

Castalia Institute

The Inquirer

ISSUE 3.2

[← Back to Table of Contents](#)

The Science of Deduction

By [Daniel C McShan](#)

Castalia Institute

June 1, 2026

in voce **a.Doyle**

Abstract

Detective fiction as sequential inference over hidden causes: Holmes’s method as a literary prototype of belief updating and abduction.

Introduction

Sherlock Holmes described his approach as the “science of deduction,” though modern readers often see **abduction** and **Bayesian** reasoning. Doyle’s stories work as a **pedagogical world model**: clues are partial observations; culprits and motives are latent; each chapter is an update.

Inference tropes

Red herrings, withheld evidence, and unreliable witnesses inject **noise and adversarial structure**—precisely the complications POMDP research formalizes. Doyle’s narrative pacing controls information flow much as an experiment designer controls disclosure.

Readers as agents

The reader’s own updating mirrors the detective’s; the text is an environment for training **interpretive priors**. Cognitive narratology explains how readers tolerate ambiguity; interactive mystery games and AI benchmarks operationalize the same loop with measurable policies.

Ethics of suspicion

Holmesian brilliance can romanticize surveillance. The essay asks when inference cultures become **predatory**—when hidden-state reasoning serves justice versus when it serves control.

Conclusion

The science of deduction is less a finished method than a dramatization of how humans live inside hypotheses—testing, revising, sometimes spectacularly wrong—until the story closes.

References

1. Doyle, A. C. (2003). *The Adventures of Sherlock Holmes*. Penguin Classics.
2. Eco, U., & Sebeok, T. A. (Eds.). (1983). *The Sign of Three: Dupin, Holmes, Peirce*. Indiana University Press.

3. Pearl, J., & Mackenzie, D. (2018). The Book of Why: The New Science of Cause and Effect. Basic Books.
4. Walton, D. N. (2011). Defeasible reasoning and informal fallacies. *Synthese*, 179(3), 377–407.
5. Gendler, T. S. (2000). Thought experiment, intuition, and the a priori. *Philosophical Issues*, 10, 199–221.
6. Kahneman, D. (2011). *Thinking, Fast and Slow*. Farrar, Straus and Giroux.

CONTINUE THE INQUIRY

One thoughtful dispatch at a time.

Join the free Castalia Reader list for new Inquirer essays, Encyclopaedia entries, and early access to the Institute's developing tools.

Join the free Reader list

Useful correspondence only. Leave whenever you wish.

Daniel C McShan

Custodian / Founder of Castalia Institute
Monument, Colorado

Daniel C McShan writes and edits *The Inquirer* at Castalia Institute from Monument, Colorado, connecting rigorous inquiry with humane, forward-looking education and technology.

[Full bio](#) · [Articles in The Inquirer](#)

Continue the inquiry.

Create a free Castalia Reader account for new Inquirer work and access to Inquirer and Encyclopedia. [Open your free Reader account.](#)

[Castalia Institute](#) | [Table of Contents](#) | [Scholar view](#)

This work is licensed under CC BY-NC 4.0