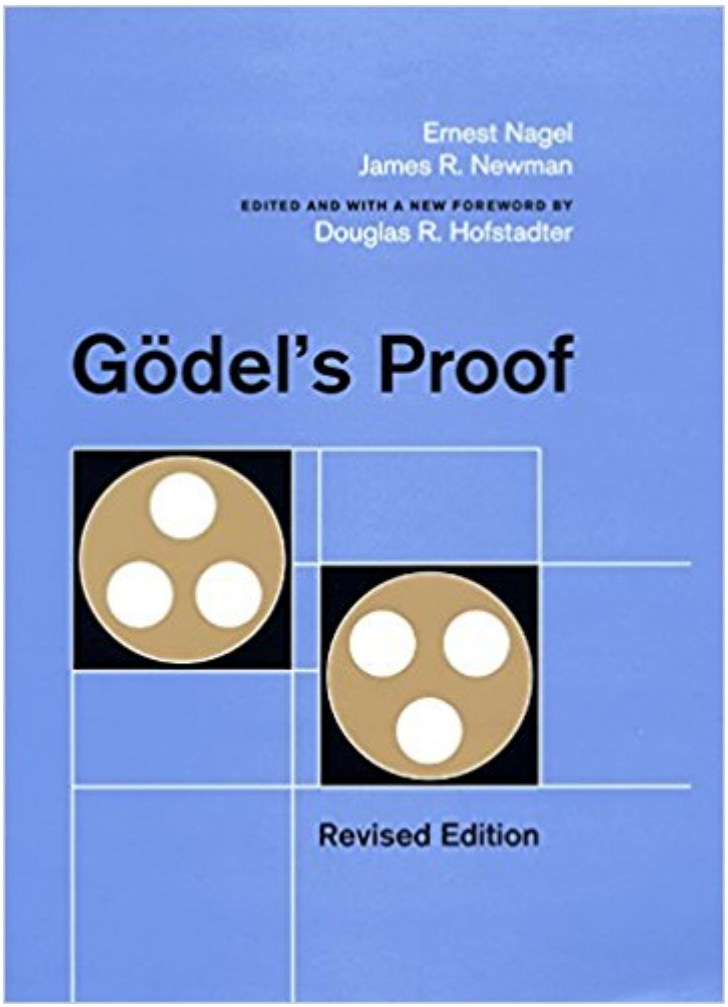
Godel's Proof



Synopsis

In 1931 Kurt GÃƒÂ¶del published his fundamental paper, "On Formally Undecidable Propositions of Principia Mathematica and Related Systems." This revolutionary paper challenged certain basic assumptions underlying much research in mathematics and logic. GÃƒÂ¶del received public recognition of his work in 1951 when he was awarded the first Albert Einstein Award for achievement in the natural sciencesÃ¢â ¬â •perhaps the highest award of its kind in the United States. The award committee described his work in mathematical logic as "one of the greatest contributions to the sciences in recent times." However, few mathematicians of the time were equipped to understand the young scholar's complex proof. Ernest Nagel and James Newman provide a readable and accessible explanation to both scholars and non-specialists of the main ideas and broad implications of GÃƒÂ¶del's discovery. It offers every educated person with a taste for logic and philosophy the chance to understand a previously difficult and inaccessible subject. New York University Press is proud to publish this special edition of one of its bestselling books. With a new introduction by Douglas R. Hofstadter, this book will appeal students, scholars, and professionals in the fields of mathematics, computer science, logic and philosophy, and science.

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Customer Reviews

GÃƒÂ¶del's incompleteness theorem--which showed that any robust mathematical system contains statements that are true yet unprovable within the system--is an anomaly in 20th-century mathematics. Its conclusions are as strange as they are profound, but, unlike other recent theorems of comparable importance, grasping the main steps of the proof requires little more than high school

algebra and a bit of patience. Ernest Nagel and James Newman's original text was one of the first (and best) to bring GÃƒÂ¶del's ideas to a mass audience. With brevity and clarity, the volume described the historical context that made GÃƒÂ¶del's theorem so paradigm-shattering. Where the first edition fell down, however, was in the guts of the proof itself; the brevity that served so well in defining the problem made their rendering of GÃƒÂ¶del's solution so dense as to be nearly indigestible. This reissuance of Nagel and Newman's classic has been vastly improved by the deft editing of Douglas Hofstadter, a protÃƒÂ©gÃƒÂ© of Nagel's and himself a popularizer of GÃƒÂ¶del's work. In the second edition, Hofstadter reworks significant sections of the book, clarifying and correcting here, adding necessary detail there. In the few instances in which his writing diverges from the spirit of the original, it is to emphasize the interplay between formal mathematical deduction and meta-mathematical reasoning--a subject explored in greater depth in Hofstadter's other delightful writings. --Clark Williams-Derry

"A little masterpiece of exegesis." -Nature"An excellent nontechnical account of the substance of GÃƒÂ¶del's celebrated paper."-American Mathematical Society

This classic shortmbook offers a great overview of a fascinating result from mathematics. While accessible to anyone who has had little math beyond high school, it still conveys the magic of this proof about the limits of any reasonably complex description of numbers which still corresponds to our intuitive notions of what is right. If you like this humbling result about math, do a little digging for Arrow's Impossibility Theorem and see what a little math can do to upend your notions about reasonable ways for a society to make fair decisions.....

This is interesting for it's philosophical implications. It was a fun and challenging discussion and improved my understanding of the underpinnings of computational logic.

This was a concise but easy to understand description of Godel's proof, and why it is important. It made for enjoyable reading in a subject that could quickly have gone over my head.

This book was an almost perfect introduction the incompleteness theorems. The major concepts are explained extremely clearly without getting the reader lost in the complexities. After reading this, I think I have a solid understanding of what GÃƒÂ¶del actually showed, and I feel I could jump into more technical texts with solid footing.

I really enjoyed this book and felt it was written at about the right level for someone familiar with the basic ideas who wants a bit more depth without actually diving into the original paper unaided. Very happy!

I recommend this book for readers who want a clear and concise introduction to Godel's proof. The book will be especially useful for readers whose interests lie primarily in mathematics or logic, but who do not have very much prior knowledge of this important proof. Readers with broader interests, who would like to explore the larger implications of the proof for science or philosophy, may be disappointed that the book ends where it does. Godel's Incompleteness Theorem is cited by many scholars who question some of the fundamental assumptions of science. Just to give one example, it figures prominently in Robert Rosen's argument that a computing machine is an inadequate model for an organism. It is relevant to the question of whether everything that nature does can be understood as a computation, as Wolfram and many others have maintained. This book would have been more exciting if it had delved into a few of these discussions. Instead the authors wrap it up quickly with a brief "concluding reflections" chapter, as if they had a deadline to meet or a severe space limitation to conform to. That may leave some readers understanding the logic of the proof, but saying "so what?"

You'll definitely understand Godel's proof by the time you finish reading this short book but you'll be left hungry for details... a short read of Godel's paper should repel that urge immediately for most people!

A really nice succinct explanation of Godel's proof.

to Pain-Free Living Without Drugs The Murad Method: Wrinkle-Proof, Repair, and Renew Your Skin with the Proven 5-Week Program Disease-Proof Your Child: Feeding Kids Right Official Truth, 101 Proof: The Inside Story of Pantera Allergy Proof Recipes for Kids: More Than 150 Recipes That are All Wheat-Free, Gluten-Free, Nut-Free, Egg-Free and Low in Sugar Allergy-Proof Your Life: Natural Remedies for Allergies That Work! The 2017 CBD Oil Guide for Pain, Anxiety, Athritis, Fatigue and Much More: The Latest Information, Studies, Benefits and The Scientific Proof Bullet-Proof Abs: 2nd Edition of Beyond Crunches Rejection Proof: How I Beat Fear and Became Invincible Through 100 Days of Rejection Proof of Heaven: A Neurosurgeon’s Near-Death Experience and Journey into the Afterlife Proof: The Science of Booze