

Raymond Smullyan

Some Interesting Memories: A Paradoxical Life

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REVIEW

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An autobiography written towards the end of a career often serves several functions. It provides details of the life of the writer, and for that subsequent biographers will be grateful. It offers a picture of how a field looked to one of its contributors, a good corrective to the perspective available after that individual's contributions. It's not likely to be an analytical summation of a life's work, since that would be exceptionally difficult for the individual whose work it was. It may be a lively story, with the hope of attracting readers and students to ideas and techniques.

Raymond Smullyan, whose autobiography is all of these, has played more than one role in the development of mathematical logic in the twentieth century. He has written textbooks that are on the shelves of many practicing logicians on first-order logic and Gödelian incompleteness. He has written books of puzzles designed to inculcate the basic ideas of areas like combinatory logic and Gödel's work (again) in a nontechnical fashion. He has put together collections of chess problems designed to lead the solvers along unfamiliar paths. This does not even take into account his writings of a more philosophical bent, reflecting the influence of Zen Buddhism and Taoism.

In his autobiography Smullyan spends a good deal of space on how he came to logic in the first place. After all, it was not as though he did not have choices with regard to a career. He could earn a living as a magician (in the grand tradition of the historian of science Robert K. Merton) and was a gifted musician as well. Perhaps there was some element of pressure from his immigrant parents that suggested an academic career as a more stable source of income. At any rate, it is clear that Smullyan's enthusiasm for magic and music remains

undiminished, even if health problems interfered with his ability to continue to perform on the piano at the level he had attained.

One feature of the autobiography for which the reader had better be prepared is the prevalence of jokes and puzzles. The jokes are in the style of a previous generation, but the puzzles continue to offer challenges even to the mathematically minded reader. In a sense the puzzles are Smullyan's way of doing magic when all he has to work with is the printed page. He starts with nothing, and ends up with a joke or a point about quantification. This is a book that can be described as having no prerequisites except for a willingness to laugh and learn.

The irregularity of Smullyan's academic career is reflected in the rather irregular structure of the book, which jumps about from section to section (and sometimes even from paragraph to paragraph). The first two parts are the body of the book, and there follows a section of brief recollections by others (such as Melvin Fitting and Marvin Minsky) of Smullyan's personality. Even in the earlier sections Smullyan is likely to interrupt his account of his career with a sequence of philosophic jokes. He then returns to his memoirs with 'All right, enough nonsense;' but the reader need not worry that the nonsense will take long to reappear.

Smullyan's autobiography bears witness to the influence of personalities in following intellectual paths. The prevalence of photographs and drawings throughout the text speaks for the author's eagerness to keep those who influenced him from being lost simply in a sea of words. He does not want to give an impression of being unfair to logical positivism, so he relates a joke that he once told Carnap. It is not just magic that he pursued, but the personality of Houdini. Students who have stumbled across a class of Smullyan's have stayed and learned in response to his personality.

Smullyan uses his soapbox as a way of preaching the importance of logic. He does not do that by exploring his own logical research but by pointing out the ease with which one can be taken in by a plausible argument without a logical apparatus with which to check the argument. The problem with this line of thought is that Smullyan himself commits some howlers in the course of his discussion of various mathematical topics. For example, he offers on page 24 a novel method for deriving the number of individuals required so that the probability of a shared birthday is above 50%. If it were correct, this would be a simplification over the standard version, but it is not.

This is just one example of the kind of complaint that an attentive reader might make about the proofreading of the text. Mathematical autobiographies are not always to the taste of publishers like Springer

or university presses, so one has to be grateful to the small publishers that are willing to take on volumes not likely to make a fortune for their proprietors. Mathematicians tend, however, to be sticklers for details, and the only way to avoid creating some sort of annoyance is to give the text a thorough proofreading before publication. It's not as though such proofreading for this volume would have spoiled the freshness of Smullyan's style.

The reader of Smullyan's books of puzzles will find here some account of what led to their creation. (This applies to *The Chess Mysteries of Sherlock Holmes* as much as to *Forever Undecided: A Puzzle Guide to Gödel*.) One can also appreciate the force of Smullyan's personality, as reflected in the anecdotes he presents as well as the recollections of others. If one were looking for a systematic account of Smullyan's life, this book would be frustrating. On the other hand, anyone contemplating the task of putting together such an account or for understanding Smullyan's role in the development of logic in the twentieth century would find raw material of value here, and plenty of jokes to season it.

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