

IN DEPTH



Better use of social science might have improved local intelligence before a 1983 bombing in Lebanon that killed the 241 service members listed on this memorial.

U.S. INTELLIGENCE

Spy agencies team up with National Academies

Expanded ties include new board, first-ever survey of social sciences and security

By Jeffrey Mervis

In an unprecedented move, U.S. intelligence agencies are teaming up with the nation's most prestigious scientific body in a bid to make better use of findings from the country's leading social and behavioral scientists.

The partnership between the Office of the Director of National Intelligence (ODNI) in Tysons Corner, Virginia, and the National Academies of Sciences, Engineering, and Medicine aims to build bridges between communities that historically have either ignored one another or butted heads. The effort includes the creation of a permanent Intelligence Community Studies Board at the academies, which will meet for the first time next week, as well as a first-ever study of how social and behavioral science research might strengthen national security.

David Honey, ODNI director of science and technology under Director of National Intelligence James Clapper, says he hopes that the new partnership will help the intelligence community improve how it collects and analyzes information. He and others are eager for help picking out useful and relevant research, as well as grasping where there is a lack of good science. Understanding "the

limitations of our knowledge," says Robert Fein, a national security psychologist in Cambridge, Massachusetts, and a member of the new intelligence board, "will help to protect us against armies of snake oil salesmen."

One area in dire need of better research is figuring out when people are lying, Fein says.

"We're looking for truth. But we're particularly looking for truth that works."

Charles Gaukel, National Intelligence Council

After the start of the wars in Afghanistan and Iraq, he notes, intelligence agencies poured money into research on both mechanical—think polygraphs—and behavioral—think interrogations—methods of detecting deception. But the results were disappointing, recalls Fein, who led a 2006 report on interrogation techniques for the director of national intelligence. "Researchers overpromised," he says, "and there were few useful results after millions of dollars were spent."

Even research that generated solid results had serious flaws, he adds. "For example,

none of the studies [of deception] involved people who didn't speak English," Fein notes, making them of questionable value for use in many current hot spots around the globe.

Last week, Honey harvested the first fruits of the fledgling collaboration at a 2-day public summit in Washington, D.C., designed to feed ideas into the upcoming survey of social and behavioral science. Prominent researchers presented talks on everything from decision-making under stress to how social media fuel conspiracy theories. In addition, a panel of intelligence analysts offered a rare glimpse into their classified world and how scientific results need to be tweaked before they can be applied to intelligence and policy.

"Scholars like to say, 'In general, X is the case.' But as practitioners, we are asked to respond to a specific situation," explained Charles Gaukel of the National Intelligence Council in Washington, D.C., which consists of senior officials from each of the 16 intelligence agencies across the government. Gaukel also debunked the popular notion that intelligence analysts try to forecast global events. "Our role is not to make predictions," he said. "Rather, we try to give policymakers a sense of what's out there, and how the enemy is likely to respond."

The new survey won't follow the usual

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blueprint for so-called decadal surveys, which look ahead 10 years. Traditionally, decadal studies help a particular discipline, such as astrophysics or geoscience, set priorities among competing facilities and projects. They may also recommend how federal agencies can fill gaps and maximize their research portfolios.

In contrast, the new study won't seek to balance competing demands for scientific facilities or examine existing research portfolios at the intelligence agencies. Instead, Honey hopes it will identify current and future research areas that might be useful for national security. Speaking at the summit, Fein suggested that those on the decadal survey might want to convene a panel of intelligence practitioners who would propose areas "that might benefit from the relevant perspectives, data, and knowledge" of social and behavioral scientists.

"I can't forecast what we will learn" from the study, Honey says. "But the history of decadal studies shows their value in pointing to where the research community is headed."

The survey is expected to take 2 years, and more than 300 people have been nominated for the panel's 18 slots. Despite that strong show of interest, some scientists who support the effort worry that getting involved could harm their research because of public unease about the spy agencies' activities.

"I'm a citizen scientist, and I think this collaboration is great," says Paul Glimcher, a neuroeconomist at New York University in New York City who spoke at the summit about the Kavli HUMAN project, a deep dive into the behavior and characteristics of 10,000 New York City residents that he leads. But he says his team has "promised our subjects that the data will never be shared with the government. And I'm concerned they might react negatively to my being involved in a study funded by U.S. intelligence agencies."

Some observers see the new intelligence board as a successor to an ODNI science advisory panel that Clapper abolished after becoming the nation's top spy in 2010. "It seems like at least an admission that the abandonment of [that advisory board] was a mistake and that there is an important role for independent advice from academics to the intelligence community," says Steven Aftergood, who leads the government secrecy project at the Federation of American Scientists in Washington, D.C.

Gaukel may have inadvertently given the pending decadal survey its marching orders during his summit talk on what intelligence analysts do. "We're looking for truth," he said. "But we're particularly looking for truth that works." ■

Artist's impression of the Thirty Meter Telescope.



ASTRONOMY

As Hawaii deliberates, giant telescope considers new home

State could prove inhospitable even if TMT wins permit

By Daniel Clery

If you are going to spend more than a billion dollars building one of the world's biggest telescopes, you'll want to put it in a place with the best possible view of the stars. But in the case of the Thirty Meter Telescope (TMT), an instrument that promises unprecedented images of everything from the most distant galaxies to nearby exoplanets, builders may have to settle for second best.

Next week, the fierce legal and cultural battle that has engulfed efforts to build the TMT on Mauna Kea, a 4,207-meter-high peak in Hawaii, will reignite as state of-

ficials open a pivotal hearing on whether to allow construction. The peak is rated as the best observing site in the Northern Hemisphere, but for Native Hawaiians it is sacred land, and many residents oppose the project. "The risk [to the project] is by no means small," says project manager Gary Sanders of the TMT International Observatory in Pasadena, California, and "the cost of delay is significant." So the project is also hedging its bets by considering alternative sites.

The TMT is one of three giant telescopes expected to dominate ground-based optical astronomy beginning in the next decade. The European Extremely Large Telescope (with a 39-meter mirror) and the Giant Magellan Telescope (24.5 meters) are already under construction, both in Chile. The TMT was also supposed to be underway by now, having won a construction permit from Hawaiian officials in 2011 after a long approval process. But the project ground to a halt after Native Hawaiian protesters disrupted a 2014 groundbreaking ceremony and later blocked workers from reaching the site. Then in December 2015, native activists won a ruling from Hawaii's supreme court that invalidated the TMT's building permit because of procedural violations. The court ordered the state's Board

The sky's the limit

Troubles at Mauna Kea have forced the Thirty Meter Telescope to consider alternative sites. Lower elevations generally offer inferior observing conditions.

LOCATION	ELEVATION (METERS)
Mauna Kea, Hawaii	4050
San Pedro Mártir, Mexico	2830
Roque de los Muchachos, Spain	2400
Antofagasta region, Chile	2300-4500

Science

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