Induction Ceremony 2015: Presentations by New Members

On October 10, 2015, the American Academy inducted its 235th class of members at a ceremony held in Cambridge, Massachusetts. The ceremony featured historical readings by **Vicki Sant** (The Summit Foundation) and **Roger W. Sant** (The AES Corporation), as well as a performance by the Boston Children's Chorus. It also included presentations by five new members: **Phil S. Baran** (The Scripps Research Institute), **Patricia Smith Churchland** (University of California, San Diego; Salk Institute for Biological Studies), **Roland G. Fryer, Jr.** (Harvard University), **Sally Haslanger** (Massachusetts Institute of Technology), and **Darren Walker** (Ford Foundation). Their remarks appear below.

Phil S. Baran

Phil S. Baran is the Darlene Shiley Professor of Chemistry at The Scripps Research Institute. He was elected a Fellow of the American Academy of Arts and Sciences in 2015.

Countless life-saving medicines, agrochemicals, unprecedented materials, light-harvesting polymers, longer-lasting paints, and rust-free cars are possible because of advances in fundamental organic chemistry.

It is a great honor to be addressing this distinguished crowd of brilliant minds on behalf of Class I, the Mathematical and Physical Sciences. Today I would like to talk about something you might consider odd – namely what I believe the scientific community can learn from one of Elon Musk's society-changing companies, SpaceX. But first, a little background. I am a chemist and have been one for over 20 years, but before I fell in love with mixing reagents and creating new forms of matter, I fell hard for astronomy. The wondrous feelings evoked when peering into the night sky, the promise of new, unthinkable phenomena waiting to be uncovered is powerful and moving even without a telescope. Ultimately, though, the reason I chose to become a chemist instead of an astronaut or astrophysicist was principally for pragmatic reasons. I did not have the coordination to make it through the rigors of astronaut training, and my limited mathematical ability would have made me a very enthusiastic, but fairly useless, astrophysicist. Instead, I found in organic chemistry, specifically chemical synthesis, not only the wondrous sense of discovery that I imagined Captains Kirk and Picard felt on the starship Enterprise, but a place where I felt my passion could be put to good use.

During my schooling I was rewarded with exceptional mentors and a myriad of exciting opportunities to explore, discover, and create. I never needed to worry about funding a lab, or where my equipment was going to come from, and I certainly did not need to worry about doing something broadly useful that would lead to a direct application or product in real life. No, I was shielded from all of that, and like the archetypal scientists in the days of yore, my job as a graduate student and postdoctoral associate was simply to focus on learning and discovering fundamental chemistry without regard to an eventual downstream impact. After all, what I was doing was government-funded basic research.

When I started my organic chemistry–focused independent career in 2003 at The Scripps Research Institute, however, things were clearly beginning to change. As I submitted some of my first grants it became apparent that the tides were shifting, with government agencies like the NIH being much less receptive to funding basic research in the arena of chemical synthesis. While the NSF certainly still funded such studies, the level of competition and the size of the pool of money awarded were so small that I could not rely on NSF funding to sustain a lab of more than one or two people.

This shift seemed bizarre considering the track record that chemical synthesis has had in the betterment of humankind. Countless life-saving medicines, agrochemicals, unprecedented materials, light-harvesting polymers, longer-lasting paints, rust-free cars – all of these things are possi-

ble because of advances in fundamental organic chemistry. It is a field that is both an art and a science, full of charm and wonder, with only the most rudimentary reactions being amenable to automation. Arguably, it is a quiet industry that makes modern-day life possible, yet it seems to be constantly questioned in terms of its inherent value. Among the myriad of comments I have heard about synthesis, the most consistent criticism is that it should be more interdisciplinary, diluted as to no longer be recognizable as a basic science but rather as a tool to help biology or physics. But that analysis is deeply flawed. It erroneously assumes we can do whatever we want in chemical terms, convert any molecule into any other material efficiently, on scale, and in environmentally benign ways. For some strange reason, despite the overwhelming case for societal support of chemical synthesis, the writing was on the wall that funding this area of inquiry would only continue to diminish.

That brings me to Elon Musk and SpaceX. Its self-described mission is simply to occupy Mars, turning the human race into a species capable of interplanetary colonization. What an awesome mission. Elon Musk felt the need to start this company in 2002 when he noticed that NASA had no realistic plans to achieve this objective, because it too was the subject of significant budgetary cuts and a focus on short-term, winnable goals. In fact, humans' ability to go to space had not evolved much beyond our brief explorations of the Moon, and advances in rocket technology stagnated several decades ago. What has happened?

I believe society simply has lost its appetite and passion for investments in space travel even though such endeavors have led to a multitude of useful inventions and taught us countless lessons. With so many other hot political issues these days, it would be challenging, to say the least, to ask taxpayers to spend billions on the seemingly fundamental goal of setting up what some might consider to be a campground on Mars. So Mr. Musk's brilliant idea, something we can all learn from, was to fund this very fundamental mission by having the private sector pay for the underlying science and engineering needed to get there. By inventing reusable rockets and decreasing the cost of launching satellites, SpaceX could one day dominate the market and even invent new markets. The profits from that endeavor, likely coupled with NASA contracts when the risk seems much lower, will one day allow humans to set foot on Mars.

A tiny version of this strategy has been our laboratory's inspiration over the past decade. One of our scientific missions has been to invent practical routes, through a process known as total synthesis, to generate some of nature's most complex and medicinally important natural products, such as the famous anti-cancer terpene, Taxol, in a laboratory setting. Once a billion dollar drug, this natural product is now made through plant cell fermentation in metric ton quantities every year. Meanwhile, hundreds of chemists labored in a style reminiscent of the Manhattan Project to create a few milligrams of synthetic material in the 1990s. That accounts for a roughly 10^8 difference in throughput, and in my view, an awesome opportunity for innovation. Like going to Mars, such a mission can be hard to fund when a long-term vision is needed, so we turned to the private sector. Teaming up with a large pharmaceutical company, we developed some of the underlying techniques and mission plan we would later need for Taxol by targeting other bioactive terpene natural products that were of interest to them. The graduate students involved in the project were energized to be working on fundamental science with immediate commercialization potential, and the company was thrilled to have a solution to its problem. We are not finished with Taxol; not even close. But by partnering with the private sector, we are light-years closer to our goal than had we relied solely on public funding.

Ladies and gentleman, society's message to scientists is clear: simple curiosity is insufficient justification for our research. Scientists are great at thumping our chests and getting on our soap boxes about the importance of fundamental research. And, we are right. The problem is that nobody is listening. The average taxpayer has no idea what we do and the long-term benefits of basic science. Arguably, the public is more interested in the air pressure of a football than the atmospheric pressure on Mars. Moving forward, in addition to making the most of precious public funding and occasional philanthropy, perhaps we should follow Mr. Musk's lead and turn to the private sector to help fund our own missions to Mars.

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Patricia Smith Churchland

Patricia Smith Churchland is Professor of Philosophy Emerita at the University of California, San Diego and adjunct Professor at the Salk Institute for Biological Studies. She was elected a Fellow of the American Academy of Arts and Sciences in 2015.

As a science, neurobiology can help us understand why we tend to have a moral conscience, but neuroscience *per se* does not adjudicate specific rules or laws that make up the superstructure on the neurobiological platform. For that, we, as a collective, still need negotiation, compromise, good sense, and practical wisdom.

I am truly honored to be here, on this colorful fall day in Boston. I am particularly honored to be speaking as a biologist on behalf of Class II, the Biological Sciences. My credentials, I must confess, are a bit unorthodox; some might say they are "turncoat" credentials, since my graduate training and my paying job were actually in philosophy – philosophy of mind, more exactly. But my passion for understanding the mind was channeled in a scientific direction as it became ever more apparent that if you want to understand the mind you have to understand the brain. Observing behavior and making concepts clear, though certainly helpful, is insufficient. Among the major inspirations was the split-brain research, showing that one hemisphere could be aware of things of which the other hemisphere had no clue. That consciousness could be split by surgically separating the hemispheres was a totally unexpected and completely stunning result. Dualists everywhere shuddered in their boots.

The ancient problems that have vexed philosophers – how do we know things about the world, how do we make decisions, where do values come from, how does consciousness emerge – are fundamentally problems about mechanism: about how the nervous system is organized to perform these functions. Unlike David Hume in the eighteenth century, I was lucky to be alive when neuroscience was on the brink of catching a monumental wave. By the early 1970s, the developing techniques and methods in neuroscience lent promise to the apparently far-fetched idea that progress can be made on the nature of brain mechanisms for higher functions – memory and learning, decision-making and choice, sleep and consciousness. Skeptics abound, of course, especially in philosophy, but grand predictions of failure have tended to be scaled back to quiet mutterings. Neurophilosophy is thus at the interface of traditional philosophy on the one hand and neuroscience on the other, linking also to genetics, experimental psychology, anthropology, and ethology.

In this context I want to mention a discovery-constellation that stands out as having unexpected relevance to philosophy, and to moral philosophy in particular. The immediate relevance is to Socrates' abiding question: where do moral values come from?

Let me give the background first. Surprisingly, the evolutionary development that led to mammalian and bird styles of sociality, including what we might call morality, was all about food – not about altruism *per se*. When warm-blooded animals first appeared, they enjoyed a masterful advantage over their cold-blooded competitors: they could forage at night when the warmth of the sun was absent, perhaps even feeding *on* sluggish cold-blooded reptiles awaiting the sun's warmth to get them going. A disadvantage had to be overcome: gram for gram, the warm-blooded creature has to eat ten times as much. Changes accordingly emerged in body and brain of the warm-blooded to enhance survival: females produced fewer offspring, and the offspring were prodigious learners. Scaling up learning was accomplished by arranging for infants to be born with highly immature brains. After birth, these learning-ready brains could tune themselves up to whatever causal circumstance they happened to be born into. This essentially involved extending on a grand scale existing mechanisms for learning. As a strategy, this was a game-changer, and it depended on a massive supply of highly organized nerve cells. Thus gene modification produced the neocortex, a kind of soft-tissue computer in birds and mammals that overlies and con-

nects with the ancient structures embodying motivation, drives, and emotions.

The downside of this strategy for expanding cleverness is that infant mammals are pitifully dependent and easy prey. The solution to their survival? Rig it so that a mature animal cares for the infants until independence. Changing maternal brains to be caring brains was easy. Essentially, self-survival mechanisms were modified so that the ambit of *me* extended to *me-and-mine*. Just as the mature rat is wired to care for her own food and safety, so she is wired to care for the food and safety of her pups. Both mother and babies feel pain when separated and pleasure when reunited. They are bonded, and the bonding is embodied in neural circuitry. Is the love we feel real? Yes, indeed. It is as real as anything the brain does, such as remembering where home is, seeing the moon, or deciding to hide rather than run.

With related genetic changes, mates, kin, friends, and sometimes strangers came to be embraced in the sphere of *me-ness*; we nurture them, fight off threats to them, keep them safe. My brain knows these others are not *me*, but if I am attached to them, their plight fires up caring circuitry, motivating me to incur a cost to benefit the other.

Oxytocin, the ancient body-and-brain molecule, is at the hub of the intricate neural adaptations sustaining mammalian sociality. The fountainhead discovery was that injecting oxytocin into the brain of a virgin sheep brings on full maternal behavior – nudging a lamb to suckle, huddling over the lamb, and so forth. In some species, oxytocin injected into the brain of a male will also bring on species-typical fathering behavior. Not acting alone, oxytocin works with the opioids our brains manufacture, as well as with other hormones and signaling neurochemicals. Among its many roles, oxytocin decreases the stress response, making possible the friendly, trusting interactions typical of life in social mammals. I can let my guard down when I know I am among trusted family and friends.

Although the strong similarities of all mammalian brains invites the conjecture that much of this story holds for humans, I should interject here that much less is known about oxytocin's role in the human brain than in the nonhuman brain. One problem has been to find ethically acceptable and experimentally meaningful ways to administer oxytocin. Unlike, say cocaine, which you can sniff up the nose and which readily crosses the blood-brain barrier, oxytocin does not readily cross and it denatures very quickly.

The ancient problems that have vexed philosophers – how do we know things about the world, how do we make decisions, where do values come from, how does consciousness emerge – are fundamentally problems about mechanism: about how the nervous system is organized to perform these functions.

What of norms and rules, which are endemic to human morality? Other modifications to the ancient brain structures facilitate internalizing the social practices of the group. The center of this part of the story is the mammalian reward system, a system integrating the old basal ganglia with the new frontal cortex. As with evolutionarily older animals, the basal ganglia allow mammals to develop habits and skills that enhance their ability to compete. In mammals, some of these habits and skills structure *social* interactions with the upshot that certain plans are inhibited and other plans are put into action despite a cost. Generally, approval for an action is rewarding and feels good, whereas disapproval feels bad. We pick up appropriate social behavior by imitating, sometimes quite unconsciously, our siblings and parents, thereby facilitating social harmony. As conditions change, solutions to social dilemmas may also change, and problem solving kicks in.

Something like a conscience about what is right and what is wrong emerges in the developing animal as its brain internalizes social norms and solves social problems.

In closing, may I emphasize that these neurobiological developments clarify the platform, and *only* the platform, for human morality. They help us understand how it is that we are social animals. As a science, neurobiology can help us understand why we tend to have a moral conscience, but neuroscience *per se* does not adjudicate specific rules or laws that make up the superstructure on the neurobiological platform. For that, we, as a collective, still need negotiation, compromise, good sense, and practical wisdom.

Roland G. Fryer, Jr.

Roland G. Fryer, Jr. is the Henry Lee Professor of Economics at Harvard University and faculty director of the Education Innovation Laboratory. He was elected a Fellow of the American Academy of Arts and Sciences in 2015.

What we have done over the last few years, broadly in education and sociology and some in economics, is to try to understand what makes some models of educational production enormously efficient while others are not. And one of the great laboratories we use to do that is charter schools.

I am deeply grateful to be here today. It is particularly special for me to be among so many great social scientists, many of whom were at the University of Chicago around the same time as I was. The University of Chicago is a special place for me, because it was the first institution that treated economics like a full contact sport. I can remember – it was 15 years ago – when I was convinced that discrimination was running rampant in America and it was the cause for racial inequality in the country. I was in a 16-by-16 room on 62nd and Cottage Grove in Chicago. (I ended up there because I called the financial aid office and said, "I don't have any money, and I don't care about crime, so where do you think I should live?") I had my Compaq laptop. It was a Thursday night, and we had Monday off because it was a holiday weekend, and I was going to destroy a paper by Derek Neal and Bill Johnson, which basically said that discrimination is a second order, not a first order, problem for racial inequality in labor markets. I thought their results were completely crazy. I grew up in the South, and their assertion just didn't seem possible. During that weekend, I learned the promise and the brilliance of social science as a way of using data to drive our decisions, and not just our anecdotes and our personal experience. I sat down with the data: 12,686 individuals from the National Longitudinal Survey of Youth, and damn it, they were right. I called my grandmother, who raised me, and I said, "Grandma, there's just no way. I mean there's just got to be discrimination in the world, but I looked at the data myself, and it's not there. It's not as important as we thought." And she said to me, "Honey, I can just tell someone's racist by looking at them." I said, "Grandma, I wouldn't go that far. I'm with you, but I don't know about that."

I really don't have big thoughts about how social science can help shape America, but I will tell you a little bit about what we as social scientists, and particularly in economics, have been doing in terms of race over the last 15 years. What that paper showed and what I was trying to debunk is as follows: among full-time workers, there is a 30 percent difference between blacks and whites when you look at wages and a 190 percent difference if you look at employment. And so the question is: is that 30 percent because people are coming to the market with the same set of skills, and the market is pricing those skills differently (which would be discrimination)? Or are people coming to the market with different sets of skills? What my good friends Derek Neal and Bill Johnson at the University of Virginia showed was that for the most part, people were coming to the market with different skills. Now it didn't completely eliminate discrimination, but they thought it was a second order, not a first order, problem when it came to labor market inequality in America. And that was a big deal for me. The question then became: how do you ensure that kids who grow up in different zip codes will get to the market with the same amount of skill?

As befits an economist who was 27 when he had this idea, I was quite arrogant, and I thought this was so easy. All we have to do is pay kids to do well in school. If we change their incentives, we will change their behavior. We raised $10 million and conducted randomized field trials with different incentive plans in 4 cities, 250 schools, and 20,000 children. In the end, the results were just okay. The real surprise was how angry people were that I would even suggest paying kids for performance.

In fact, not only did those experiments not turn out as I thought they would, I tried a similar experiment two weeks ago on my daughter, who is two-and-a-half. My wife, who is a mathematician, came to me and said, "Sweetie, I just can't get Eleanor to use the potty. She's two-and-a-half. We

have to figure this out." I said, "Look, I'm the economist," and so I bought the fancy Elmo potty and I put it in the bathroom. I went to my daughter with a handful of candies, and I said, "Sweetie, you'll get a candy if you go to the restroom in that potty right over there." She said, "I get one candy, Daddy, if I go there?" "One candy." "Every time I go?" "Every time you go." So 20 minutes later, she went over, and she went to the bathroom. She started, she finished, and she looked at me, and I looked at my wife, and I said, "The academy got that right, didn't they?" And I was amazed. I thought wow, look at the power of economics, look at the power of incentives; I can't believe my other experiments didn't work. And about 20 minutes later, she said, "Daddy, do I still get the candy?" I said, "Yes, you do." She went back over, she squeezed out what could possibly be about a teaspoon, she came back, she got the candy, she went back over, squeezed out another teaspoon, came back, got the candy, she went back. I said, this is terrible, no wonder those experiments didn't work.

What we have done over the last few years, broadly in education and sociology and some in economics, is to try to understand what makes some models of educational production enormously efficient while others are not. And one of the great laboratories we use to do that is charter schools. The average charter school is no better than the average public school, but there is a distribution. There are some on the right that are doing phenomenal things in some of the most impoverished areas in America. There are some on the left of the distribution that should be closed immediately. And what is cool about them is that they allow you to look at the natural variation that exists in those schools, and try to link that with achievement. So just imagine the following equation: on the left-hand side, you have randomized lotteries, so you have treatment effects. You have a hundred numbers that tell you the value of each school. On the right-hand side, myself and others have gone in and collected thousands of data points on how schools operate, trying to really estimate the education production function. What we found was that there were essentially five variables that explained 50 percent of the variance of what makes some schools good, and other schools not so good. I told you I was raised by my grandmother; she's a wonderful woman. I always wanted to impress my grandmother, and I never quite got there. She just didn't understand what this Harvard thing was about. She would ask me, "What do you do honey?" I would answer, "Well, I teach." "How often do you teach?" "A couple of classes a year." She said, "Honey, that ain't teaching." And so I thought for sure at this point I would really impress my grandmother, and so I said to her, "Look, I know you've been a teacher for 37 years, but I think we just figured out what makes some schools good and other schools not so good." And so she asked me to tell her what those things are. I told her about the five variables that we had found. And I'll just give you an exact quote. She said – forgive her, she's passed on now, but she was an old Southern woman – "Baby, they pay you for that shit?" "No, grandmother, not that much actually."

What was interesting was that we took those five variables and we injected them in a randomized control trial in Houston, Texas. It involved taking 20 randomly picked schools, and removing the principals, removing 60 percent of the teachers, lengthening the school day, lengthening the school year, bringing in data systems, and trying to set high expectations for kids who were in some of the worst performing schools not only in Houston, but in the country. In three years, the elementary schools were able to close the achievement gap; for the middle schools, it would take roughly five years. What it told us, and the reason it gave us some hope, was that it helped us understand that poverty is not destiny.

One of the things that really frustrated me, to be very frank about it, when I arrived here at Harvard in 2003, was that people would say not just that you come from public schools, but that you come from *poor* public schools. We would frankly make ourselves feel better because we would say it's possible. Yes, it's possible. But it's not probable. For a lot of the kids that I grew up with, and a lot of kids that I see in schools in places like Houston, Denver, Dallas, Washington, D.C., Chicago, and everywhere I go, it is possible. But it's not probable. And that is where we need social science. I really believe in the power of social science to make people's lives better. I have seen it happen in schools across the country. Our incentive experiment didn't work, but we distributed $10 million to twenty thousand kids across the country. I really believe in the power of what we do to make individuals' lives better, because of our discipline, because of the data. We really have an opportunity, and what better time to do it than now?

I believe in the power of social science to make people's lives better. I have seen it happen in schools across the country. We really have an opportunity, and what better time to do it than now?

Let's talk about police use of force. This is something I have become obsessed with lately. Here we need data more than ever. In education the data exists. If you want to get

data from police, it is much more difficult. And, even when you get it – it comes in long narrative accounts of police-civilian interactions. So, you have to use some of the data techniques that my friend Matthew Gentzkow uses because the data are not in a usable format. I embedded myself this past summer in the Camden Police Department for three days. I went in a patrol car, responded to 911 calls. I have to admit, just like my beliefs about discrimination, I was wrong. I went in thinking the police should not be shooting anyone. I left thinking this is a very different set of situations than I originally thought. We have used this experience to free the data. And, simultaneously, there are police data initiatives across the country that are collecting data on police use of force, police shootings, and police arrests. This is precisely the type of thing that social science can shed light on. We need it. There are kids in communities like mine and others who need our help. And of course, governments can help, and philanthropists can help, but as I said before, I truly believe in the power of social science to make individuals' lives better. It has made my life better, and it has done a lot for people not only in America, but around the world. And so today, I am deeply appreciative of this honor to be inducted into the American Academy of Arts and Sciences. I never would have dreamed 20 years ago, debating with my grandmother about the causes of racial inequality in America on the plastic-covered furniture in her living room, that this was possible.

Sally Haslanger

Sally Haslanger is Ford Professor of Philosophy in the Department of Linguistics and Philosophy at the Massachusetts Institute of Technology and an affiliate in the MIT Women's and Gender Studies Program. She was elected a Fellow of the American Academy of Arts and Sciences in 2015.

It is a great honor to be here and to be invited to speak. I come before you as a philosopher. That, in itself, is a source of great pride for me, for women have rarely been allowed the title of "philosopher" in the history of Western philosophy. The inclusion of women and members of other marginalized groups remains a struggle in the discipline.

Let me offer some examples. The best data we have suggest that there are approximately 13,000 academic philosophers in the United States, including graduate students and independent scholars. Of these, 156 are Black, and 55 of them are Black women. Of the 10,000 employed philosophy faculty, we think that roughly 17 percent are women in tenured or tenure track positions, and fewer than 30 are Black women. These numbers are staggeringly low and, aside from physics, are plausibly the lowest in the academy. There are problems across the board, but philosophy is an outlier.

I believe that these low numbers indicate that the academic world is not a genuine meritocracy. But I'm not going to talk about that. (I hope that is sufficiently obvious.) I am going to talk about diversity. I know that for many, this is a very tired topic. But I'm hoping that it will enable us to reflect on our collective efforts to understand ourselves and the world, and philosophy's place in it.

It is striking that diversity is a problem in philosophy because philosophy is a discipline within the humanities. It is striking for two reasons. First, most of the humanities recognized the importance of inclusion decades ago: women, the working class, people of color, and those from other nations and speaking other languages have authored brilliant works, have created cultures within and intertwined with ours. Interdisciplinary work, for example, in women's and gender studies, African American studies, LGBT studies, disability studies, and other area studies, has engaged the disciplines to transform their methodologies and disrupt their canons. This has prompted a glorious expansion of inquiry in the arts and humanities, full of energy and creativity. Philosophy is so far behind. Why have we not been part of this?

Second, philosophy's mandate is to offer tools of thought, to reflect on the nature of being, knowledge, language, justice, goodness, and beauty. As a humanistic discipline, we seek (cultural) self-understanding, but in philosophy we also undertake normative inquiry into how we *ought* to think and live. How can we plausibly undertake this by consulting only (or mostly) the introspections of a few, especially when the few are those who are in every way culturally privileged? Who, upon reflection, would trust the introspections of any dominant group as a basis for inquiry into how we ought to understand and organize ourselves? The

problem is that knowers are socially situated and, as such, are vulnerable to epistemic bias. Conversations with the like-minded are not a reliable way to discover or correct for such bias.

One explanation of these two striking features is that philosophy's domain of inquiry is not the actual, but *the ideal*. Philosophers are not concerned with the messy practices of knowledge production, but with the criteria for knowledge. We are well aware that our world is ridden with injustice, but to address this issue we seek to know what justice is. Inquiry into the ideal depends on our capacity to abstract away from our particular circumstances, to set aside partial and parochial assumptions. If we are capable of this abstraction – and exercises to develop this ability are a crucial part of philosophical training – then diversity looks much less important. We are social beings, but social beings capable of recognizing ourselves as such, and taking that into account.

Abstraction is at the core of any systematic inquiry and it is crucial to our ability to live together. How would we manage if we couldn't abstract from our own particular experience in order to find common ground with others?

Such a defense of philosophy's persistent social homogeneity may seem hopelessly naive. But it points to something important. I grant we should resist the epistemic goal of "aperspectivity," a view from nowhere. I am unwilling, however, to reject the possibility of inquiry that abstracts from our individual social positions. Abstraction is at the core of any systematic inquiry. No adequate theory is a report of little fact after little fact. And abstraction is crucial to our ability to live together. How would we manage if we couldn't abstract from our own particular experience in order to find common ground with others? Acknowledging the situatedness of inquiry does not leave us with only interesting observations from different vantage points.

Abstraction is too thin a characterization of what is really at stake, however. I may be able to abstract from my actual experience of lunch to consider lunch in general; lunch need not be soup or salad at midday, after all. But mere abstraction does not generate awareness of the full range of possibilities. I do not learn from abstraction that for some lunch consists of mealworms or grasshoppers. Others unlike us are an important source of information: grasshoppers are not only edible, but eaten, even enjoyed! The value of such information should not be downplayed. How and what we abstract *from* allows us to extend the range of our theory. But more importantly, it generates new questions: Why are they eating grasshoppers? Are grasshoppers nutritious? Why don't *we* eat grasshoppers? How do they catch the grasshoppers? Who does the catching?

Notice that these questions are not only about the information we have gained, but are also about *us*: Why don't *we* eat grasshoppers? Taking difference seriously offers a glimmer of perspective on us. This is a moment of critical reflection. And critical reflection is at the heart of any search for knowledge. I have chosen an example of a social practice: lunch. But even if our inquiry is about tectonic plates or nanoparticles, an encounter with something radically new prompts the question: why didn't we see this before? What else are we missing? How can we improve our practices of inquiry to avoid missing things like this again? These too are questions *about us* and offer opportunities for self-criticism.

So far I have suggested that although all knowers are situated, we need not be trapped in our parochial perspectives. We can abstract from what information is available to us; we can trust the testimony of others to gain new information; we can critically reflect on what we ask and how we process information. And at each stage, we benefit from serious engagement with others whose epistemic position is different from ours. The expansion of the arts and humanities demonstrates how much was neglected and how much more there is to know. Philosophy's lack of diversity is not only an injustice; it makes our work less credible. But it is easy to become complacent, even in the arts and humanities. Disciplines can incorporate new areas of research without achieving a critical stance.

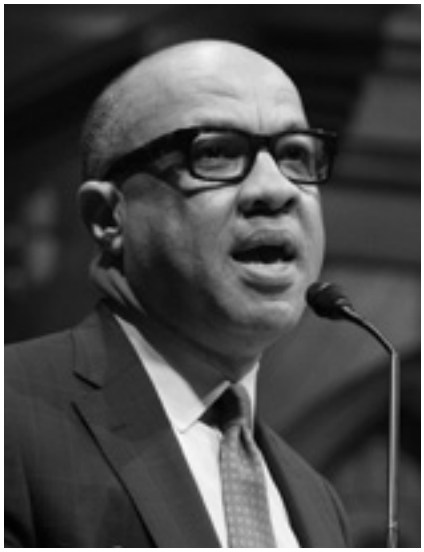
In women's studies we describe a certain inadequate approach to diversity: Add women and stir. (This extends also to other groups.) Don't get me wrong. This can be a huge achievement. But adding spice to a recipe is not the same as asking: Why are we cooking this dish? How did we get these ingredients? Who is going hungry? Part of the value of diversity in the academy is this self-reflective, *critical* move. Feminist theorists have asked why economists and historians ignored women's work in the home; critical race theorists have asked why Black voices were not included in the canons of literature and philosophy. Of course, theory is inevitably selective. Attending to neglected phenomena is a first step. But critical inquiry poses a further reflective question: what is being revealed and what occluded by our methods? What matters, and why? What questions should we really be asking?

When norms conflict, how do we choose between them? What counts as bias? What are the right criteria for knowledge?

Critical reflection is importantly value-laden. When I ask why we don't eat grasshoppers, I am not just looking for a sociological or anthropological explanation. I am also raising the possibility: Should we eat grasshoppers too? Diverse inquirers are in a position to challenge us: from their social position, different phenomena matter, different questions are pressing. (One doesn't need to be trained in a discipline to pose these challenges.) Being seriously confronted with another way of doing things, guided by different norms – whether in cuisine or inquiry – causes my own norms to be challenged. In order to gain the benefits of critical reflection, I must step back from my practices and engage in normative inquiry: how *should* we proceed? Is there a better way?

This takes us back to the philosophical questions: when norms conflict, how do we choose between them? What counts as bias? What are the right criteria for knowledge? I have argued that to answer these questions, diversity matters: having many diverse sources of information is good. Critical reflection prompted by exposure to unimagined alternatives is good. We must rely on others to challenge us, hold us accountable, and expand the possibilities worth considering. But this doesn't give us answers.

Of course, I can't answer the normative questions for you. Not because value is subjective and each of us must answer for ourselves. Rather, normative questions concern how *we* should organize ourselves to achieve *our* legitimate ends, be they truth or nutrition. This is not something that can be discovered individually or a priori. I cannot say how *we* should proceed and neither can you, only *we* can do that together. This is an essentially collective enterprise. We might each start by inviting someone who seriously challenges us and our ways of doing things, perhaps someone from a marginalized group, to have lunch. (Don't assume that grasshoppers taste like chicken!) Ask them what matters to them, and why. Listen to them as if you have something to learn from them, because you do.



Darren Walker

Darren Walker is President of the Ford Foundation. He was elected a Fellow of the American Academy of Arts and Sciences in 2015.

Across the country and around the world, we face a crisis of inequality – what I consider the existential threat of our time. Inequality – in all its forms: economic, social, political, racial, gender – compounds upon itself. Because of widening gaps, more people are slipping through the cracks, falling further and further behind.

Good afternoon. I would like to thank my friends, Jonathan Fanton and Don Randel. And as the expression goes, I would like to thank the academy!

I am humbled and honored to join you, and to accept your induction into the venerated ranks of the American Academy of Arts and Sciences. I must say, this is a moment made all the more humbling by dint of the distinguished colleagues and friends with whom I share this day: my fellow inductees.

My journey to this hallowed hall began in a small, segregated Louisiana town – fifty-some years ago – where I was born in a charity hospital to a single mother. As I got older, my mother realized that a community poisoned by poverty and prejudice was not a place of opportunity for my sister and me. So, we moved to Texas – to Ames, population 1,400 – where we had family.

We lived in a narrow, shotgun house. My mom studied to become a nurse's assistant, a job she worked with pride and dignity for decades. We didn't have a lot. But we had enough.

I was in the inaugural Head Start program. I attended public schools, including the University of Texas, where I received scholarships endowed by wealthy, generous Texans – along with Pell Grants financed by the American people. The entire time I felt like everyone – my state, my country – was cheering me on.

After law school, I moved to New York, where I worked at a law firm, then an investment bank. I led a community organization in Harlem. And after many years working in community development, I joined the Rockefeller Foundation, then the Ford Foundation – the institution that I am now privileged to serve.

Now, I share all of this not because I am special. I share this because it shows how America is special.

And while it is true that we have our share of problems, for much of my lifetime, America's social-mobility escalator has been moving, lifting people as high as their hard work and talent will take them.

But, today, that escalator is slowing to a crawl. For some, it has stopped completely. What does this say about America's future?

I worry and despair that in the years ahead stories like mine will be far less likely. And the reason, in a word, is inequality.

Across the country and around the world, we face a crisis of inequality – what I consider the existential threat of our time. Inequality – in all its forms: economic, social, political, racial, gender – compounds upon itself. Because of widening gaps, more people are slipping through the cracks, falling further and further behind.

We have seen the manifestations of inequality all across our society – whether you are looking at overrepresented populations in our jails and prisons, or underrepresented ones in our boardrooms and C-suites. We have read about it in the opinion pages and in best-selling books. We have felt its asphyxiating effect on our democracy.

I am deeply unsettled – deeply troubled – by all of this. I am unsettled because I was visiting with a prominent university president recently who voiced appreciation for an essay I wrote on inequality. I suggested that it would be helpful for him to also write and speak about inequality, and he replied that he couldn't risk offending his rich trustees and donors.

So, it is unsettling when leaders of institutions of higher education – which undergird our democratic society – censor themselves on justice and fairness because they are afraid of offending the privileged.

And as someone who benefits from great privilege – in a room replete with people who have benefited from great privilege – I think about my obligations to earn this privilege; to interrogate my own privilege; and to ask myself: how do I use my privilege as a tool to

address, rather than compound, the inequality which makes my privilege possible.

Of course, this obligation is not new. A century and a quarter ago, the industrialist Andrew Carnegie found himself the beneficiary of the American dream. This son of poor immigrants had risen to become one of the wealthiest men in the world.

In 1889, Carnegie reflected on these things in an essay we now refer to as the Gospel of Wealth. He wrote, "Rich men should be thankful for one inestimable boon. They have it in their power" to organize "benefactions from which the masses of their fellows will derive lasting advantage, and thus dignify their own lives."

While it is true that we have our share of problems, for much of my lifetime, America's social-mobility escalator has been moving, lifting people as high as their hard work and talent will take them. But, today, that escalator is slowing to a crawl. For some, it has stopped completely. What does this say about America's future?

It is worth remembering, too, that Carnegie articulated his philosophy during a time when inequality had reached unprecedented levels in the United States. And in our own era of rising inequality, we must openly acknowledge – and confront – a tension inherent in our economic, political, and social systems.

This tension is plain to see: Our systems in America perpetuate vast differences in privilege, and then task the privileged – all of us – with improving the systems that benefit us.

As a foundation president, my thinking on this issue has been shaped by Dr. Martin Luther King, Jr. About philanthropy he wrote, "Philanthropy is commendable. . . . But it must not cause the philanthropist to overlook the circumstances of economic injustice which make philanthropy necessary."

To me, Dr. King's words are my North Star – a guiding light. He challenges us to assess and address underlying structures and systems, to uproot the root causes of suffering and injustice, to not "overlook the circumstances" that make our work necessary, all with a love of country that is unwavering and unstinting.

I am an optimist because of institutions like the Academy that oxygenate our democracy. For one thing, we know so much more than we did 125 years ago. We have so much knowledge – in part because of the work of this Academy – and this knowledge compels and directs our action.

All of my life, I have benefited from – and learned from – the generosity of privileged people who understood their obligations and the pressure that comes with their privilege.

It will take all of us embodying this spirit – actively working, attentively questioning – to address the fundamental barriers to opportunity for too many Americans. It will take all of us remembering that our greatest privilege – our "inestimable boon" – is our opportunity to repair our nation's fabric in the service of human dignity and justice for all.

This is the work of our generation. And I am proud to be on the journey with so many of you, members of the American Academy of Arts and Sciences. ■

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