvig (Washington University in St. Louis).

**Rita Dove** (University of Virginia) was awarded a 2022 Ruth Lilly Poetry Prize by the Poetry Foundation.

**Scott Emr** (Cornell University) received a lifetime achievement award from the American Society for Biochemistry and Molecular Biology.

**Sally Field** (Santa Monica, California) received the 2023 SAG Life Achievement Award.

**Bojie Fu** (Chinese Academy of Sciences) received the TWAS-Lenovo Science Award.

**Jeanne Gang** (Studio Gang Architects) is the recipient of the 2023 Les Prix Charlotte Perriand Award.

**Susan Goldin-Meadow** (University of Chicago) was awarded the 2021 David E. Rumelhart Prize for Contributions to the Theoretical Foundations of Human Cognition.

**Lawrence S. B. Goldstein** (University of California, San Diego) was awarded a 2022 Revelle Medal by the University of California, San Diego.

**Carol Greider** (University of California, Santa Cruz) received the Award for Excellence in Molecular Diagnostics from the Association for Molecular Pathology.

**Agnes Gund** (Museum of Modern Art) was awarded Harvard University's W. E. B. Du Bois Medal.

**Naomi J. Halas** (Rice University) received the 2022 Eni Energy Transition Award. She shares the award with Peter Nordlander (Rice University).

**Demis Hassabis** (DeepMind) was awarded a 2023 Breakthrough Prize in Life Sciences.

**Rebecca Heald** (University of California, Berkeley) is the recipient of the 2022 Sandra K. Masur Senior Leadership Award from the American Society for Cell Biology.

**Richard O. Hynes** (Massachusetts Institute of Technology) received the 2022 Albert Lasker Basic Medical Research Award. He shares the award with **Erkki Ruoslahti** (Sanford-Burnham Medical Research Institute) and **Timothy A. Springer** (Harvard Medical School; Boston Children's Hospital).

**Sherrilyn Ifill** (NAACP Legal Defense and Educational Fund) received the American Bar Association's 2022 Thurgood Marshall Award and the University of Louisville Brandeis School of Law's 2023 Brandeis Medal.

**Holly A. Ingraham** (University of California, San Francisco) is the recipient of the 2023 Edwin B. Astwood Award for Outstanding Research in Basic Science, given by the Endocrine Society.

**Katalin Karikó** (BioNTech) was elected to the National Academy of Inventors.

**Robin Wall Kimmerer** (SUNY College of Environmental Science and Forestry) was awarded a 2022 MacArthur Fellowship.

**Bryna Kra** (Northwestern University) was named a 2023 Association for Women in Mathematics Fellow.

**Vijay Kumar** (University of Pennsylvania) was elected to the National Academy of Inventors.

**Mitchell A. Lazar** (University of Pennsylvania Perelman School of Medicine) is the recipient of the 2023 Fred Conrad Koch Lifetime Achievement Award, given by the Endocrine Society.

**Frank Thomson Leighton** (Akamai Technologies; Massachusetts Institute of Technology) was awarded the 2023 IEEE John von Neumann Medal.

**Ralph Lemon** (Cross Performance, Inc.) is the recipient of the Whitney Museum of American Art's 2022 Bucksbaum Award.

**Tania León** (Brooklyn College) received a Kennedy Center's Honor.

**Jianguo (Jack) Liu** (Michigan State University) was elected to the Royal Norwegian Society of Sciences and Letters.

**Mario Vargas Llosa** (Madrid, Spain) received the 2022 Madrileño del año award.

**Guillermo Lozano** (University of Texas MD Anderson Cancer Center) received the 2022 Award for Distinguished Research in the Biomedical Sciences from the Association of American Medical Colleges.

**Michael Lynch** (Arizona State University) is the recipient of the 2022 Arizona Bioscience Pioneer Award for Lifetime Achievement.

**Barry Mazur** (Harvard University) was awarded the 2022 Chern Medal of the International Mathematical Union.

**J. Andrew McCammon** (University of California, San Diego) was awarded a 2022 Reville Medal by the University of California, San Diego.

**Richard A. Meserve** (Carnegie Institution for Science) is the recipient of the American Physical Society's Joseph A. Burton Forum Award.

**Chad A. Mirkin** (Northwestern University) was awarded the 2023 King Faisal Prize in Medicine and Science. He also received the 2022 Faraday Medal from the Institution of Engineering and Technology of the United Kingdom.

**Diana C. Mutz** (University of Pennsylvania) received the APSA Best Book Award for *Winners and Losers: The Psychology of Foreign Trade*.

**Shree K. Nayar** (Columbia University) was awarded the 2022 Okawa Prize by the Okawa Foundation in Japan.

**Gülru Necipoğlu** (Harvard University) is the recipient of the 2023 Freer Medal, given by the Smithsonian Institution's National Museum of Asian Art.

**William Newsome** (Stanford University) was awarded the 2022 Mendel Medal by Villanova University.

**Sharon Olds** (New York University) was awarded a 2022 Ruth Lilly Poetry Prize by the Poetry Foundation.

**Svante Pääbo** (Max Planck Institute for Evolutionary Anthropology) was awarded the 2022 Nobel Prize in Physiology or Medicine.

**Ariel Pakes** (Harvard University) received the 2022 Erwin Plein Nemmers Prize in Economics.

**Deval Patrick** (Harvard Kennedy School) was awarded Harvard University's W. E. B. Du Bois Medal.

**Robert Plomin** (King's College London) was awarded a CBE in the United Kingdom's New Year Honors 2023.

**Ramamoorthy Ramesh** (Rice University) was elected to the National Academy of Inventors.

**Rebecca R. Richards-Kortum** (Rice University) was awarded the 2023 IEEE Medal for Innovations in Healthcare Technology.

**Erkki Ruoslahti** (Sanford-Burnham Medical Research Institute) received the 2022 Albert Lasker Basic Medical Research Award. He shares the award with **Richard O. Hynes** (Massachusetts Institute of Technology) and **Timothy A. Springer** (Harvard Medical School; Boston Children's Hospital).

**Daniela Rus** (Massachusetts Institute of Technology) was awarded the 2023 IEEE Robotics and Automation Award.

**Frederick Schauer** (University of Virginia) received the Hart-Dworkin Award in Legal Philosophy from the Association of American Law Schools.

**Rachel Segalman** (University of California, Santa Barbara) is the recipient of the Department of Energy's 2021 Ernest Orlando Lawrence Award in Condensed Matter and Materials Science, and the Andreas Acrivos Award for Professional Progress in Chemical Engineering of the American Institute of Chemical Engineers.

**K. Barry Sharpless** (Scripps Research) was awarded the 2022 Nobel Prize in Chemistry. Dr. Sharpless shares the award with **Carolyn R. Bertozzi** (Stanford University) and Morten Meldal (University of Copenhagen).

**Peter W. Shor** (Massachusetts Institute of Technology) was awarded a 2023 Breakthrough Prize in Fundamental Physics.

**Patricia Smith** (College of Staten Island) was awarded a 2022 Ruth Lilly Poetry Prize by the Poetry Foundation.

**Paul Sniderman** (Stanford University) is the recipient of the 2022 Ithiel de Sola Pool Award, given by the American Political Science Association.

**Daniel A. Spielman** (Yale University) was awarded a 2023 Breakthrough Prize in Mathematics.

**Hortense J. Spillers** (Vanderbilt University) is the recipient of the 2022 Wayne Booth Lifetime Achievement Award of the International Society for the Study of Narrative.

**Timothy A. Springer** (Harvard Medical School; Boston Children's Hospital) received the 2022 Albert Lasker Basic Medical Research Award. He shares the award with **Richard O. Hynes** (Massachusetts Institute of Technology) and **Erkki Ruoslahti** (Sanford-Burnham Medical Research Institute).

**Samuel I. Stupp** (Northwestern University) received the 2022 Von Hippel Award, given by the Materials Research Society.

**Madhu Sudan** (Harvard University) received an INE Multimedia New England Choice Award.

**Arthur Sze** (Institute of American Indian Arts) was awarded a 2022 Ruth Lilly Poetry Prize by the Poetry Foundation.

**Jeremy Thorner** (University of California, Berkeley) received the 2022 Centenary Award from the Biochemical Society of the United Kingdom.

**Michael Tomasello** (Duke University) was awarded the 2022 David E. Rumelhart Prize for Contributions to the Theoretical Foundations of Human Cognition.



**Virginia Trimble** (University of California, Irvine) was awarded the first Keplerus Ellipsis Medal from the Societas Astronomia Nova.

**Drew Weissman** (University of Pennsylvania Perelman School of Medicine) was elected to the National Academy of Inventors.

**Deborah Willis** (New York University Tisch School of the Arts) was awarded the 2022 Don Tyson Prize for the Advancement of American Art, given by the Crystal Bridges Museum of American Art.

**Jeanette Wing** (Columbia University) was elected to the National Academy of Inventors.

**Chi-Huey Wong** (Scripps Research Institute) was awarded the 2022 Tetrahedron Prize for Creativity in Organic Synthesis.

**Huda Zoghbi** (Baylor College of Medicine) was awarded the 2023 August M. Watanabe Prize in Translational Research.

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## New Appointments

**Susan Athey** (Stanford University) was named Chief Economist of the Antitrust Division at the U.S. Department of Justice.

**Deborah Loewenberg Ball** (University of Michigan) was appointed as a member of the National Science Board.

**Carolyn Bertozzi** (Stanford University) was appointed to the Scientific Advisory Board of Rondo Therapeutics.

**L. Ebony Boulware** (Duke University) was named Dean of Wake Forest University School of Medicine and Chief Science Officer of Atrium Health.

**Benjamin Cravatt** (Scripps Research Institute) was named to the Scientific Advisory Board of Alterome Therapeutics, Inc. Dr. Cravatt was also named to the Scientific Advisory Board of Atavistik Bio.

**Linda Darling-Hammond** (Learning Policy Institute) was appointed as a member of the National Board for Education Sciences.

**Sean M. Decatur** (Kenyon College) was named President of the American Museum of Natural History.

**Jennifer Doudna** (University of California, Berkeley) was named to the Scientific Advisory Board of Isomorphic Labs.

**Claudine Gay** (Harvard University) was named President of Harvard University.

**Helene D. Gayle** (Spelman College) was appointed to the Board of Trustees of the Bill & Melinda Gates Foundation.

**Warner C. Greene** (Gladstone Institutes) was appointed President and Chief Scientific Officer of InvisiShield Technologies Ltd.

**Thomas Henzinger** (Institute of Science and Technology Austria) was appointed to the Scientific Council of the European Research Council.

**David D. Ho** (Columbia University Irving Medical Center) was appointed Chairman of the Scientific Advisory Board of Veru Inc.

**Steven E. Hyman** (Broad Institute of MIT and Harvard) was appointed to the Board of Directors of Cycleron Therapeutics, Inc.

**Paul E. Jacobs** (XCOM Labs) was appointed to the Board of Directors of Arm.

**Sally A. Kornbluth** (Duke University) was named President of the Massachusetts Institute of Technology.

**John Kuriyan** (University of California, Berkeley) was named Dean of the Vanderbilt University School of Medicine Basic Sciences.

**Carol D. Lee** (Northwestern University) was appointed as a member of the National Board for Education Sciences.

**Haifan Lin** (Yale University School of Medicine) was appointed President of the International Society for Stem Cell Research (ISSCR).

**Harvey Lodish** (Whitehead Institute for Biomedical Research) was appointed Chair of the Scientific Advisory Board of Carcell Biopharma.

**David MacMillan** (Princeton University) was named to the Scientific Advisory Board of Isomorphic Labs.

**Tshilidzi Marwala** (University of Johannesburg) was appointed Rector of the United Nations University in Tokyo.

**Diane Mathis** (Harvard Medical School) was appointed to the Scientific Advisory Board of the James P. Allison Institute at the University of Texas MD Anderson Cancer Center.

**Katherine S. Newman** (University of Massachusetts) was appointed as Provost of the University of California system.

**Paul Nurse** (Francis Crick Institute) was named to the Scientific Advisory Board of Isomorphic Labs.

**Anne Joseph O'Connell** (Stanford Law School) was appointed to the Council of the Administrative Conference of the United States.

**Santa J. Ono** (University of British Columbia) was named President of the University of Michigan.

**Ramamoorthy Ramesh** (University of California, Berkeley) was named Vice President for Research at Rice University.

**Richard Revesz** (New York University School of Law) was confirmed as Administrator of the U.S. Office for Management and Budget's Office of Information and Regulatory Affairs (OIRA).

**Jennifer Rexford** (Princeton University) was named Provost of Princeton University.

**Michael H. Schill** (University of Oregon) was named President of Northwestern University.

**Robert Schreiber** (Washington University School of Medicine) was appointed as Cochair of the Scientific Advisory Board of the James P. Allison Institute at the University of Texas MD Anderson Cancer Center.

**Phillip Sharp** (Massachusetts Institute of Technology) was appointed to the Scientific Advisory Board of the James P. Allison Institute at the University of Texas MD Anderson Cancer Center.

**Jacqueline Stewart** (Academy Museum of Motion Pictures) was named President and Director of the Academy Museum of Motion Pictures.

**Craig B. Thompson** (Memorial Sloan-Kettering Cancer Center) was appointed to the Board of Directors of Charles River Laboratories International, Inc.

**Karen Vousden** (Francis Crick Institute) was appointed to the Scientific Advisory Board of the James P. Allison Institute at the University of Texas MD Anderson Cancer Center.

**Hirokazu Yoshikawa** (New York University) was appointed as a member of the National Board for Education Sciences.

## Select Publications

### POETRY

**Jorie Graham** (Harvard University). *[To] The Last [Be] Human*. Cooper Canyon Press, September 2022

**Joy Harjo** (Tulsa, Oklahoma). *Weaving Sundown in a Scarlet Light: Fifty Poems for Fifty Years*. W. W. Norton & Company, November 2022

**A. E. Stallings** (Athens, Greece). *This Afterlife: Selected Poems*. Farrar, Straus and Giroux, December 2022

### FICTION

**John Banville** (Dublin, Ireland). *The Singularities*. Knopf, October 2022

**Wendell Berry** (Port Royal, Kentucky). *How It Went: Thirteen More Stories of the Port William Membership*. Counterpoint, November 2022

**Emma Donoghue** (Ontario, Canada). *Haven: A Novel*. Little, Brown and Company, August 2022

**Thomas Mallon** (Washington, D.C.). *Up with the Sun*. Knopf, February 2023

**Orhan Pamuk** (Istanbul, Turkey). *Nights of Plague*, trans. Ekin Olap. Knopf, October 2022

**Paul Theroux** (Cape Cod, Massachusetts). *The Bad Angel Brothers*. Mariner Books, September 2022

### NONFICTION

**Hilton Als** (*The New Yorker*; Columbia University School of the Arts). *My Pinup*. New Directions, November 2022

**R. Howard Bloch** (Yale University). *Paris and Her Cathedrals*. Liveright, November 2022

**Peter Brooks** (Yale University). *Seduced by Story: The Use and Abuse of Narrative*. New York Review Books, October 2022

**Virginia Burrus** (Syracuse University). *Earthquakes and Gardens: Saint Hilarion's Cyprus*. University of Chicago Press, February 2023

**Judith Butler** (University of California, Berkeley). *What World Is This? A Pandemic Phenomenology*. Columbia University Press, November 2022

**Terri Lyne Carrington** (Berklee College of Music). *New Standards: 101 Lead Sheets by Women Composers*. Berklee Press, September 2022

**Daniel Diermeier** (Vanderbilt University). *Reputation Analytics: Public Opinion for Companies*. University of Chicago Press, March 2023

**Gretchen Gerzina** (University of Massachusetts Amherst). *Black England: A Forgotten Georgian History*. John Murray Press, September 2022

**Anthony Grafton** (Princeton University) and Maren Elisabeth Schwab (University of Kiel). *The Art of Discovery: Digging into the Past in Renaissance Europe*. Princeton University Press, November 2022

**Temple Grandin** (Colorado State University). *Visual Thinking: The Hidden Gifts of People Who Think in Pictures, Patterns, and Abstractions*. Riverhead Books, October 2022

**Joy Harjo** (Tulsa, Oklahoma). *Catching the Light*. Yale University Press, October 2022

**Jennifer Homans** (New York University). *Mr. B: George Balanchine's 20th Century*. Random House, November 2022

**Jacqueline Jones** (University of Texas at Austin). *No Right to an Honest Living: The Struggles of Boston's Black Workers in the Civil War Era*. Basic Books, January 2023

**Dacher Keltner** (University of California, Berkeley). *Awe: The New Science of Everyday Wonder and How It Can Transform Your Life*. Penguin Press, January 2023

**Philip Kitcher** (Columbia University). *On John Stuart Mill*. Columbia University Press, January 2023

**Jonathan Lear** (University of Chicago). *Imagining the End: Mourning and Ethical Life*. Harvard University Press, November 2022

**Mario Vargas Llosa** (Madrid, Spain). *The Call of the Tribe*. Farrar, Straus and Giroux, January 2023

**Anthony A. Long** (University of California, Berkeley). *Plotinus "Ennead" II.4: On Matter*. Parmenides Publishing, July 2022; and *Selfhood and Rationality in Ancient Greek Philosophy: From Heraclitus to Plotinus*. Oxford University Press, January 2023

**Steve Martin** (Los Angeles, California). *Number One Is Walking: My Life in the Movies and Other Diversions*. Celadon Books, November 2022

**M. Margaret McKeown** (U.S. Court of Appeals for the Ninth Circuit). *Citizen Justice: The Environmental Legacy of William O. Douglas – Public Advocate and Conservation Champion*. Potomac Books, September 2022

**Donald Norman** (University of California, San Diego). *Design for a Better World: Meaningful, Sustainable, Humanity Centered*. The MIT Press, March 2023

**Peter Norvig** (Stanford University), **Alfred Z. Spector** (Massachusetts Institute of Technology), **Chris Wiggins** (Columbia University), and **Jeannette M. Wing** (Columbia University). *Data Science in Context: Foundations, Challenges, Opportunities*. Cambridge University Press, September 2022

**Martha C. Nussbaum** (University of Chicago). *Justice for Animals: Our Collective Responsibility*. Simon & Schuster, January 2023

**Michelle Obama** (Washington, D.C.). *The Light We Carry: Overcoming in Uncertain Times*. Crown Publishing, November 2022

**Naomi Oreskes** (Harvard University) and Erik M. Conway (California Institute of Technology). *The Big Myth: How American Business Taught Us to Loathe Government and Love the Free Market*. Bloomsbury Publishing, February 2023

**Timothy Palmer** (University of Oxford). *The Primacy of Doubt: From Quantum Physics to Climate Change, How the Science of Uncertainty Can Help Us Understand Our Chaotic World*. Basic Books, October 2022

**Henry Petroski** (Duke University). *Force: What It Means to Push and Pull, Slip and Grip, Start and Stop*. Yale University Press, September 2022

**Carl Phillips** (Washington University in St. Louis). *My Trade Is Mystery: Seven Meditations from a Life in Writing*. Yale University Press, November 2022



**Annie Proulx** (New Hampshire). *Fen, Bog, and Swamp: A Short History of Peatland Destruction and Its Role in the Climate Crisis*. Scribner, September 2022

**Martin Rees** (University of Cambridge). *If Science Is to Save Us*. Polity, November 2022

**David M. Rubenstein** (The Carlyle Group). *How to Invest: Masters on the Craft*. Simon & Schuster, September 2022

**Frederick Schauer** (University of Virginia). *The Proof: Uses of Evidence in Law, Politics, and Everything Else*. Harvard University Press, May 2022

**Joseph Silk** (Johns Hopkins University; Institute of Astrophysics, Paris). *Back to the Moon: The Next Giant Leap for Humankind*. Princeton University Press, November 2022

**Alfred Z. Spector** (Massachusetts Institute of Technology), **Peter Norvig** (Stanford University), **Chris Wiggins** (Columbia University), and **Jeannette M. Wing** (Columbia University). *Data Science in Context: Foundations, Challenges, Opportunities*. Cambridge University Press, September 2022

**Michael E. Stone** (Hebrew University of Jerusalem) and **Emanuela Timotin** (Romanian Academy, Bucharest). *The Cheirograph of Adam in Armenian and Romanian Traditions: New Texts and Images*. Brepolis, March 2023

**Michael E. Stone** (Hebrew University of Jerusalem) and **Aram Topchyan** (Mesrop Mashtots Institute of Ancient Manuscripts, Armenia). *Jews in Ancient and Medieval Armenia: First Century BCE–Fourteenth Century CE*. Oxford University Press, June 2022

**Colm Tóibín** (Dublin, Ireland). *A Guest at the Feast: Essays*. Scribner, January 2023

**Virginia Trimble** (University of California, Irvine) and **David A. Weintraub** (Vanderbilt University), eds. *The Sky is for Everyone: Women Astronomers in Their Own Words*. Princeton University Press, June 2022

**Neil deGrasse Tyson** (American Museum of Natural History). *Starry Messenger: Cosmic Perspectives on Civilization*. Henry Holt and Co., September 2022

**Daniel H. Weiss** (Metropolitan Museum of Art). *Why the Museum Matters*. Yale University Press, November 2022

**Jeannette M. Wing** (Columbia University), **Alfred Z. Spector** (Massachusetts Institute of Technology), **Peter Norvig** (Stanford University), and **Chris Wiggins** (Columbia University). *Data Science in Context: Foundations, Challenges, Opportunities*. Cambridge University Press, September 2022

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](mailto:bulletin@amacad.org).

# Marian Wright Edelman

## Honored by the Academy

Marian Wright Edelman, a trailblazing attorney and civil rights leader, received the Academy's Award for Excellence in Public Policy and Public Affairs, which recognizes individuals for their distinction, independence, effectiveness, and work on behalf of the common good.

**M**rs. Edelman is President Emerita of the Children's Defense Fund, the leading organization that advocates for the welfare, education, and rights of children in the United States.

In December 2022, Academy President David Oxtoby presented the award to Mrs. Edelman at the offices of the Children's Defense Fund.

### AWARD CITATION

Raised by your parents to serve and instilled with an obligation to take care of those who cannot take care of themselves, you have been a lifelong advocate for disadvantaged Americans. From an early age, you never accepted being "put into slots." You were the first Black woman admitted to the Mississippi Bar and directed the NAACP Legal Defense and Educational Fund office in Jackson. When you later moved to Washington, D.C., you served as counsel for the Poor People's Campaign that was organized by Dr. Martin Luther King Jr., founded the Washington Research Project, served as the Director of the Center for Law and Education at Harvard University, and began the Children's Defense Fund – all before the age thirty-five.



For nearly five decades as the leader and guiding force of the Children's Defense Fund, you have lived every day as if you were abiding by your father's simple advice: if you just follow the need, you will never lack for a purpose in life. In following the need to end child poverty, you have worked tirelessly to ensure every child a Healthy Start, a Head Start, a Fair Start, a Safe Start, and a Moral Start in life and a successful passage to adulthood with the help of caring families and communities.

You have often said that you feel fortunate to have lived at the intersection of great need and great injustices, and with great opportunities to change them. How fortunate for the millions of children and the nation that you have led the change for a more just society.

*Child advocate, servant leader, moral compass, sometime rebel, and recipient of the Presidential Medal of Freedom, you exemplify the Academy's values of using evidence and knowledge to foster deliberative discourse in advancing the common good. And you inspire us with your relentless dedication, determination, good will, and passion for making the world better and safer for generations to come.*









Detail of frontispiece from *Museum Wormianum* (Amsterdam, 1655) of marine taxidermy displayed in the cabinet of curiosities of Ole Worm. Sighting of such unfamiliar creatures, alone or in schools or pods, spurred reports of sea monsters. *American Academy's Founders' Book Collection*.

By **Maggie Boyd**, Associate Archivist at the Academy

In the early 1800s, the Academy received reports of a sea serpent, described as 60 to 100 feet long, in what is now Maine's Penobscot Bay. In 1810, upon hearing that the reports had been lost, minister and politician Alden Bradford, with the assistance of Lemuel Weeks, collected and presented to the Academy sworn statements of witnesses. In doing so, Bradford acknowledged, "Accounts of this sort, I am aware, should be received with caution."<sup>1</sup>

Sightings in 1817 prompted the Academy to appoint naturalist William Dandridge Peck to investigate further. Using the documents previously sent to the Academy by Bradford and Weeks and contemporary research by a committee of the Linnaean Society of New England on which he also served, Peck produced a report, published in the Academy's *Memoirs* in 1818, concluding

"the existence of the animal to which [the witnesses] relate is indisputable."<sup>2</sup>

The Academy did not pursue the matter any further. The value of this type of evidence was tested again at an Academy meeting on December 26, 1854. Inventor William F. Channing proposed that he would "report some observations on a class of phenomena, which, while they could not certainly at present be brought within the scope of exact knowledge," he wished to present, "but had not sufficient evidence to arrive at any conclusion." Classicist Cornelius Felton, joined by others, replied that it was "all humbug."<sup>3</sup>

1. Letter from Alden Bradford to William Emerson, October 25, 1810, Wiscasset, Maine.

2. William Dandridge Peck, "Prof. Peck's Observations on the Sea Serpent," *Memoirs* 2 (1) (1818): 90.

3. American Academy of Arts and Sciences, "Some Observations on a Class of Phenomena," December 26, 1854, *Minutebooks* 2 (1821-1857): 474-475.



# Bulletin

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The views expressed in the *Bulletin* are those held by each contributor and are not necessarily those of the Board of Directors and Members of the American Academy of Arts & Sciences.

ONLINE



**Yuval Levin** (American Enterprise Institute) was a member of the Academy's bipartisan commission that produced the *Our Common Purpose* report, with 31 recommendations for strengthening American democracy. He also coauthored an Academy paper on *The Case for Enlarging the House of Representatives*, which expands on one of those recommendations. As shared by the Academy on Twitter, Levin described that proposal in his *New York Times* Opinion piece, "Some Good Can Come Out of the Kevin McCarthy Fiasco."

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