A conversation with Dr. George Wright, April 7, 2016

Participants

- Dr. George Wright – Professor of Strategy and Organization, University of Strathclyde
- Luke Muehlhauser – Research Analyst, Open Philanthropy Project

Note: These notes were compiled by the Open Philanthropy Project and give an overview of the major points made by Dr. Wright.

Summary

The Open Philanthropy Project spoke with Dr. Wright of the University of Strathclyde as part of an investigation into forecasting. The conversation focused on the "scenario thinking" approach and its potential benefits over forecasting that uses probabilistic predictions.

Scenario thinking

Dr. Wright sees scenario planning methods, which propose a range of plausible futures, as an alternative to probabilistic forecasting methods (often associated with aiming to maximize subjective expected utility) in the context of making decisions under uncertainty about the future. The scenario planning approach avoids some issues with probabilistic methods that Dr. Wright believes render the latter ineffective for long-term planning.

Scenario planning has three main goals:

1. Challenge current assumptions about the future.
2. Offer a causal understanding of potential futures.
3. Aid decision-making in the face of uncertainty.

Scenario methods are not designed to produce "predictions" that are evaluable for accuracy after the fact; rather, scenario methods are intended to make planners aware of a range of plausible scenarios and thereby promote strategic thinking and decision-making. Consequently, there is no method for comparing the overall success of different scenario thinking methods, as there is for comparing the overall success (e.g. as measured by a Brier score) of probabilistic forecasts. Planners using scenario methods instead select an approach for a particular situation based on fit, practicality, etc.

Intuitive logics approach

The "intuitive logics" approach to scenario planning has a normative basis in an axiomatic system designed by G. L. S. Shackle to deal with uncertainty without using probabilities. A forthcoming paper by James Derbyshire in *Technological Forecasting and Social Change* explores connections between Shackle's axiomatic system and scenario planning.

Further reading

For further reading on scenario thinking, Dr. Wright recommends:

- George Wright & George Cairns, *Scenario Thinking*
- Bradfield et al. 2005, "The origins and evolution of scenario techniques in long range business planning," in *Futures*
- The May 2013 special issue of *Technological Forecasting and Social Change*, which contains a range of papers on scenario methods

Difficulty of probabilistic forecasting

Dr. Wright thinks it is possible for short-term probabilistic forecasting to be somewhat effective. For instance, weather forecasters tend to be good at making probabilistic predictions about weather because they receive quick and unambiguous feedback (each day's weather) by which to calibrate their predictions, and weather is not confounded by human intervention.

However, Dr. Wright believes long-term probabilistic forecasting is extremely unlikely to succeed, and that scenario methods are therefore more useful for planning.

Shortly before the call, Luke sent Dr. Wright an email (included as an appendix to these conversation notes) and asked whether he knew of any forecasters matching the criteria in that email. Dr. Wright said he did not, in part because long-term forecasts have not been made precisely enough for their accuracy to be evaluated unambiguously. One possible exception Dr. Wright mentioned was Parente & Anderson-Parente 2011, “A case study of long-term Delphi accuracy,” in *Technological Forecasting and Social Change*.

Other people to talk to

- J. Scott Armstrong (University of Pennsylvania), about long-term probabilistic forecasting
- Spyros Makridakis, who organizes a series of forecasting competitions ("M-Competitions"). Dr. Wright's understanding is that these tend to involve, e.g., time-series forecasting, trend extrapolation, and curve fitting methods.

About long-term planning via scenario prediction methods:

- Kees van der Heijden, who formerly did scenario planning for Shell
- Ron Bradfield (University of Strathclyde)
- George Cairns (Queensland University of Technology)
- Thomas Chermack, Founder and Director of the Scenario Planning Institute (Colorado State University)

Appendix: Luke's email to Dr. Wright

Hi Dr. Wright,

I look forward to speaking with you shortly.

One thing I'll ask you about on our call is whether you're aware of any forecasters matching certain criteria. I'm sending you those criteria now so that you can potentially have them in front of you during our call.

Ideally, I'd like to identify forecasters / futurists / planners meeting the following criteria:

1. One of their forecasting aims was to distribute probability mass over future scenarios.
2. They made forecasts of scenarios ≥10yrs away, that were expected to be different from present reality (so e.g. merely planning for retirement doesn't count), and that weren't just a relatively obvious extrapolation of a robust trend, e.g. "20 years from now there will be ~9bn people rather than 7bn" (or whatever the numbers are).
3. They tried to figure out which plans made sense to embark on now given their distribution of probability mass over future scenarios.
4. They gave confidence levels/intervals for many of their forecasts.
5. Tetlock would describe them as "foxes."
6. They have a decent grasp of not just the domain they were trying to forecast, but also generalist "basics" like economics. (So e.g. they don't make [forecasts about resource depletion that don't incorporate economic insights].)
7. They made their forecasts after ~1970 (so they had access to most of "modern" science) but before 2000 (so that we have some ≥10yr forecasts we can now check).
8. They tried hard — their key forecasts were backed up by >10 pages of analysis, multiple lines of argument, thoughtful caveats, modular thought, etc.
9. They were scientific naturalists.

Maybe nobody in history qualifies, but maybe a few people/groups/projects come close.

Luke Muehlhauser
Research Analyst
Open Philanthropy Project