The reader has perhaps observed a significant omission in our book, namely, the failure to discuss a set of contemporary events that are among the most important events in world history. Not even alluding to the COVID-19 pandemic? A serious omission indeed. But in all records and writing, timing is everything. In December 2019, when we were finishing this book, we were ignorant of the COVID-19 menace. Now (October 2020), as we write this, it dominates much of our life and almost everyone’s. Thus, before going to press, we developed this afterword. Given the volumes written about the pandemic, we have nothing of general interest to add, but we thought the reader might be interested in how one institution we know well, Arizona State University, has thus far coped with the challenges presented by the pandemic. We focus especially on the difficulties of balancing public values in the face of dire and unrelenting change.

The style in this afterword is much the same as in the final chapter of this book, though it veers more toward an interview than a conversation. Bozeman has had no responsibilities as a COVID-19 decision maker, at least not outside his family, but Crow has faced the challenges
confronting college presidents and, indeed, most executives of large institutions. We present this interview and his responses not as a paradigm for achieving public values during this crisis but more as a description of the learning and responses that have occurred in our ASU context. As always, we expect that the reader will engage in critical thinking and will have ideas regarding the wisdom and effectiveness of the ASU response and, we hope, can learn from it.

Bozeman: It is not easy for us to briefly discuss what is perhaps the most critical set of events since at least World War II, but if we focus on its impacts on our own institution and the responses that you and others have made during the past few months, then perhaps we can learn something about public values leadership amid crisis.

Since you are the one deciding and implementing and my role is confined to simply teaching a graduate course on public policy and the pandemic, I think you will have a bit more to say. However, there is no interview protocol here, so let's just plunge in. Timing is everything here, so good to start at the beginning by identifying the beginning; when did you and other ASU decision makers first have COVID-19 on your policy response radar screen?

Crow: We set up our emergency response group in December, as soon as we heard there was a viral outbreak. We had experience with H1N1, and we were aware that something like this could happen any time. We had already stockpiled both resources and capabilities, and as soon as our meeting in December we were focused on policies and supply chain options.

Bozeman: One of the things that I'm curious about is how you decided whom to use as advisors. You say you already had expertise in place.

Crow: We have about 50 people in the university that are a part of this emergency response team, a medical group and a public safety technology group. Purchasing turns out to be a really big thing, having ready access to the right supplies.

What we decided to do was to expand our resources by building on our existing relationship with the Mayo Clinic, especially bringing in more infectious disease experts and more public health experts.
Bozeman: One of the things that’s really interesting about this from the standpoint of public values is that COVID-19 is perhaps the best case imaginable to show that public values sometimes conflict and require difficult trade-offs. Everyone agrees that it is important to maintain public health and safety, to educate people for success in life and careers, and to sustain people economically with jobs, wages, and the ability to sustain themselves. The pandemic experience often has pitted these concerns against one another in difficult and challenging ways. Did you and other ASU leaders develop any heuristics or guidelines about how to make trade-offs among these crucial and to some extent competing public values?

Crow: And those are the three public values that we focused on initially. Was it possible to build a structure in which each of those values could be maintained at the highest possible level?

And it turns out that when we went through this logic, we studied masking and we studied all of our ventilation systems. We didn't have a testing technology. So, we built one, invented a saliva-based high-speed test. We learned that the virus is highly contagious. It’s less lethal than SARS, but lethal. At least we had time to build a structure, one that would limit the transfer of the virus between the students and the workers, basically. And what we calculated was that the best way to limit the virus was intensive testing, random testing, ubiquitous testing for anyone who wanted it. Also, we tested masking and new social distancing technologies.

We have what we called our community of care, which was freedom of choice. You had to act responsibly. So, if you were, you know, 74 years old, the age group that was susceptible, then you don't come to class at all, you Zoom into class. If you are 30 years old and you don't have any preexisting conditions and you are masking, if you are in the low-probability category, then you can come in for a live class. So, you just basically try to structure things in a way that fits people. You try to control risk, while still allowing education to advance and work to advance. So far, everyone is still employed and everyone is getting an education, and we have tried to make it as safe as possible while at the same time achieving employment and education goals. To this point,
we have no cases of transfer between students and staff, none. Our highest positive levels were in July, but at this point we have about 100 students positive out of 74,000, so the tools that we’ve used seem to have worked within the university bubble.

**Bozeman:** How did you go about contact tracing? I know just generally universities have had a very hard time doing that.

**Crow:** We contact trace everyone. We have had probably 3,000 people in social isolation, who were not positive but who had been in contact with someone who was positive, and that has worked out. We designed the institution to be able to operate under the assumption of 1%–2% simultaneously positive; it turns out that the population probably has a higher level of positivity than that right now. Many had to socially isolate, so we helped with food and everything else we possibly could.

**Bozeman:** One of the things we talked about in our books is the importance of multiorganizational linkages. Could you elaborate on the ways in which you might have linked up with other types of organizations, including other universities, and tried to pool information and expertise?

**Crow:** Well, one thing we did was we sent out all of our officers to their counterparts at the other universities, student affairs, academic affairs, purchasing, everybody, to see what everyone else was doing and learn from them.

We expanded our relationship with the Mayo Clinic and with a company that we and the Mayo Clinic helped to start. The company, called Safe Health, builds a health check app, for a daily health check. We expanded our relationship dramatically with Zoom. We built new relationships in other areas of educational technology. We partnered with everyone that we could possibly partner with, including the state of Arizona. The state then became an important partner for us. They helped us with funding, but we were also helpful to them with knowledge and expertise. We developed research funding for virus-related needs, including a point-of-need test where you spit into a microfluidic device and it tells you whether or not you have the virus, it talks to your cell phone, you get the green light and you are good to go.
We have a much stronger relationship with the CDC than with the state health department, the county health departments. We had weak relationships with those organizations before, and now we have strong relationships with them.

The numbers of partnerships expanded greatly. There’s no way we could have solved all these things by ourselves. We don’t have the full breadth of expertise and experiences. We have partners and advisers not just here but in Italy and Germany and England and China. The level of scientific collaboration and exchange has been massive. So, our scientific engagement on this is massive.

We have multiple vaccine groups in preclinical trials; we have testing groups. We have genetic assessment groups. We have epidemiological groups, those groups that are all linking in with everyone else. We have $100 million of new funding for COVID-related projects, we’ve got technology deals that we’ve been doing. How do we help develop these technologies and get them into use as quickly as possible? We also forged the largest educational technology deal that we’ve ever conceived of, right in the middle of the pandemic. This is for a full immersion virtual reality avatar-driven learning platform. That’s now built and is up and running in a testing and development phase.

We are linking with first responder organizations. The electric utilities are partners; they have to keep all the electricity going and they’re a testing partner. We’re now spreading out and trying to partner with every school district, not just on educational content but content formatting, teacher training, testing health checks, everything. There’s no way a school district can do these things by themselves.

The partnerships are vital. We can’t go it alone. We can’t just sit this out and hope for the best. The virus is not going anywhere. We have to have teams of institutions working constantly on this. It’s a moving target.

We are now at the highest level of partnership engagement and linkage ever, by far, and I feel this in my own stress level. The relationships are vital, but they require attention and care.

**Bozeman:** If you look at sources such as the *Chronicle of Higher Education*, they gather information on university strategies for COVID-19 and break them down as face-to-face, fully online, and hybrid.
Clearly, ASU is in the hybrid category, a great deal online but also some face-to-face classes.

When you and other college presidents were choosing among these options, and there have been a lot of differences in the choice made, you knew you were going to get pushback no matter what you did. People had different ideas and felt very strongly about them. That's still the case. So how did you handle the pushback from people who were very upset with ASU’s choices for dealing with the pandemic?

Crow: Our principal technique was to talk a lot, not to write a lot, but to talk, to meet to go through the data to talk about what we're doing. I probably have had many significant meetings with the Academic Senate leadership and several meetings with the Academic Senate. We have also used our chief science and technology officer, who has a deep understanding of the testing of the epidemiology, to go and meet with any group that wants to meet, faculty subgroups, schools, colleges, but also people outside ASU, especially school districts.

Our attitude was to be sure not to take offense at people who were throwing rocks, not to push back. This situation is different; everybody is anxious and tense and maybe not as reasonable as we would hope. Anxiety is not easy for anyone to deal with, and anxiety speaks for itself. People don't plan to be anxious or speak directly from anxiety, but they can't help it. This is different. People are worried about their families and their future, so discourse is not relaxed.

One thing we had argument about was random testing. We thought it was important to get good data. But we got pushback, and we expected we would get pushback. We had some faculty take shots at us as we were developing and using the data, but we sat down with them and explained in detail and things changed. We began providing more data on positivity rates and that helped. We also published our random testing data. Yes, we changed some of our approaches, we listened and made changes when needed. Sometimes you had to get beyond people's irritation and negativity and just listen, because sometimes they were right and were making good points. When you make an error, you admit your error. For example, we relied on negativity tests for entry into
residential halls. This didn't work, so we changed our approach. Right now we have 30 cases in dorms, whereas at one point we had 600. One thing that helped, we were using an antigen test that is only 85% accurate, and now we are using a PCR test that is 99% accurate. Once we figured these things out and made adjustments, then we reported back to everybody and said, hey, this seems to be working now.

Basic point. Talk a lot. And don't take the bait when conflict escalates. Continue to listen to what people are saying, not the way they are saying it. People have lots of different ideas, and they are relevant. People who are normally very civil aren't always so civil when they are anxious and feel threatened. But their ideas are still important. You have to not only be a careful listener but try to be a hyper-rationalist. Emotion is natural, but it can't control decisions of this sort.

Bozeman: Small college towns with big universities pose particular problems, in part because almost all of them are surrounded by bars and restaurants and places for students to congregate and socialize. It can be difficult for universities or even the state governments to exercise a great deal of control of commerce. How have you been able to deal with this?

Crow: As corny as this “community of care” thing sounds, we have had a lot of buy-in. We have students' attention and something like 95% compliance.

Then, we began writing to businesses, you know, targeting all the stores well before students came back for the term, saying we're going to recommend that no one come to your store unless you follow these safety guidelines. We heard back from almost everyone. No problem. They got it. They were happy to help, and most of them have. But not all, especially the bars, chiefly because we have been opposed to the reopening of the bars.

The bars are sometimes not compliant with state standards and can be significant places for spreading the virus. We communicated with them and told them that we had hired safety investigators to go to the bars to see who is in compliance. Any who were not compliant we would report to the state health department and the state liquor board.
All we were asking them to do was to follow the state regulations. But some were none too happy about us doing that. I don't care. I mean, you know, you're going to follow the health and safety regulations or we're going to report you. And so we did.

But in the vast majority of cases the local business community has been very supporting and understanding. They don't want to threaten their customers' health or their own.

**Bozeman:** ASU has a great many students, including those from just about all political persuasions and, presumably, with very different ideas about the pandemic and approaches to it. Has ASU had much disruption in the classroom, regarding such things as wearing masks and social distancing?

**Crow:** We have had almost no problems with students in the classroom. We did have one faculty member who announced to his students, “Well, I don't believe in any of this. I don't know why everyone thinks this virus is a big deal.” But he did have his mask on when he said it. We got in touch and said, essentially, “You need to alter your behavior or find some other place to work. You can't undermine university policies.”

We did have a couple of threats of anti-mask demonstrations, but these didn't come to anything. As you know, it's not because students are apathetic. We had plenty of Black Lives Matter demonstrations, but nothing on anti-masking or social distance requirements.

We have had student issues, important ones, with mental health and anxiety, but we had no problems with students' compliance with safety standards.

**Bozeman:** Good to hear. Especially since we see so much in the media now blaming students.

**Crow:** The student blaming is crazy. That's just laziness. Our students have been great and easy to work with. They are exposed and we say go into isolation and they say “okay.” We rarely have problems. They understand. I think that's why our rate of positives is actually lower than the rate for their cohort in the general population, despite the fact that many of them are on campus and actively participating in classes and labs.
Bozeman: So getting back to the students, to what extent and how do you and other ASU administrators communicate with them and address their concerns and worries?

Crow: I do hear from students directly and engage directly. We respond to everybody. Then there's student government, the five elected student government leaders. And then we have a highly skilled student services dean on every campus, and they are engaged all the time. They respond to crises, significant problems, but also to craziness and paranoia. No one is ignored. We are trying very hard to listen and, when we can, help.

Bozeman: One of the things that's always true from any sort of disaster this large scale is a chance to learn from it and make things better and develop innovations. For example, if you send a bunch of people off to war in Afghanistan and Iraq, we learn from the experience and develop new technologies and solutions. So, we now have much improved trauma medicine and improved artificial limbs. Likewise, much of operations research, which now is in effect in everything from traffic light programming for traffic smoothing to ambulance scheduling, developed from techniques invented for World War II bombing routes. Good things happen out of the bad. Even terrible circumstances permit learning.

What are lasting and useful lessons you and others at ASU have learned in the wake of the pandemic?

Crow: Yeah, we do have a list of good things coming out of this awful situation. As you know, we now have a third teaching modality. And what we call ASU Sync. We are making great use of Zoom video technology. So now if you're sick and you have to go home or your family needs you, and you have to leave school, you don't have to drop out. Or you can take care of your family at home and still go to class. We think that's a powerful thing. If you are place bound in any way you can still get a good education.

We also think that we can reshape the workplace to allow ASU families to have more flexibility at work. This change will extend beyond the pandemic. We think this new distance technology gives everyone more degrees of freedom.
We have also begun to seriously rethink the idea of a traditional academic calendar, that there is no reason why the calendar should be rigid. How do we make it more flexible, to the benefit of the students and to the benefit of families.

Our full immersion avatar-based virtual reality learning we think can be a game changer in science, in particular. We are now much ahead in telemedicine and telehealth and telecounseling.

**Bozeman:** Now a personal question. As I’ve told you many times, only somewhat facetiously, I would not be able to be paid enough to do your job, worrying every day about this gigantic institution. I can now safely reformulate that idea and say that not only is no pay enough but that I would pay to not have this job. I well understand that, for the entire time you have been president, you routinely make decisions that affect thousands of lives. But now? The stakes are even higher.

I would be driven crazy thinking about all the complications and possible unknowns from decisions you have to make. I would never get to sleep. How do you, personally, manage to deal with this, especially the pandemic-related decisions, and not just want to run away screaming for relief?

**Crow:** The way that I approach things is to try to make the best decision I can with the information that is available. And to always remember that I will have to adjust decisions after making them. I see very little as fixed and almost everything in need of adjustment. That is the mindset that allows me to not become overly anxious about the decisions. I do the best I can but also stay ready to make changes if it is not working out. So, I try to build options upon each new decision. Every time, every decision. I always have plans for what I call a disciplined retreat option. Bad things can happen when you make a decision that has no retreat option.

In my experience, both with people I know and from reading history, successful decision makers are rarely rigid.

**Bozeman:** Some leaders of large institutions are not doing so well in the environment of constant crisis. Have you observed an increased burnout rate? I know there have been many more retirements than usual.
Crow: I've seen several very different reactions to the pandemic. Some just hunker down waiting for it to go away, which is an error. Some university administrators are jumping contently from one small fire to the next, flailing at everything. They’re using up all their work energy and they’re not stable and do not give others either stability or confidence. Others are more focused, set priorities, and try to solve problems they can solve.

In my case it is all about having a managerial structure and then being prepared to adjust, learn, adjust. We don’t know where Arizona is going to be in a few months with this pandemic. In July things were really elevated. Now they are much better. But look at Paris and London and Madrid. They were optimistic and now things are getting worse. We have to live and respond to change and expect change. That’s why we need a structure for management and leadership. We don’t know when the second or third wave will hit, or a new virus, or an altogether different sort of challenge. We can’t panic and we can’t be confident that all is getting better.

It’s the old Eisenhower adage, you know, planning is everything and plans are worthless, once the battle starts. But once the battle starts the very idea of having a plan means you are better able to improvise when needed. So, we have done lots and lots of planning. Not every university has our planning commitment. But those that do not have plans, or those who cannot abandon them when circumstances require, are not likely to flourish.

Bozeman: So this last question is difficult in a different way. We worked on the book for a long time, and it was basically finished before COVID-19 broke out. Given what we said in the book about public values leadership and management, what, if anything, have you learned from the pandemic that gives you new or different thoughts about the points we make in the book?

Crow: It has definitely reinforced some of our ideas. The notions of interinstitutional collaboration and the bringing together of sectors, the pandemic has certainly shown the importance of these approaches. We would be so much worse off had we not reached out to a great many other organizations all over the world. If we had distrusted
business, or governments or nonprofits, or universities, and maintained old stereotypes, it would have been difficult to forge effective partnerships. Threats that cut across all sectors. So does the pandemic. So does global climate change.

Maybe one thing we could have emphasized a little more or said in different ways was to avoid the destructive effects of tribalism and social and political fragmentation. Even when there is near-universal agreement on public values, that agreement doesn’t mean we can achieve them in an atmosphere of distrust and tribalism, walling ourselves off from other people, institutions, or nations. The US response to the pandemic is especially worrisome. We leave the WHO. We avoid entering into vaccine alliances. We spend time scapegoating—“the China virus.” We even make mask wearing and other public health measures into foolish ideological markers. This a near-perfect prescription for public values failure.

We look back to World War II, when people in the United States were overall very motivated to band together against a common enemy. What happened? Maybe it is different when the enemy is visible, when we have newsreels of atrocities, when we have propaganda machines. But when the enemy is a virus? Very different. The virus did not even give us a time window to come together. Wars build up over time, we can see it coming, we can see the political conflicts that lead to war, we can see Poland being invaded and then only months later France and the Netherlands. That’s not the way the virus works. Not there, then everywhere. Defeating a terrible virus requires as much collective effort and discipline as defeating a human enemy. Public values require a public, not coalitions of interest groups. A viable public and what you call an effective “public sphere” are not easy to achieve. If public values leadership can contribute even a little to developing a more viable public, a little less discord and distrust, then it will be time to celebrate.