

Clausewitz, Hayek, Popper and the Revolution in Military Affairs

An Epistemological Critique

Yakov Ben-Haim
Yitzhak Moda'i Chair in Technology and Economics
Technion—Israel Institute of Technology
yakov@technion.ac.il, info-gap.com

Abstract

One of the promises of military hardware based on advanced information-technology is the ability to manage battlefield uncertainty. However, the spectacular power and success of hi-tech military hardware can disguise irrevocable limitations that result from uncertainty. The epistemological attitudes towards uncertainty shared by Hayek, Popper and Clausewitz reveal a fundamental and operationally significant limitation of the power of technology for command and control of the battlefield. Clausewitz stressed the importance of uncertainty in war with his metaphor of friction in battle and the fog of war. Hayek explained that the dispersal of information among myriad economic agents imposes strong limitations on the ability to centrally plan and control an economy. Popper explained that discovery and invention cause a fundamental indeterminism in human affairs. We explore the implications, for military technology, of these diverse epistemological perspectives.

About the speaker: Yakov Ben-Haim initiated and developed info-gap decision theory for modeling and managing severe uncertainty. Info-gap theory is applied in engineering, biological conservation, economics, project management, climate change management, military affairs, medicine, and other areas (see info-gap.com). He has been a visiting scholar in many countries around the world and has lectured at universities, technological and medical research institutions and central banks. He has published more than 90 articles and 5 books. He is a professor of mechanical engineering and holds the Yitzhak Moda'i Chair in Technology and Economics at the Technion—Israel Institute of Technology.

Selected References

- Yakov Ben-Haim, 2006, *Info-Gap Decision Theory: Decisions Under Severe Uncertainty*, 2nd ed., Academic Press.
- Yakov Ben-Haim, 2010, *Info-Gap Economics: An Operational Introduction*, Palgrave-Macmillan.
- Michael Smithson and Yakov Ben-Haim, 2015, Reasoned Decision Making Without Math? Adaptability and Robustness in Response to Surprise, *Risk Analysis*, to appear. Link to pre-print at: <http://info-gap.com/content.php?id=23>
- Yakov Ben-Haim, Order and indeterminism: An info-gap perspective, appearing in *Error and Uncertainty in Scientific Practice*, Marcel Boumans, Giora Hon and Arthur Petersen, eds., 2014, Pickering & Chatto Publishers, London, pp.157–175. Link to pre-print at: <http://info-gap.com/content.php?id=23>
- Yakov Ben-Haim, 2014, Strategy selection: An info-gap methodology, *Defense & Security Analysis*, 30(2): 106–119. Link to pre-print at: <http://info-gap.com/content.php?id=17>
- Yakov Ben-Haim, Craig D. Osteen and L. Joe Moffitt, 2013, Policy Dilemma of Innovation: An Info-Gap Approach, *Ecological Economics*, 85: 130–138. Link to pre-print at: <http://info-gap.com/content.php?id=88>
- Barry Schwartz, Yakov Ben-Haim, and Cliff Dacso, 2011, What Makes a Good Decision? Robust Satisficing as a Normative Standard of Rational Behaviour, *The Journal for the Theory of Social Behaviour*, 41(2): 209–227. Link to pre-print at: <http://info-gap.com/content.php?id=23>
- Many additional sources at: <http://info-gap.com>