GRAHAM FARMELO

'A must-read page-turner . . . revelatory, moving and definitive."

The unsung hero of twentieth-century physics is at last brilliantly illuminated."

UURAAN

Section 1

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THE HIDDEN LIFE OF PAUL DIRAC, QUANTUM GENIUS



COSTA BOOK AWARDS

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Graham Farmelo

The Strangest Man: The Hidden Life of Paul Dirac, Quantum Genius



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.The Strangest Man is an extraordinary and moving human being story, in addition to a study of one of the most exciting times in scientific history. He was among the leading pioneers of the greatest revolution in twentieth-century technology: quantum mechanics. The youngest theoretician ever to win the Nobel Prize for Physics, he was also pathologically reticent, strangely literal-minded and legendarily unable to communicate or empathize. Through his biggest period of productivity, his postcards house contained only remarks about the weather.' Lord Waldegrave, Daily Telegraph Farmelo displays a guy who, while hopelessly socially inept, could manage to love and sustain close friendship.' Michael Frayn The Strangest Man is the Costa Biography Award-earning accounts of Paul Dirac, the famous physicist occasionally called the British Einstein. 'A wonderful reserve .'A monumental achievement - one of the great scientific biographies. . Shifting, sometimes comic, sometimes infinitely sad, and would go to the roots of what we mean by truth in technology. Predicated on a previously undiscovered archive of family papers, Graham Farmelo celebrates Dirac's massive scientific achievement while drawing a compassionate portrait of his life and work.



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Not so strange now I rate this a top shelf biography. As a PhD in theoretical physics the author was properly trained to tackle the scientific part of this and also his long infatuation with the subject (Dirac) which gave him a lot of impetus to access the human aspect of the subject. He writes well, the tale unfolding very easily and warmly, taking us through the most common biographical circulation of a lifestyle after beginning somewhat abruptly with a very important past due insight into Dirac's personal applying for grants his father (in particular) and his life. In the end, his "strangeness" is usually a dominant attribute of both his personal existence and his scientific activity. I knew approximately Dirac since student times, but since physics wasn't my subject and the quantum stuff method beyond me, I by no means bothered with finding out approximately him beyond the fundamentals. Paul never lost his resentment more than his dad's tight controlling hand. The subject emerges as a huge for me now, even though I small understand the intricacies of what he did. The writer in this reserve does the opposite of this: he tells a story that makes sense (it's full of references) with all of its glorious occasions and deceptions. When Einstein recommends you as his first choice to appointment at the Institute for Advanced Studies, you understand you're of some value as a scientist. When people of the stature of Oppenheimer and Feynman are in awe of you, you understand you must be worth something. He also had a companion, a fellow scientist from Russia, with whom he went mountain climbing. He really was an excellent theoretical physicist who can be in comparison to Albert Einstein and who like Einstein derived a lovely equation in the vein of E = mc(2). Five stars. These are always more likely to intrude in a work of this size and breadth. I very much enjoyed scanning this biography. We see 1 reviewer found a couple of historical inaccuracies. Some sort of Technical Information for Dummies appendix, as it were, like the equations, but explained as simply as you possibly can - if that's possible, and I'm sure it is." Despite his atheism, it's hard not to attribute a kind of faith to Dirac, that the universe itself is "beautiful", that it be describable in simple, very clear terms, because the universe simply is a mathematical entity. He starts with Dirac's relationship to his dad, Charles Dirac. I must say i enjoyed this book I must say i enjoyed this book. I realise that stuff has ended the heads of all bio visitors (including me), but I believe it might be appropriate for scientific biographers to take into account including such material within an appendix (particularly when they are trained and capable as Farmelo can be). Paul's mother, Flo, was also seemingly hemmed in by Charles' strong hand. Bohr's comments related not only to Dirac's unusually spare social interaction style but also to his iconoclastic style of considering. In a field that's historically dense with collaborations and exchanges of results and methods, Dirac was an intense outlier, as somebody who rarely talked at all, infamous for one word responses also in conversations with colleagues about scientific issues. Farmelo blends the story of Dirac's odd personality and quirky behavior with the story of Dirac the physicist. This insight, obtained from a previous neighbour and colleague of Dirac's in Florida, shows us both an important human impact made on this man's life, along with the author's research quality, searching for and perhaps even going to the united states to interview this person. In every I am very pleased with this work. Charles Dirac was a strict, controlling father. He enforced a difficult work ethic, with little social existence for Paul, his brother Felix, and his sister, Betty. Felix committed suicide relatively early in his adult lifestyle, apparently over frustration along with his lack of achievement. Five Stars Great Five Stars Great conditions Five Stars Great physics I actually haven't enjoyed a bio anywhere near this much in a couple of years. But I am truly glad I purchased and read this reserve. Later in life, he'd voice that resentment, occasionally surprising friends and also bare acquaintances, breaking his regular silence with a diatribe against his dad's treatment of him. As he grew older, and especially in his relationship to the Hungarian sister of Eugene Wigner, Manci, he appears to have freed himself to some extent, discovering that he could appreciate hobbies like mountain-climbing and swimming. With a background also in engineering, he certainly was attentive to the necessity to tie mathematical speculation back again to verifiable observations, but it was the math that transferred his thoughts. Properly Blended Portrait of Dirac's Personality and His Work The title of Farmelo's book originates from Niels Bohr, who

told a colleague that Paul Dirac was "the strangest man" to ever visit Bohr's institute in Cophenhagen. Their marriage deteriorated but ended just with Charles' loss of life, and long before that she came to look to Paul as her primary emotional support. The author does an excellent work in portraying the family dynamics of Dirac's upbringing and the culture - both general and educational - to which he was uncovered. Then there is Dirac the scientist. He was a mathematical physicist, a theorist of a pure kind. I recognized I had never enjoy just how many theoretical contributions he produced, not merely in new, original concepts, like antimatter, but also in pressing existing theory to meet his mathematical standards. Hewas very, Very strange but also was a genius!Dirac was propelled by mathematics. But he taken care of an odd, withdrawn personality throughout his existence, customarily sitting alone in both scientific discussions and in public situations. Farmelo quotations Dirac — "The most powerful method of advance which can be suggested at present is to employ all the sources of pure mathematics to efforts to perfect and generalise the mathematical formalism that forms the prevailing basis of theoretical physics, and after every such success in this direction, to attempt to interpret the brand new mathematical features when it comes to physical entities. Dirac's biography is defined within a clear cut account of the advancement of 20th hundred years physics. . "It would be hard to say that Dirac was the first physicist to consider his lead from natural, abstract mathematics — in the end, the debate on the function of abstract theory vs. experiment and observation dates back to Descartes and Bacon. "Beauty' here's somewhat ironically undefined, for someone as meticulous as Dirac in identifying the meaning of any theoretical conditions. Actually, maybe Dirac's most widely known primary contribution — anti-matter — was a mathematical construction. It got significant period before his speculations could possibly be verified in observations of cosmic rays at Caltech and then by his colleagues at the Cavendish Labs at Cambridge. Farmelo stresses Dirac's insistence that good theory in physics match a criterion of "mathematical beauty". Nonetheless it would be just as difficult to find a stronger proponent for going wherever the math leads, and then picking right up the thread of actuality in its wake. But it relates essentially to simplicity and universality, traceable back again to Dirac's early reading of John Stuart Mill's SOMETHING of Logic — something that seemed to have strongly influenced him throughout his profession. As a pseudoscientist in comparison to a theoretical physicist, I enjoy reading a book in regards to a true scientist whose brain works differently from that of most of us. They may be corrected in another edition and the reviewer thanked for drawing focus on them. Despite Dirac's eccentric public behavior he was at the guts of the quantum revolution in physics. In fact it is that mathematical purity that may be his most profound legacy as a scientist. He worked directly challenging leading physicists of his period, a regular visitor to the labs of Bohr in Copenhagen and Born and Heisenberg in Gottingen, as well as circulating among the theoretical and experimental physics groups at his own Cambridge. Later in lifestyle, he was a frequent visitor to the Institute for Advanced Research, where Einstein among others sought him for a permanent position. Farmelo's writing is simple, relatively nontechnical, even though this is not at all a "page-turner". He has the physics credentials to tell us the science side, but it is as much personal biography as intellectual biography. You gained't find a great deal of equations, or even complex technical discussion. Yet I think Farmelo did a good job of likely to the depth necessary to make it clear that such ideas as anti-matter evolved, in Dirac's thought, through a compelling mathematical path instead of as blue sky speculations. This might be the greatest power of his writing. I love reading a book in regards to a true scientist whose human brain ... Another quote acts to state how important the role of beauty in theory was for Dirac — "It is more vital that you have beauty in one's equations than to have them fit experiment. For reasons uknown I love the truth that his character was different and the associations that went with it such as for example his father forcing him to speak French at breakfast each morning and when he slipped up the very next time he had a request his dad would deny it. Also he spoke hardly any therefore the theoreticians who knew him stated "one Dirac" is one spoken word per hour. However he gave amazingly beautiful and immaculate lectures in physics at Cambridge University. Such

was it for Dirac. Unlike at least among the reviewers here, I am disappointed that people don't get more technical explanations of some of the science. He was also the recipient of the Nobel Prize in theoretical physics in 1933. It was interesting to get toward the end of the publication that the author compared his personality to that of an autistic person and discovered an incredible positive correlation. The reserve was quite lengthy but I could not really put it down until it had been finished. It also enlightened me as to the period of period in which Paul Dirac worked and to the living circumstances of England and Cambridge and of great theoretical physicists of the time. A wonderful read. A STRANGE MAN INDEED Paul Dirac was an excellent physicist and mathematician who developed formulas that clarified quantum theory. It is certainly a central theme of Farmelo's accounts of his life. The strangest man tries to understand the strangest section of physics An entertaining, easy-to-read book that leads me to comprehend and admire a lot more Dirac The Strangest Man in Physics and his incredible conception of the beauty of Mathematics as the foundation of the physics that governs the Universe. I purchased it about 8 a few months ago and have already read it completely twice as well as dipping into numerous index entries 10 or 15 moments. It gave some extremely interesting insights into how the field of quantum theory created - and the human relationships, rivalries, and personalities, of individuals involved. Dirac WAS uncommon, but after reading his life story, one can understand how he had become that way. Excellent Book This is a truly remarkable biography of a pioneer physicist who had an amazing and interesting life. The mix of a controlling dad and a clinging mom put Paul in a kind of vice, without doubt partially in charge of his odd character. . The writing design is unadorned and very clear. Betty clung to the family, looking after her parents, Flo, until marrying in her 30s. It's unfortunate that a lot of recent biographies have problems with what I contact: the walkingon-water syndrome. By that I mean bios where the writer paints their subject matter as obscure beings and goes on to list events with little to no effort to delve deep to their life and work. It is however, an easy task to appreciate the magnitude of what he achieved, how he was rated by mentors, colleagues and juniors. Furthermore, he also switches into some degree of technical detail which makes you value who Dirac was, what his contributions are and his applying for grants various matters without taking credit from anyone or apologizing for anything. It's basic authentic. I give for example that succeeds admirably Pais' bio of Einstein, where in fact the technical details are provided by the physicist-biographer in a manner that will not intrude for the non-mathematical reader but is extremely useful for those who can benefit from it.



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