Aczel, Amir D.   *   01002

The mystery of the aleph. Mathematics, the Kabbalah, and the search for infinity. New York, NY: Four Walls Eight Windows, (ISBN 1-56858-105-X/hbk). vi, 258 p. $ 24.95 (2000).

Aczel has produced a piece of mathematical literature that is difficult to set aside. The writing is eloquent but informal; the reading is casual, but precise. The book reads like a movie script designed to capture the reader's attention from the first line up to the last. It is like one of those adventure movies where we find ourselves immediately immersed into the action; or, one of those historical movies, narrated in retrospective, where we already know the outcome of the main character or hero and, then, our main concern rests on learning the details of the development of the story. Aczel's description is so vivid that, at moments, the reader feels like a genuine witness of the events.

In brief, the plot of the book narrates the intellectual conquest of the actual infinite. The story contains mathematical, philosophical and theological interconnecting issues covering a period from 1870 to 1963, approximately. First, it tells how Cantor, almost singlehanded, developed the theory of transfinite numbers; and, second, it also portrays how some of the ideas emanating from it, produced some of the most outstanding mathematical results of the XXth century (e.g., Gödel's and Cohen's among others).

Nevertheless, Aczel's monograph is a rather conflicting product of the printing industry. From the literary point of view, as I have already argued, the monograph is extremely readable; but, from the academic point of view, there is a number of questionable statements that picture a misrepresenting reconstruction of this episode of mathematical history. Although, Aczel is not addressing the professional historian of mathematics or philosophy, one expects to find an accurate and consistent narrative from the historical and technical point of view. The origins of some of these meaningful inconsistencies and errors are closely associated with the research process. A research process that must not be constrained to visiting the physical environment (e.g., cemetery, archives, residence, university and other institutions, among others), the reading of popular secondary literature (e.g., Bell), general historical treatises (e.g., Boyer) and old mathematical textbooks (e.g, Drake and Kamke, among others). A simple glance at Aczel's list of references indicates a huge vacuum of some of the most important historical works developed in the last twenty years, including those of Coffa, Ferreirós, Garciadiego, Peckhaus, Purkert, Rodríguez-Consuegra and Tiles, among many others. These are some of the sources, as a result of the recent professionalization of the history of mathematics, that contain some of the most insightful, revolutionary and penetrating historical contributions and reconstructions of this particular event.

Aczel, as he mentions in an author's note [p. 233], learned the basics of what I call 'a standard interpretation' [see the reviewer, Hist. Math. 13, 39–41 (1986; Zbl 587.01013)] some twenty-five years ago and, I presume, did not attempt to update it, except for those new sources that seem to support his initial premises. Even more significant, when some of these new sources are mentioned (e.g., Dauben, Grattan-Guinness and Moore, among others), Aczel seems to misunderstand and demerit their historical contributions.

In short, Aczel's account will be another source where myth will prevail over historical research.

Alejandro R. Garciadiego (México)