



Threatcasting

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Threatcasting and science fiction intersect when people begin to consider the future and hold conversations about the threats we might encounter.

FROM THE EDITOR

What possible threats might we encounter in the future? Cyberwarfare, armed robots, rogue actors? US Air Force Academy cadet Ryan Lee uses science fiction prototyping and threatcasting to envision new dangers and possible solutions. —Brian David Johnson

My office at Arizona State University's (ASU's) Center for Science and the Imagination was cool and quiet—far opposite the blazing afternoon on the other side of the window. I typed energetically on my laptop, sketching out a science fiction prototype about Joseph Bennett, an army officer who witnessed a terrorist attack using swarming robots on the megacity of Istanbul. My previous prototype debated the ethics of using autonomous drones in the military from the perspective of a BBC reporter. Yet another told the story of an elderly man who opposed drone use by police departments. My aim, using these prototypes and many others, was to apply threatcasting, a branch of the more commonly known futurecasting method, to study how to counter future threats.

THE INTERSECTION OF THREATCASTING AND SCIENCE FICTION

This summer, I traveled to ASU as part of my US Air Force Academy undergraduate capstone project in military and strategic studies. While

there, I completed a three-week research project at the Center for Science and the Imagination using threatcasting to analyze autonomous technologies' ramifications and vulnerabilities in both military and civilian realms. Threatcasting looks at how to mitigate, prevent, and counter potential threats 10 or more years in the future. Science fiction complements the threatcasting process, providing a language to describe future environments in which threats could occur. Such science fiction prototyping has helped me gain some surprising insights on autonomy.

If you ask people how we can use science fiction to forecast the future, you might get weird looks and awkward answers. However, if you ask them which of their favorite science fiction stories they wish could come true, you'll likely get more enthusiastic responses: robots, space exploration, smart cities, and aliens are common themes. Science fiction is the medium through which people talk about the future, but people's imaginations and work can make these visions reality. Threatcasting and science fiction intersect when people begin to consider the future and hold conversations about the threats we might encounter.

THE THREATCASTING PROCESS

I begin the threatcasting process by compiling sources from various fields (technical data, economic trends,



historical facts, expert opinions, social and cultural data, and so on) on the topic of interest. After analyzing these sources, I determine which snippets of key information will be my data points and organize them into categories. Next, I randomly select a data point from each category to serve as the foundation for the threatcasting prototype, creating a single set of data points.

For instance, if I have a dataset projecting that air pollution will become a national health threat, the economy will decline sharply over the next five years, and the millennial generation will struggle in the workplace, then I might create a story in which a failure of leadership leads to an economic recession, causing companies to use cheaper, more polluting means of production. This story ties together all the data points into a comprehensive narrative. It's essential that each story includes a threat that could arise from the provided dataset. Next, I analyze the steps that must be taken to avoid this potential threat. This process ultimately results in a single threatcasting prototype—with science fiction at its core.

WHEN FICTION BECOMES REALITY

Although my relatively short threatcasting project focused on autonomous technologies, science fiction took center stage in my research. Sparking questions with every iteration and model, stories about the people involved—not future technology or its capabilities—developed the cohesive trends across models that would later become the results. Centered on planning for future conflicts, the social and cultural interactions found in science fiction drove the threatcasting process.

About halfway through my research project, the tragic police shootings in Dallas unfolded. The events

were terrifying to watch. Amid the news reports, I found it interesting to witness technology's trajectory in America. This case represented the first-recorded death of a suspect by a robot under police control. Later that week, I asked people their opinions on the matter. Their responses ranged from describing the police as intelligent heroes who saved the day to expressing shock—and even fear—that the police would use such a militarized method in America. Dallas certainly made people question the ethics of using robots for lethal means. This incident, horrific as it was, was an important case study and very similar to threatcasting models I had written earlier in the week.

Though a nonstandard method, threatcasting adds an important facet to research: humans. Science fiction allows people to interact on a uniquely human level that many

other fields overlook. In an uncertain world with many paths leading to the future, it's important to remember our interpersonal relationships. Ultimately, it's not the revolutionary technology that will dictate our future, but the individuals we work with. ■

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