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***Superforecasting: The Art and Science of Prediction.* By Philip Eyrikson Tetlock and Dan Gardner. New York, N.Y.: Crown Publishers, 2015. ISBN: 978-0-8041-3669-3. Figures. Notes. Sources cited. Index. Pp. 340. \$28.00.**

At the Central Intelligence Agency (CIA) in 1951, when Sherman Kent was discussing whether the Soviet Union would attack Yugoslavia, he suggested that intelligence estimates such as "serious possibility" be converted to numbers, such as "65 to 35 odds in favor of an attack." No one took his advice.

Now the numbers are back. *Superforecasting* reports on a multi-year study sponsored by the Intelligence Advanced Research Projects Activity (IARPA). In the study, an army of forecasters attracted from all sectors of U.S. society were given hundreds of very specific questions such as whether North Korea would set off a nuclear explosion between January 1 to September 1, 2014. Eventually, a group of the best forecasters was isolated and compared to parallel teams in the U.S. Intelligence Community (IC). Result: they outperformed the IC, and by a significant margin (although the exact number remains classified). The question is why and how, and that is what *Superforecasting* explains.

There are numerous examples of important pundits who have very poor forecasting records, but are listened to anyway because no one goes back and evaluates their performance. "To learn from failure, we must know when we fail" (181). Comparing forecasters is done with Brier scores, which were taken from a 1950 article in *Monthly Weather Review* that examined how well weathermen can tell if it will rain. Superforecasters have the lowest (best) Brier scores, and this is an important point in the book: to improve forecasting, one needs to keep track of how accurate forecasts have been, and learn what works and what doesn't.

None of the superforecasters identified have any intelligence background, yet they routinely out-perform professionals in the IC. What are they like? Superforecasters score better than about 80% of the population on intelligence and knowledge tests. They are smarter, but "most fall well short of so-called genius territory" (109). They tend to break problems into components and make estimates for each part then put them together to get an overall estimate. They tend to start with an anchor estimate (base rate), then make incremental (granular) adjustments as new data arrives, rather than overreacting to new information. They tend to synthesize other views with their own, and keep re-thinking and scrutinizing their own assumptions.

They avoid getting stuck on any particular idea or agenda. They have “little ego invested in each forecast” (163). There is an interesting anecdote about an expert in armaments who was a great forecaster for everything *except* questions on arms.

They tend to be probabilistic and nondeterministic thinkers, e.g., they do not believe in “meant to be,” and do not believe anything necessarily has to happen. Nothing is ever really “certain” and things are considered much more complex than they at first appear. They consider not the “why” but the “how,” and easily work in numbers. Typically, they are intellectually curious persons who enjoy mental challenges.

Putting superforecasters into teams was a challenge, but turned out to be successful—teams were 23% more accurate than individuals, and 30% more accurate than prediction markets such as Inkling and Lumenogic. “If forecasters can keep questioning themselves and their teammates, and welcome vigorous debate, the group can become more than the sum of its parts” (198). People learned to offer thanks for constructive criticism. Superforecasters who were joined into teams became 50% more accurate. Teams need to be diverse. The researchers worked out an “extremizing algorithm” that would cause even regular forecaster teams enough of a boost to outperform some superforecaster teams.

The book’s strength is its clarity of presentation, and numerous examples to introduce its insights. It has an appendix entitled “Ten Commandments for Aspiring Superforecasters” that contains advice such as “Break seemingly intractable problems into tractable sub-problems,” which is what the authors call “Fermi-izing,” named after the physicist Enrico Fermi (1901-1954). But the appendix only makes sense after the reader has studied the book. The notes are extensive and have key references to key journal articles that allow the reader to look more deeply into various issues. In the end, however, there is a feeling of wanting more insight on exactly how superforecasters do their work, and more about how the IARPA project was operated. Nevertheless, merely reading the book will change one’s perspective and behavior.

Superforecasters is very much worth reading by intelligence professionals, or by anyone in any field who is interested in understanding how to look into the future. It should be required reading for all students interested in intelligence, and for professors who teach intelligence – they should update their courses to reflect these new insights.

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