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The Abel Prize 2008-2012

Helge Holden and Ragni Piene, editors

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MAA REVIEW | TABLE OF CONTENTS

[Reviewed by Fernando Q. Gouvêa, on 03/3/2014]

When it comes to mathematical prizes, I am definitely Abelian. For too many years the Fieldsians have gotten away with claiming that the Fields medal is the "Nobel prize of Mathematics," when in fact it is (by design!) *nothing like* the Nobel prize. The Fields medal recognizes young mathematicians whose work is truly exceptional. By focusing instead on lifetime achievement, the Abel prize is the mathematics community's way to thank those whose work, style, and point of view have proved their worth over many years. Of course, many Abel prize winners were also promising when young, and in fact there have been several Fields medalists who went on to win the Abel as well.

The mathematicians honored here are John G. Thompson, Jacques Tits, Mikhail Gromov, John Tate, John Milnor, and Endre Szemerédi. That is an impressive list of names, all certainly deserving of the honor.

Like the previous Abel Prize volume, this book contains accounts of the work of the prize winners (we really need an Abel version of the word *Nobelist*) from the period. Some winners (e.g., Milnor) get more than one essay, because their work is broad enough to justify that. In other cases (e.g., Gromov), a team of authors is used to provide sufficient coverage. The essays are excellently done. They are followed by a list of publications (so far) of each of the winners. In addition, each winner has contributed an "Autobiography." There are many photographs and a lot of good mathematics.

Bookending the material about the prize winners are two essays related to the Abel prize itself. The first, at the very beginning of the book, asks whether the Abel Prize is indeed fulfilling the dream of "the missing Nobel in mathematics" and concludes with a section discussing possible adjustments. The last substantial chapter in the book is about the work of Abel himself, as if to put him and the winners on the same footing. This feeling is reinforced by the inclusion, in the place where the autobiography would be, of a letter from Abel to August Leopold Crelle.

At the very end are updates and corrections to the material on the earlier winners of the prize

contained in the first Abel Prize volume. They consist mostly of additions to the bibliography for each of the winners. Clearly winning the Abel prize does not stop one from doing more mathematics!

Just the autobiographies and photographs would be sufficient for me. With the addition of high quality mathematical exposition concerning the work of some of the most important mathematical figures of the past half-century, the book becomes irresistible, a delightful addition to my library.

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