Empire of the Stars: Obsession, Friendship, and Betrayal in the Quest for Black Holes

Arthur I. Miller
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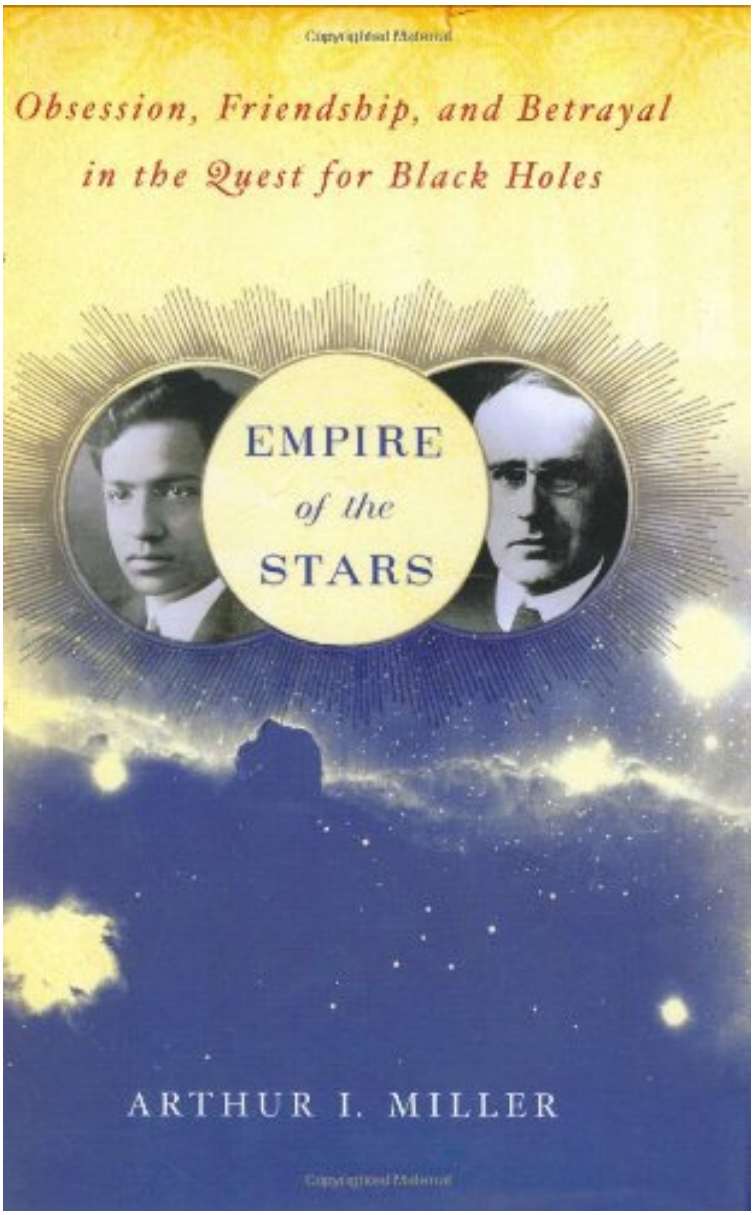

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Arthur I. Miller : Empire of the Stars: Obsession, Friendship, and Betrayal in the Quest for Black Holes before purchasing it in order to gage whether or not it would be worth my time, and all praised Empire of the Stars: Obsession, Friendship, and Betrayal in the Quest for Black Holes:

5 of 5 people found the following review helpful. Astrophysics without the equationsBy Alan Ross"Empire of the Stars" is a stellar depiction of astrophysics and the astrophysicists who make sense of it all. Miller focuses on the personalities and foibles of the men and women scientists who have contributed to our understanding of stars. The author presents their research through anecdotes and scientific discussions in the context of historical events. This gives added relevancy and significance to their work. In effect, Miller's formula for storytelling delivers new dimensions to astrophysics in "book-spacetime."The thrust of the book revolves around the scientific battle between Subrahmanyan Chandrasekhar (Chandra) and Sir Arthur Eddington over star collapse. Although it becomes apparent that Chandra's brilliant insight is correct, it is Chandra who becomes disillusioned and professionally detoured by the controversy. Chandra seeks refuge at Chicago where he flourishes in his research endeavors and is recognized as world-renowned scientist.The book is a colorful exposition on the genesis of black-hole theory. Miller uses historical events and the scientists themselves to reveal the mysteries of the stars. This book is a supernova for those interested in a biography of Chandra and a history of astrophysics.2 of 2 people found the following review helpful. Ample, Clear, Informative, IntelligentBy GioIf you like books described by the title above, you'll enjoy Empire of the Stars. The core of the book is a straightforward biography of Chandrasekhar, but that story is well wrapped in a social history of the international scientific community of the 20th Century. Author Arthur Miller does not convince all readers of his bold thesis that the clash between Chandra and Eddington impeded scientific progress by decades, but the interest of the book does not hinge on that dramatic device.0 of 0 people found the following review helpful. Great workBy DaveDGApart from an excellent description of a scientific theory for the benefit of the informed layman, it is also a fascinating story of the trials and tribulations of a great mind and how personal ego and preconceived notions of his colleagues made them blind to his epoch-making discoveries.

In August 1930, on a voyage from Madras to London, a young Indian looked up at the stars and contemplated their fate. Subrahmanyan Chandrasekhar--Chandra, as he was called--calculated that certain stars would suffer a strange and violent death, collapsing to virtually nothing. This extraordinary claim, the first mathematical description of black holes, brought Chandra into direct conflict with Sir Arthur Eddington, one of the greatest astrophysicists of the day. Eddington ridiculed the young man's idea at a meeting of the Royal Astronomy Society in 1935, sending Chandra into an intellectual and emotional tailspin--and hindering the progress of astrophysics for nearly forty years. Empire of the Stars is the dramatic story of this intellectual debate and its implications for twentieth-century science. Arthur I. Miller traces the idea of black holes from early notions of "dark stars" to the modern concepts of wormholes, quantum foam, and baby universes. In the process, he follows the rise of two great theories--relativity and quantum mechanics--that meet head on in black holes. Empire of the Stars provides a unique window into the remarkable quest to understand how stars are born, how they live, and, most portentously (for their fate is ultimately our own), how they die. It is also the moving tale of one man's struggle against the establishment--an episode that sheds light on what science is, how it works, and where it can go wrong. Miller exposes the deep-seated prejudices that plague even the most rational minds. Indeed, it took the nuclear arms race to persuade scientists to revisit Chandra's work from the 1930s, for the core of a hydrogen bomb resembles nothing so much as an exploding star. Only then did physicists realize the relevance, truth, and importance of Chandra's work, which was finally awarded a Nobel Prize in 1983. Set against the waning days of the British Empire and taking us right up to the present, this sweeping history examines the quest to understand one of the most forbidding phenomena in the universe, as well as the passions that fueled that quest over the course of a century.

From Publishers WeeklyIn 1935, Subrahmanyan Chandrasekhar, a young Indian astrophysicist studying at Cambridge, presented to the Royal Astronomical Society a radical new theory of what would later be called black holes. Cambridge's leading astrophysicist, Sir Arthur Eddington, who lorded over British scientific circles at the time, ridiculed Chandra's findings as "stellar buffoonery," and while Chandra later established himself at the University of Chicago and in 1980 received a Nobel Prize, this humiliation at Eddington's hands haunted him until his death in 1995. Miller's story is not only about Chandra's discovery but the end run that physicists made around it to confirm the existence of black holes, with both Eddington and Chandra disappearing for long stretches. Miller, a British historian of science (Einstein, Picasso), doesn't persuasively make his case that the course of 20th-century physics would have been significantly different if Chandra's findings hadn't been ignored, but he does paint vivid portraits of the scientists in this quest, the racism Chandra encountered at Cambridge, the internal battles between Eddington and other astrophysicistsinto which Chandra inserted himself with his theoryand both the excitement and despair a brilliant scientist experienced. Astronomy buffs and readers fascinated by the history of science will find this a compelling read. 8 pages of bw photos not seen by PW. Agent, Nann du Sautoy, U.K. (Apr. 25) From Scientific AmericanMiller, professor of history and philosophy of science at University College London, weaves two stories into one, making this scientific chronicle read like a novel. One story traces the steps whereby black holes came to be accepted in astrophysics as the way many stars end their lives. The other story describes the bitter relations between Subrahmanyan Chandrasekhar (universally

known as Chandra), who in 1935 provided the first mathematical description of what later came to be called black holes, and Sir Arthur Eddington, the most prominent astrophysicist of the time. Chandra presented his theory at a meeting of the Royal Astronomical Society in January 1935. He had discussed the theory with Eddington, who had flirted with the same idea, and supposed that Eddington would support him. Instead Eddington rose at the same meeting to declare that "there should be a law of Nature to prevent a star from behaving in this absurd way!" Eddington's stature was such that his view prevailed. "The encounter cast a shadow over both their lives," Miller writes, "and hindered progress in astrophysics for nearly half a century." Editors of Scientific AmericanFrom Booklist*Starred * Black holes--those cosmic pits of gravity consuming everything around them, including light itself--have long since entered the public consciousness. But the dramatic story of the scientists who discovered them--and then rediscovered them--has not. For what Miller reveals in this fascinating chronicle is that the largely forgotten first theoretical breakthrough in understanding black holes actually came in the 1930s from a then-obscure young physicist from India. Unfortunately, the brilliant early insight of Subrahmanyan Chandrasekhar (later famous as "Chandra") provoked not fruitful science but only professional scorn and personal frustration. The entirely unnecessary delay in the scientific community's acceptance of Chandra's insight reflected the singular obstinacy of one man: Arthur Eddington, the flawed titan who had almost single-handedly created modern astrophysics but who resisted Chandra's bold idea because it did not fit within his intellectual horizons. Yet alongside his account of misdirected professional antagonism, Miller unwinds an astounding parallel narrative of personal strength, as Chandra not only forgives his erring teacher but even comes to thank him for pushing him toward new challenges. A powerful reminder that science advances through the work of vulnerable humans. Bryce Christensen