The New American University

An Interview with Michael Crow, President, Arizona State University

EDITORS' NOTE *Michael Crow continues to lead Arizona State University, one of the country's largest universities, in a wholesale transformation, including one of the largest and best online education programs in the nation. Crow, the former chief strategist of Columbia University's research enterprise, became the president of ASU in 2002. He brought with him a vision for designing a new kind of university – one capable of simultaneously providing broad access and comprehensive excellence – a goal which many said was impossible.*

Michael Crow

Over the next two decades, Crow drew from his experience as a student, professor, science and technology policy expert and higher education leader to guide a culture shift that has rapidly reinvented ASU as a model 21st century university. Through his leadership and the efforts of the university community, ASU has been recognized as "#1 in the U.S. for innovation" for eight consecutive years. ASU was also the inaugural recipient of the American Council on Education Award for Institutional Transformation, and in 2010, TIME *magazine named Crow one of America's "10 Best College Presidents."*

In his former role as Executive Vice Provost at Columbia, Crow led technology and innovation transfer operations, established Columbia Innovation Enterprises (subsequently renamed Science and Technology Ventures), the Columbia Strategic Initiative Program, and the Columbia Digital Media Initiative, while advancing new interdisciplinary programs. He led the creation of and served as founding director of Columbia's Earth Institute, and in 1998, founded the Center for Science, Policy, and Outcomes (CSPO) in Washington, D.C., a consortium of scholars and policymakers dedicated to linking science and technology to optimal social, economic, and environmental outcomes. In 2003, CSPO reemerged at ASU as the Consortium for Science, Policy, and Outcomes, based in both Phoenix and Washington, DC.

Crow has advised the U.S. Departments of State, Commerce, and Energy, as well as defense and intelligence agencies. He serves as Chairman of the Board for In-QTel, and has counseled several nation-states on matters of knowledge enterprise development. An elected fellow of the American Association for the Advancement of Science, the National Academy of Public Administration, and the American Academy of Arts and Sciences,

Crow is the author of books and articles analyzing knowledge enterprises, science and technology policy, and the design of higher education institutions and systems. He coauthored Designing the New American University, *outlining the imperative for new and creative public university models that advance both academic excellence and broad accessibility, and* The Fifth Wave: The Evolution of American Higher Education, *which introduces a new class of large-scale public universities capable of educating greater numbers of qualified students and accelerating positive social change.*

A member of the U.S. Council on Competitiveness and the Council on Foreign Relations, Crow is also a two-term member of the National Advisory Council on Innovation and Entrepreneurship and has served on the U.S. Department of Homeland Security Academic Advisory Council. Crow graduated from Iowa State University and earned his PhD in Public Administration (Science and Technology Policy) from the Maxwell School of Citizenship and Public Affairs, Syracuse University.

You left Columbia University to lead Arizona State University more than 20 years ago. What excited you about the opportunity and made you feel it was the right fit?

Columbia, of course, was and is a tremendous teaching, learning, and discovery institution of the highest order. But being in New York City at Columbia, I saw the intense need for an institution deeply focused on research and access. Having gone to both a public university and a private university, I was broadly experienced in how different universities worked. I was acutely aware of the fact that universities were, in spite of all of their achievements, poorly designed for the kinds of transdisciplinary research that would be necessary to tackle challenges like sustainability and global climate change. They were also very difficult to scale across the broad spectrum of learners that actually exist in the population.

A number of authors then were exploring why universities couldn't do more for our society. Frank Rhodes wrote a book called *The Creation of the Future*, about what we needed to do to lay down tracks for the future that our democracy really needed to achieve and how universities like Cornell, where Frank had been president for many years, were only able to do so much with the model that they had. Another writer at the time, University of Michigan President Jim Duderstadt, laid out the concept of the university for the 21st century.

In all of these conceptualizations, it all came down to design. So when thinking about where one might help design a new kind of American university, I thought about three places where one could possibly do this. One was metro Seattle in Washington state, owing to the highly innovative nature of the local culture in Seattle which led to the creation of lots of different companies – Amazon, Starbucks, Microsoft, Boeing, Costco, and so on. The second place was the Front Range of Colorado, which in the literature is identified as a large source of public and democratic innovations that have then swept across the country. The third place was Arizona State University. I thought of Arizona because of its newness, its deep commitment to entrepreneurial thinking, and its openness to new ideas and new people – all of which I had some understanding of, having been a consultant here for a while.

Initially, none of those jobs were open, but then Arizona State came open and I was selected. They were looking for innovation, so I had a real opportunity here to build a new kind of American university. ASU was the place I could make it work.

What have been the keys to ASU's leadership and how do you describe the ASU difference?

I think ASU has separated itself by allowing cultural change to occur. We have been transformed from a faculty-centric institution to a student-centric institution – that is, the purpose of the institution is to serve the student and to enhance outcomes in the community, not just to provide a place for the faculty to be great academics, or scientists, or creators.

The second key has been a willingness to have leadership help set the design parameters for the culture change to become specified. To that end, we derived a three-part charter: that the university will measure its success based on who we include, versus who we exclude, and how they succeed; that we will measure our success from our research based on the benefit to the public – have we made the place better, have we made it more sustainable, have we made it more equitable; and lastly, have we designed the institution so that we are taking responsibility for the outcomes of the communities that we serve?

The interesting thing, in terms of the keys to ASU's leadership, has been this openness to the transformation of the objective function of

the institution. That openness has led to a number of new and differentiated innovations. We are willing to be self-aware, to vary from the norm, to differentiate, to focus on excellence across a very broad spectrum of activities, and to accept technology as a way to enhance the academic process. As an example, we have five times as many graduates as we used to have. We have what must be 30 times the number of learners that we used to have if you total them all up, including people not involved in degree programs. We've grown engineering from 6,000 students to 30,000 students over the last decade. We've doubled the four-year graduation rate. We've expanded the diversity of the institution. We've increased sevenfold our research expenditures and our research portfolio. We've done all of that because we've embraced technology, embedded technology, and built a culture of continuous innovation.

Universities are, at their heart, knowledge-seeking organizations, and we're no different in that regard. We live by the 2,500-year-old sort of models of Plato's Academy and the precursors to that Academy, centered on free and open discourse. We have practiced and maintained all of those things. I think the difference is our acceptance of that, while at the same time being willing to innovate. How do you protect academic freedom while still enhancing performance and productivity? How do you build a student body which is as diverse as the population? How do you take students from every family background – from rural Native American communities with no electricity and no water to rich suburbanite kids – bring them all into the same institution, and have them succeed? Those things are all a part of this difference.

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So the institution is different by design. It's different in its culture, and different in the rate, speed, trajectory, and integration of technology into the innovation process.

Will you discuss ASU's transformation journey?

All universities and colleges have their complicated creation stories. In the case of ASU, we were created in the mid-1880s as a territorial teachers academy. Our assignment at the time was to produce teachers for this pioneer region, which was not yet a state – that didn't occur until 1912. We continued in that role through many iterations until the late 1950s and early 1960s, when there was a move to create a second university in Arizona. That move had been resisted to that point out of political fears and economic funding fears for the university model. But around 1960, by public plebiscite, Arizona State University was voted into existence by the people of Arizona.

What's really important about that, and what gave great license to our model as a New American University, was the vote by the people meant that it was an institution centered on and driven by the interests of the people. So the people of Arizona – over the head of the regents, over the head of the legislature, and over the head of the governor – said, "No, we're not going to keep Arizona State College as a teachers college. We're going to create a full-scale university."

The design of the university itself – namely, the maintenance of egalitarian admissions standards – was a major driver of our transformation. In that time, ASU had low graduation rates – with scarce resources, there were no technologies and very little training for the faculty – which eventually led some to label the institution as the world's largest party school. I don't know what that label meant or whether it was fair or not, but I do know that the university in that 20-year timeframe was really struggling to get going.

By 1980, as a part of its maturation process, the university started the process of building a research culture. This is very, very late; it would make us one of the youngest research universities in the world. It took ten years to get that design in place. Then in 1991, my predecessor, Lattie Coor, took on the process of designing the fundamental beginnings of ASU as a research university. In 1994, we became what's called a research one university, meaning we hit the threshold of the lowest level of research expenditures to be classified as a first-tier research university – basically yesterday in university parlance.

When I was appointed in 2002, I was allowed by the board that appointed me to outline the model for the New American University. I outlined eight design aspirations, including intellectual fusion, meaning we don't need to just build universities of the same intellectual design: we need new departments, new schools, and so forth. Another design aspiration was to value use-inspired scholarship. All that was doing was laying down track so that basic research would be not superior to, but equal to, use-inspired research in the culture of the university that we were designing. We presented this transformation process in the charter of the university, then these eight design aspirations – which in 20 years have grown to be nine – became the self-actualizing, aspirational goal of the institution.

This is a key part of the changing of the culture. Inclusion versus exclusion. Research that makes a difference for the people that we

Michael Crow poses for a selfie with ASU student leaders during a past Sun Devil Welcome celebration

serve. Taking responsibility for the communities that we serve. What that means is: let's say the K-12 system is underachieving, which it is. We're partially responsible for that. We may even be largely responsible for that and need to focus on it. If the local environment is not sustainable – which it isn't – then how do we take responsibility for that and see what we can do to enhance those outcomes? These are all a part of this transformation journey.

Beyond the charter, the design aspirations become, in a sense, the things that you want to make the institution unique. This is really important: the last thing the world needs is more universities that do the same thing. We need differentiation in design, differentiation in intellectual purpose.

To make all of that happen, the last part of our transformation journey was the design of a unique institution. We eliminated 85 schools, departments, and colleges. We created at least 35 new transdisciplinary schools – a School of Sustainability, a College of Global Futures, a School for Complex Adaptive Systems, a School of Human Evolution and Social Change. All of those new units contributed to the building of a new intellectual agenda.

I think along the way, while doing all of these things, we found a way to transform faculty from academic bureaucrats into academic architects – designing new programs and building many degree programs, rather than protecting a few degree programs. So the transformation journey has been one of faculty empowerment, cultural change, technological innovation, the design of new concepts for innovation, and then bringing all those things together to help this thing work.

How is ASU building the model for the 21st-century public research university?

The new model – what we call the fifth wave or the New American University – is a model for universities which builds upon the thousands of institutions that have been created in four previous waves of evolution.

Wave one was America's Greek academies – the colonial schools like Dartmouth, Columbia, or Princeton when they were narrower as colleges. Wave two was the late 18th and 19th century development of public colleges and universities. Wave three was the unique, American design of the land grant schools: UC Berkeley, University of Illinois, Cornell University, Michigan State, Purdue, Iowa State. Great schools like that all over the country, all designed to focus on American agricultural and industrial success, taking on students from the broadest set of families possible. Then the fourth wave, which is also uniquely American, was the design of the American research university, starting at Johns Hopkins in 1876 and moving on around 1890 to Stanford and the University of Chicago. When those three institutions got going, everybody else broke ranks. Harvard became a research university. Columbia became a research university. Princeton became a research university. Michigan, California, and other schools all became research universities. Around 15 or 20 of these got going before World War I, and they became then the core of this kind of university.

Now, what happened along the way is that these research universities in that fourth wave tended to become increasingly elitist in their admission standards. Then the public universities in the second wave, including the community colleges, increasingly became access-oriented, with low graduation rates and all kinds of faculty, organizational, and performance complexities. Lots of arguments emerged for a new kind of university.

So, ASU is building the model for a 21st century public research university around the notion of scaled research across as many subjects as possible, including and in particular those subjects of importance to the well-being of our country and planet that are not necessarily being done by industry or government. We're trying to take on more unique roles and concentrations of research activity to benefit the local region, like our Water Innovation Initiative here in Arizona.

The 21st century public research university of the type that we're talking about – wave five, the large-scale university – is also accelerating the use of technology to educate more learners across a broader time horizon of their life. In the semester that opens in the fall of 2023, we'll have about 83,000 students on campus pursuing degree programs. We'll have about 100,000 students online pursuing degree programs, designed and overseen by our faculty with input from our own internal shop.

We also have, in the spirit of inclusion, students from every background imaginable with very limited financial barriers. On top of that, we will shortly have 500,000 additional learners, who are not enrolled in degree programs but who are learning from our assets in some way that helps their career, helps their life, helps their family, helps them earn their way into college.

So we're building a model, by example, at scale.

In its charter, established under your leadership, ASU states that it is a university "measured not by whom it excludes, but by whom it includes and how they succeed." Will you discuss your views on how universities have contributed to economic and social elitism and injustice, and how universities can instead be part of the solution?

This is a complicated question. At the root of the design of our democracy is the notion that our democracy is going to be most successful when it is the most focused on delivering its core principles – equal justice, equal rights, and liberty, along with other core principles like freedom of speech and freedom of religion. That then means that you have to have a public university designed around the notion of inclusion in order for it to be successful. However, we have sometimes had universities designed to be exclusionary – in the past there have been rules preventing your admission to university if you were Black, Native American, or Latino. At some public universities today, you can only enter if you have the highest test score possible; they only admit the upper two to four percent of the high school class. The students in that upper two to four percent of the class are often economically advantaged – not always, but often economically advantaged.

That gets to the heart of the question: have we contributed to economic and social elitism? Yes. I think that's an outgrowth of how we've built universities. The greatest universities in the country are often seen as those that are the most exclusive. That's fine for private universities; I don't know that that's necessarily fine for public universities.

How does that elitism contribute to outcomes? What it means is that we have large portions of our population which are not gaining access to high-quality postsecondary education because there aren't a lot of seats. We have divided our public universities into those that are focused heavily on access and those that are focused heavily on excellence. Most of the seats are on the access side, with fewer seats on the excellence side. The excellence side, in nearly every case, is focused on only selecting those students who have demonstrated fantastic academic ability in a few subjects in the last couple of years of high school, which does create the potential for a socially elite group to emerge.

The injustices that emerge from that are macro-level and micro-level. On the macro-level, the injustice is that all of our talent is not being operationalized. All of the talent in the country is not finding a pathway to becoming more significant contributors to the success of the democracy. All of the talent is being separated out at a young age – 17 years old is when you're taking these tests – which is greatly and significantly narrowing the pathways for many. The injustice at the larger level is that we have unequal access because we didn't build and invest in institutions of equal quality across the entire country.

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Michael Crow greets an ASU Preparatory student

In terms of micro-level injustices, it is the case that a student from a family making $25,000 a year of family income is perhaps not as able to go to some of the universities that have high tuition rates, and also demand very significant admission requirements. At the micro-level, there can be a feeling of injustice from a hardworking student who did the best that they could and had a B+ average, but wasn't able to study abroad in high school, wasn't able to have tutors in high school, wasn't able to take AP exams in high school. They'll feel very much that it wasn't fair, and therefore, that it was unjust.

How can we become a part of the solution? We have to find a way to continue to evolve the university. We need some larger-scale universities using technologies to figure out how to educate a broader spectrum of students, in terms of their learning pathways, and then larger numbers of students. We have to find ways to actually succeed with the students that we have coming to the universities that we've already built. Here's where we have another problem of some significance: more than half the students that have come to universities in the United States, after attending universities or the community colleges, have no degree or certificate of tradable value.

Universities have to figure out how to innovate. They have to figure out how to do things in a new way. They have to figure out how to educate across a broader spectrum of people. That's how these things can be moved in the right direction.

Many might be surprised to learn that you were raised in a working-class family, in public housing. How did that experience influence your design of the 21-century public university?

I was raised in a military family with a lot of disruption, including living in public housing and living with relatives. My mother passed away when she was 28 years old, leaving behind four children. My father was deployed overseas at the time in the Navy, and we were all split up. I went to 17 schools, moved 21 times.

I think what I really experienced growing up was how much talent, genius and drive there was among the children that I was growing up with – all the things that they wanted to do and so many of which weren't able to do. After a while, they, at least in many of the schools that I went to, became classified as working class or working poor and were put on a track where they would either go to a shop to figure out how to go to work or they would be in school to join the military as an enlisted person. Or, if they were having learning or home difficulties which didn't allow them to focus on learning – I saw this over and over – they were basically written off and no longer approached. I even had those experiences with my own siblings.

What I saw was that the institutions of higher education were basically accepting the outcomes of the social constructs in which students were being raised. In 1970, very few students from families in the bottom quarter of family incomes were ever going to graduate from college. That number is only slightly better now, 50 years later. That's a bad thing for the United States – that's a bad thing for all of us.

That has influenced my notion that some of the public universities need to maintain highly egalitarian levels of admission to a world-class research faculty. Think of universities like the University of Michigan, or the University of California, which in the 1950s had no tuition and admitted students with B averages from high school if they took the right courses. Imagine an institution like that operating today.

Now, it's very difficult for us to get there, but that's our goal. Our goal is to take qualified kids at the level of what we call qualification requirements from every family background. We're trying to eliminate the financial barriers for entry. We're trying to make all of those things work and we're trying to do that at scale.

It's clear that you believe deeply in providing opportunities for people of all backgrounds, but it doesn't sound like you view it simply as a moral obligation. What is the benefit of inclusivity beyond the obvious moral imperative it fulfills?

It is far more than a moral obligation; it's a moral aspiration about us as human beings. Each of us has been given this thing that, if you look it up on the internet, is the most complicated object in the known universe. Everyone reading this has got one of those between their ears. So how do we operationalize it? We're not good software coders for what we can each do, for all of the things that we can learn. So there's a moral aspiration for the maximization of human potential by empowering what each of us has already been given.

Beyond that, we have an economy which has made good and steady progress over the last 200 years. But we still live on – I don't know how to put it outside of a joke – a small, rural planet that remains relatively poor. We haven't solved all kinds of things. We still haven't solved issues of clean drinking water. We still have diseases that are curable that aren't cured. We still have environmental impacts from the production of our energy systems. I could go on and on.

The reason we haven't solved all these things is that there's too few people working on them. Who knows what would happen if, all of a sudden, we had engineers from every family background imaginable and every perspective imaginable? In growing our engineering program from 6,000 students to 30,000 students, that's really something that we have focused on. We're ending up with a lot of students in there who wouldn't typically have been engineers because they would have been filtered out by the system.

The benefit to our society is that, it turns out, some of those engineers are going to come up with solutions to problems that nobody else from the traditional pathways could even conceptualize. If you broaden the number of people with higher levels of educational attainment, we're going to see a social and economic transformation beyond anything that we've ever experienced in our species. I think if we can get it right and get values into the system – practicing one of our design aspirations, principled innovation – we're going to find a way to greatly accelerate our evolution on the planet. That's going to be because we have more capable people, from more backgrounds, in larger numbers, able to take on these kinds of problems.

You have received much recognition for your leadership and accomplishments at ASU. I know you're far from done, but when you retire one day, what is it that you hope people will remember you for accomplishing at ASU?

I am hopeful that people will remember that was the guy, that was the leader that helped us to build a new kind of public research university that contributed to the success of our democracy.

It's just about the culture and the design. That's what I really hope. ●