

**Desmond MacHale and Yvonne Cohen: New Light On George Boole,  
Atrium, Cork University Press, 2018.  
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The book is too detailed to be a casual read. It is not suitable for someone seeking a quick recap of the life of George Boole. Rather, it presents a varied collection of snippets from Boole's life, ideal for someone already familiar with this influential mathematician, and interested in learning about his personal life. From excerpts of letters and comments, an intimate picture of a man emerges. We get to know George Boole as a loving son and brother, thoughtful friend, deep thinker, mathematician, hard worker, and more. We get a glimpse into his insecurities, celebrations, and values. The further we get into the book more we feel like we know George Boole personally, beyond dry biographical facts. It almost seems like the authors were following the words of Boole's friend Joseph Hill (taken from the book): "I feel that a memoir, like a portrait, may require many little strokes, insignificant in themselves, but collectively useful for filling up the picture with suitable shading."

Well-researched commentary on quotations from letters helps to transport the reader back in time. We are connected with historical events and circumstances, ranging from politics and religion to pregnancy apparel, and extending to the first hippopotamus in Central Europe and the medical practices of the time.

The opening chapter, *Boole Family History Notebook*, gives a reproduction of the text most likely written by Mary Ellen (Boole's eldest daughter) followed by an informative commentary. We learn about Boole's ancestry: a family that valued education. A picture of George's Boole father John Boole emerges as a science enthusiast with strong personality. Ups and downs of the family are outlined, painting a picture of the circumstances that formed George Boole's early life.

The second chapter is dedicated to a reproduction of a biographical memoir written by George Boole's sister MaryAnn. This memoir is appearing in print for the first time in this book. The reproduction is accompanied with a short commentary on the text that allows itself to be slightly critical of MaryAnn for not even mentioning Boole's wife in her account. Through the memoir we again meet the strong figure of John Boole, and follow the life of George Boole through MaryAnn's retelling.

In the third chapter, *1849–1855: Home and Work*, an intimate insight into the relationship between siblings emerges through excerpts from Boole's letters to his sisters. These are accompanied by comments providing historical setting and other relevant supplementary information. A variety of topics is discussed, from family affairs and every-day routines, to politics and university affairs.

After providing a historical backdrop, the fourth chapter assumes a similar format to the previous one, this time focusing on Boole's social interactions and travels. Through his letters, we get a first-hand account of life in Cork at the time. Historical events

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are connected to the letters. We again see how close Boole was to his sister, letting her know how he felt, about people he met, details of his trips, and sights he has seen. Several prominent Irish figures and families are seen to have crossed paths with George Boole.

Chapters 5–9 are dedicated to close friends of Boole's. Friendships of mutual admiration and respect emerge in snippets of letters that Boole wrote to Dr Bury. Boole clearly held his friend's opinion in high regard. He turned to him for advice about his wife's pregnancy, as well as asking for comments on chapters of the book he was writing. The chapter on John Bury concludes with his biographical letter on George Boole.

Joseph Hill was a school friend of George Boole, and the two men sustained their friendship of intellectual prowess. Through letters we see Boole as a man with an impressive span of interests: languages, literature, even biblical analysis. Letters written by Hill solidify the impression that the two men found intellectual companionship together. Among snippets from the life of Boole in this chapter, the one where Boole and Hill meet Charles Babbage is particularly significant.

Reverend E. R. Larken is another lifelong friend and correspondent of Boole's that we meet. Through excerpts from letters and the accompanying commentary we get a peek into Boole's considerations around the publication of his first book, *A Mathematical Analysis of Logic*, apprehension over his application to an Irish professorship at Queen's College Cork (QCC), and religious beliefs.

In his letters to William Brooke, Boole allows himself to bluntly criticise Sir Robert Kane and the administration in QCC at the time. This is contrasted with affectionate passages about his family revealing gentleness and care towards his wife and young daughters. We learn about his travel in both Europe and Ireland. The reader is transported to a beautiful Wicklow scenery through enthusiastic Boole's account only to be brought ruthlessly to reality with snippets of his letters that refer to ill health written shortly before his untimely death. The chapter ends on a sombre note, with Brooke's sorrowful writing shortly after the death of his friend.

Cooper was a schoolmaster and related to Boole by marriage, while Clarke was a pupil both of Cooper and Boole. Cooper and Boole were acquaintances, but did not become close friends. Nevertheless, Cooper is another character in the book that admired Boole, and was influenced by him. Clark, who built a political career in Canada, had fond memories of Boole as a teacher. A few anecdotes help us to build a picture of Boole in the classroom: a bit eccentric, enthusiastic about the subject matter, and close to his pupils. Chapter 10 further fills out our impression of Boole, with memories of him from a list of friends and former students.

Chapter 11 revolves around correspondence with mathematicians. Encouragement, support, and thirst for mathematical discoveries emanates from correspondence with Duncan Gregory, Robert Leslie Ellis, Issac Todhunter, and others. We get a look into how mathematicians corresponded at the time, and the kind language and supportive attitude they used in commenting on each others' work.

Chapter 12 discusses circumstances surrounding the tragic and premature death of George Boole. He and his wife believed in the healing powers of "hydropathy," which was introduced in Cork by Richard Barter. It seems that Boole at least partly relied on this treatment when he was very ill, which did not help his recovery. The chapter includes a distressing-to-read letter written by Boole's neighbour Annie Gibson detailing the progression of Boole's decline in health during the last days of his life.

The 13th chapter, titled *Booleana*, provides an eclectic mix of topics connected to Boole. We learn about poetry written by Boole's daughter Mary Ellen Hinton, scientists that were contemporaries with Boole, residences of Boole in Cork, and of accomplishments of some of Boole's descendants. The chapter concludes with a list of various

examples that memorialise Boole: from stained glass windows to a crater on the moon, and even a George Boole Google™ Doodle.

The last chapter explores the hypothesis that Sir Arthur Conan Doyle based his character of Professor James Moriarty, arch-nemesis of Sherlock Holmes, on George Boole. Some highly suggestive evidence is presented, but (as authors themselves note) it is unlikely that the villain is based on any single person. Following a story that connects Boole and his wife with H. G. Wells, who knew Sir Arthur Conan Doyle well, makes it seem very likely Sir Arthur Conan Doyle knew of Boole. Nevertheless, we get a sense of Boole's reputation, which seems to have reached outside mathematical circles after the publication of Boole's book *The Laws of Thought*. The arguments presented make it easy to imagine Boole inspiring a fictional figure who embodies logic, deduction, and proof.

The organisation of the book is clever, in that it allows each chapter to be read in isolation, and in any order. Rather than a tome which must be read from start to finish, this work can be approached from any direction, with the reader dipping their toe into whatever topic or chapter strikes their fancy. As such, it is not just a reference book which belongs in any library, but also an ideal book for browsing by anyone who wants to transport themselves to a fascinating age and explore the life of a fascinating man: a product of his time whose work lives on and whose influence continues to be felt.

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