RULES OF ENGAGEMENT

Following a stint advising the US Department of Defense on warfare's AI-inflected future, political science professor and Perry World House Director Michael C. Horowitz is back at the helm of Penn's "home for global policy engagement."

By Alyson Krueger

 PHOTOGRAPH BY TOMMY LEONARDI C'89

In February 2023 the United States issued a declaration outlining how militaries should develop and deploy autonomous and artificial intelligence (AI) capabilities ethically, responsibly, and effectively. The idea was to use these new technologies to enhance international security, not undermine it.

The US endorsed the rules for its own forces and asked other countries to do the same. "We invite all states to join us in implementing international norms, as it pertains to military development and use of AI," said Bonnie Jenkins, the undersecretary of state for arms control and international security in the Biden administration, when the announcement was made at the Hague. As of November 27, 2024, according to the US Department of State website, some 58 countries had signed on, including the United Kingdom, Ukraine, Israel, and Germany (but not North Korea, Iran, China, or Russia).

This document—the *Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomy*—was written by Michael C. Horowitz, who at the time was serving as the deputy assistant secretary of defense for force development and emerging capabilities. He was on loan to the Pentagon from Penn, where he is the Richard Perry Professor in the Department of Political Science and director of Perry World House, which bills itself as Penn's "home for global policy engagement," connecting scholars and students with non-academic experts in areas encompassing climate change, democracy, security, and human rights and global justice.

In fact, the declaration was originally conceived on Penn's campus, says Horowitz. "One of the sources of the document was an article that I coauthored at the Perry World House with a former Penn undergraduate."

"That is real world impact," he adds with a laugh.

Horowitz studies international security issues, focusing on how emerging technologies such as robotics and AI change and affect global politics. His work explores how countries develop certain military capabilities and why some countries innovate in that realm while others fall behind.

In 2022 he was tapped by the Biden administration to set up shop in the Department of Defense's Emerging Capabilities Policy Office (ECPO). "His office had two jobs," explains Stanford political scientist Colin Kahl, who hired Horowitz while serving as the undersecretary of defense for policy during the Biden administration. "Look over the horizon at the technologies that could be relevant for the United States military, and think about how to integrate those innovations." Not only did Horowitz make great headway with these goals, says Kahl, he created a blueprint for how the US military could use autonomous weapons (that can identify and engage targets without human intervention), artificial intelligence, and robotics.

"It sounds super bureaucratic to write documents like this, but it's essentially an instruction to the entire Department of Defense about the guidelines around how the US military can innovate, and maximize speed, in pulling in AI and autonomy," Kahl says. "It's super important as a government document especially at a time when a lot of people believe the future of warfare will increasingly involve autonomy and semiautonomous machines. You want a moral, ethical, and strategic framework around that."

Sasha Baker, who served as deputy undersecretary of defense for policy at the Department of Defense, which made her Horowitz's direct boss, says his achievements were also more practical: he helped the military procure new technologies that will be deployed in the near future.

"There is this consensus in DC—that I think is true—that the military and Pentagon are not moving fast enough to put new technology into the hands of those fighting wars," she says. "Part of it is because we have lots of rules and bureaucracy, and it makes it hard for new startups and new companies to get their products into the system. Everyone agrees it's a problem, and nobody is sure how to solve it."

Horowitz, she adds, dealt with the issue head-on by building relationships up and down the military procurement chain, from the budget team to the strategy team to acquisition professionals. "He helped our professionals identify which options out there would be best suited for our needs as a military," she says. "We evaluated these technologies and figured out which ones would solve an operational problem for men and women in uniform."

It's not an easy job. Some emerging technologies, for example, are interesting in theory but don't hold up in a rugged environment or can't withstand salt water, cold, or heat. Others may be so expensive it isn't practical to buy them, particularly if they have a good chance of getting shot down.

"It can take some time for things to go from being a budget idea and being in a strategy document … to showing up in the hands of a war fighter, but I do think over the next few years and beyond we will see the systems Mike advocated for to show up in the force," says Baker. "Ultimately I think that puts the US military in a stronger position in what is a very complicated world." One project he worked on was the Department of Defense's Replicator Initiative, which aims to deliver large numbers of drones (ones that are cheap enough to be expendable but effective enough to save lives on the battlefield) into the hands of American soldiers by August 2025.

She believes the current Trump administration will carry these initiatives and recommendations forward. "The need for the military to move faster in adopting new technology quickly is a bipartisan issue. Everyone from J. D. Vance to Elizabeth Warren is talking about the need to

do this," she says. "I am pretty confident that the Trump administration, when they get their senior officials confirmed, will discover they want to keep a lot of what Mike and his team put in place."

For as long as he can remember Horowitz has had a passion for politics. "I'm from Lexington, Massachusetts—as we like to say, 'the birthplace of American liberty,'" Horowitz says. "I am basically a Boston guy who is obsessed with the Revolutionary War and that period of history." (These interests have also helped him fit in while living in Philadelphia, home of the Liberty Bell and Independence Hall. "I've always felt extremely comfortable in Philadelphia. It is one of the reasons I've been a faculty member at Penn.")

Horowitz was a top high school debater, winning the national debate championship with his partner in his senior year and being recruited to Emory University for his skills. It was also through debate that he first crossed paths with Kahl, who was his instructor at a debate camp when Horowitz was 15. "He was a brilliant high school kid," Kahl recalls. "He was already into public policy issues as a teenager. He self-selected into a group, at a very young age, of people who care a lot about the world when most teenagers were focused on different things."

Horowitz debated topics including US foreign policy towards China, Iran, and North Korea, and immigration reform. "I think participating in policy debate was the single most impactful thing I did as a young person," he says. "It taught me how to research and see both sides of the argument." At the same time, "I am very, very, very efficiently trained not to talk about debate—because nobody cares about it," he adds, laughing. "Also it's weird to bring up stuff you did in college and high school."

At Emory Horowitz took classes in international relations and coauthored a paper with one of his professors. He also interned at the Center for Strategic and International Studies, a Washington, DC–based think tank where he worked on topics related to homeland defense and US nuclear strategy.

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He considered going to law school, but the September 11 attacks pushed him "back to international security," he says. He ended up getting his PhD in government at Harvard University, where his dissertation advisor had written a book on military innovation. "The topic stuck with me," he says. "Whether you were talking about the use of the longbow on the battlefield, or the debut of an aircraft carrier, or the debut of suicide bombing, military innovations play a critical role in international politics. How they spread seemed like a very important question to me."

Fortunately, Penn was interested in the same questions, he says. "There was this period in between the invasion of Iraq and the financial crisis where there was a realization in academia that war wasn't going anywhere, and that we needed to build a new generation of scholars to help us understand not just things like 9/11 but broader questions of war and peace."

Horowitz joined the Penn faculty in the fall of 2007. Since then, he's taught classes on American foreign policy and on war and strategy, often focusing on the relationship between military and civilian leaders. In 2010 he published *The Diffusion of Military Power: Causes and Consequences for International Politics* (Princeton University Press). Drawing on examples ranging from the Ottoman Empire's siege of Constantinople in 1453, to the German *blitzkrieg* of World War II, to 21st-century conflicts in Afghanistan and Iraq, the book examines how the ability of countries to adapt to new technologies can influence the international balance of power through the lens of what Horowitz calls "adoption-capacity theory." The theory "posits that variations in the financial and organizational requirements for adopting an innovation govern both the system-level distribution of responses and the way individual actors make decisions, as well as the subsequent implications for international politics." He's also a coauthor of *Why Leaders Fight* (Cambridge University Press), a 2015 examination of how leaders' life experiences shape the decision to go to war, as well as dozens of scholarly papers.

A former student, Lauren Kahn C'19 GEng'23, recalls that Horowitz was known for tapping students to do meaningful research for projects he was working on. Kahn, whose two Penn degrees are in international relations and computer and information science, did research on precision strike capabilities, or smart bombs. "He had a giant cohort of research assistants, and he gave us a lot of flexibility to do really cool and fun research," she says. "You don't often get that opportunity as an undergraduate." A senior research analyst at Georgetown University's Center for Security and Emerging Technology, currently on assignment to the Office of the Deputy Assistant Secretary of Defense for Force Development and Emerging Capabilities, Kahn has since coauthored several papers with Horowitz.

She recalls making what turned out to be an important connection when she met US foreign policy advisor Derek Chollet when he was a visiting fellow at Perry World House, becoming his research assistant. Later, when she was working at the Pentagon and Chollet became chief of staff to Lloyd Austin, the secretary of defense under President Biden, "I would go

and catch up with him in the Pentagon building," she says. "Everyone was like, 'How do you know the secretary's chief of staff?' I was like, 'I met him through Penn and the Perry World House.'"

In September 2016 Perry World House opened on Locust Walk with much fanfare ["Perry World House," Nov|Dec 2016]. Navanethem Pillay, a former United Nations High Commissioner for Human Rights, gave a keynote address explaining how academic cooperation of the type being promoted by Perry World House had helped her as an anti-apartheid activist. The opening events also included a conversation between then Penn President Amy Gutmann Hon'22 and former Secretary of Defense Robert Gates, who talked about what it was like to serve under five presidents.

Horowitz was associate director of Perry World House at the time and took over the director position in July 2020, maintaining a robust schedule of remote events sponsored by Perry World House through the pandemic and continuing in a hybrid in-person/virtual mode once the Penn community was able to return to campus. He's used his personal network to bring in even more speakers, from filmmakers to journalists to policy advisers.

"Mike is a serious, rigorous scholar, but he is also someone who has conversations with leaders in Washington who are making decisions," says Penn Provost John L. Jackson Jr.

"Michael is amazing at bringing people together to have hard and meaningful conversations," adds Wendell Pritchett Gr'97, former provost and the University's interim president in 2022, who is now the James S. Riepe Presidential Professor of Law and Education at Penn Carey Law School. "Certainly high on my list is when we hosted Ambassador [to the United Nations] Susan Rice at Perry World House. Michael facilitated a series of great meetings where we all learned so much from her."

Under Horowitz's leadership, Perry World House has also become a welcoming community for students, says Kahn. "At Penn there are a lot of resources if you are into business or nursing, but it is a little harder for social science people. To have this physical space where you can engage with other students and faculty members who care, it was incredible."

During Horowitz's absence, Michael Weisberg, the Bess W. Heyman President's Distinguished Professor of Philosophy, served as interim director, and in February 2024 Marie Harf—a former senior advisor to US Secretary of State John Kerry and a political commentator for the Fox News Channel—joined Perry World House as executive director, with oversight over programming, administration, and management.

Horowitz's return to the directorship followed a turbulent time for Penn and the world, and Perry World House has emerged as a space where Penn students can look for insight, having "hosted a number of events over the last academic year and into this year to try and help all stakeholders on campus grapple with the momentous events on October 7 and the aftermath," he says. More recently, days after the fall of the Assad regime in Syria in December, Horowitz organized an online panel with experts to explain "what happened and what comes next."

The next day a White House climate advisor spoke to another crowd about work the Biden administration was doing to combat climate change and how it could potentially be advanced during the transition to the Trump administration. Horowitz also points to Perry World House's involvement—through the work of Weisberg and colleagues—in the annual United Nations Conference of the Parties (COP) meet-

Photograph by Greg Benson

ings on climate change ["Gazetteer," Mar|Apr 2024]. The most recent conference (COP29), which was held in Baku, Azerbaijan, led to a climate finance agreement that set a goal of providing developing countries with $300 billion annually (up from $100 billion) by 2035 to help them reduce their emissions and make other changes needed to combat climate change. "Through a whole set of conferences and meetings we had at the Perry World House, if you look at the text that came out of this climate conference, you will see our house's footprints and handprints all over it," Horowitz says.

In November and January, Horowitz took part in two panels examining the foreign policy of the new administration of President Donald Trump W'68. Shortly after the presidential election in which Trump defeated Joe Biden Hon'13, Horowitz and Marie Harf shared their thoughts on the potential foreign policy priorities of the Trump White House regarding China, Russia and Ukraine, the Middle East, and Europe, and how they might differ from those of Biden. He also introduced a January 15 panel discussion where past and present Perry World House visiting fellows offered the incoming administration advice on a variety of national security issues. (Recordings of all Perry World House events are available on its YouTube channel.)

"If you think about a lot of the technologies that are changing the world—quantum computing, AI, certain technologies that have military relevance like hypersonic—we did not have a policy office focused on those," Kahl says, explaining his invitation to Horowitz to head up such an effort. "I needed someone who was a deep thinker on the relationship between emerging technologies and contemporary warfare. The first person to come to mind was Mike, because his scholarly work focused on the causes and consequences of military transformations."

"My biggest concern going into the government was that it was resting on its laurels. Because we were focused on the war on terrorism, we had taken our eye off the ball when it came to strategic competition."

It helped that during an earlier Pentagon stint in 2013, on a fellowship from the Council of Foreign Relations (of which Horowitz is a life member), he helped draft one of the first Department of Defense directives on autonomous weapons, Kahl adds. "It was how to think about integrating AI and autonomy into weapons and how to make sure we do that ethically, responsibly, but also effectively from a war-fighting perspective."

The new Emerging Capabilities Policy Office had the goal of accelerating the Department of Defense's ability to respond to events in a rapidly changing global environment. "My biggest concern going into the government was that it was resting on its laurels. Because we were focused on the war on terrorism, we had taken our eye off the ball when it came to strategic competition," Horowitz says. "Every day I woke up, I focused on the question: *How do we ensure that the American military is the best in the world and especially ready to deter China, if necessary*?"

Adopting new technology is particularly important in today's global landscape, Horowitz emphasizes. "The United States had a generation-long lead in those capabilities, but those advances have eroded," he says. This has occurred "because of capability advances by China, but also because of the spread of knowledge, advances in manufacturing, and advances in AI and technology that everyone from Iran to military groups now have access to."

Although he is shy about sharing details regarding his Pentagon progress, Horowitz points to the challenge "for any military—especially the leading military in the world—to transform itself on the fly. We made steps in the right direction, and I am cautiously hopeful that that work will continue in the next administration."

Now that he is back at Penn, Horowitz is looking forward to pursuing and expanding his research interests. "I am going to continue to work on defense innovation to try to understand the ways that organizational changes are shaping the future of war," he says. "I want to do behavioral science work on what influences trust and confidence in the adoption of AI and robotics."

According to Provost Jackson, Horowitz's expertise couldn't be timelier. "Mike is an incredible leader around AI and using it in ways that are ethical and responsible," he says. "It's a time when a larger and larger percentage of the world is trying to understand the impact of it in society, politics, and culture. We really want to prioritize those conversations in the research we do."

Horowitz also hopes to continue the connections he's pursued in his work between the academy and the government. "It was a huge honor to be able to serve my country and take a lot of the ideas I had worked on outside of the government and try and leverage them to have impact," he says. "The next step forward is to just keep the ball moving within the government—but also working with other smart people to try and figure out what we should be doing next. I think there is real synergy between the research and analysis that academics do and the work of the government. It isn't always easy to bridge that gap—you have to be willing to communicate with both worlds—but I think if you do, there is a real opportunity there."

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