

# Original Introduction

*Those who forget the lessons of history are doomed to repeat it—Arnold Toynbee, 1919*

The history of computing is founded on people. While one can create a chronological history of the field based on the artifacts and concepts that provided the stepping stones from the first simple counting tables to modern (super) computers, behind every intellectual concept there is a person, and from that person we can learn special personal lessons. From our experience in editing the *Annals of the History of Computing*, many of the manuscripts submitted for consideration lack two most important elements—a review of the environment in which an artifact or concept is born, and the downstream impact of the introduction of that artifact or concept in the field of computing and computation. One significant element of the environment in which computational elements are created is the people who inhabit the field. This book looks at those pioneers, their qualifications, their activities, and the recognition accorded them by our industry.

The source of many biographies is the *Annals of the History of Computing*, either from the biographical data provided when the pioneer wrote a paper for publication, or, regrettably, from an obituary when the pioneer died. In some cases, the biography was the subject of a scholarly paper in the *Annals* or in another journal; where possible, edited versions of these articles are reprinted here. A major starting point for selecting this set of pioneers was the listing created by this author and Eric Weiss for the tenth anniversary issue of the *Annals*. That list was derived from one major source—pioneers whose name appeared in the index for the first ten volumes three or more times. The new list has been extended considerably, especially in the recognition of pioneers outside the US.

Collecting a list of pioneers whose biographies should be included in this volume is akin to selecting persons to be honored in a Hall of Fame. And in consonance with various established "Halls of Fame," I have attempted to include not only those whose contributions have been central to the progression of the field of computing, but also those who played supportive roles as enlightened managers, financiers, or educators. To distinguish between a "pioneer" and a "significant contributor" has been difficult. My general guideline has been that a pioneer is one who introduced a new element, concept, or direction to the field.

Each biography is accompanied by a list of publications in which the reader may find more information about the accomplishments of the pioneer. Each bibliography is divided into two sections—biographical entries and significant publications. The former includes autobiographical and biographical articles as well as (where appropriate) obituaries. Where a pioneer has written about his accomplishments much later than the time of the work, it is classified as biographical; a report written at the time of the work is listed as a significant publication. In many cases the biographical information is reprinted from an obituary or an eulogy; in those cases where the original author included a set of references for the work, these have been included separately.

It is to be expected that reviewers of this collection of biographies will comment on the unevenness of the presentations. Where a pioneer has written an autobiographical article, we have chosen at least to incorporate portions in the biography printed here. Throughout the work on this collection we have tried to give credit where credit is due, and to recognize that it is not the number of words that measure the quality of a pioneer's contributions to our field. Some of our pioneers have had much written about them, and their lives have been opened up to meticulous scrutiny, while others, working in the background, are unnoticed because their work is not quite so exciting. Some of our pioneers had lives that extended far beyond their well-known activities in computing or computer science, and while we have not emphasized these activities, we have included notes on them when they show their personalities. Hopefully I have balanced the attention to the homosexuality of Alan Turing with the Catholicism of Gerry Weeg and the nationalistic pride of Grace Hopper. We would hope that in future editions, more complete biographies of some of our pioneers can be added to match those of their peers.

We need to nurture and recognize our pioneers more frequently. One of the interesting fall-outs from the activity of recording biographies was to notice how many of our pioneers have not been honored by our professional societies or by their countries. Where possible I have not restricted the list of pioneers to those who have been recognized by such designations as fellows of societies, or as members of academies. Perhaps the award committees of our societies and academies will be prompted to recognize some of our pioneers and to reward them after this publication.

## Acknowledgements

The origin of this work is the set of one-liners that were created by Eric Weiss, Biographies Department editor of the *Annals of the History of Computing*, Michael Williams, Assistant Editor-in-Chief for Departments, and myself. That set of approximately 200 entries was published in the 10th-anniversary issue of the journal. From that beginning grew my inspiration to do a more complete job of recognizing our pioneers. Eric has continued to serve as the editor of the Biographies Department of the *Annals*; several of the biographies contained herein were authored by him, subjected to my heavy-handed editing and extended to include formal (*Who's Who* style) biographies, and listings of publications. My thanks to Eric for his contributions. My son Stuart helped me get started on this second project to identify the pioneers of our field, by doing much of the library searches for existing biographical materials. Many thanks to the several typists who have helped out in the preparation of this set of biographies, including Kellie Ross, Lisa Cox, and Molly Rich. I am also extremely grateful for permission to include excerpts from their original works by the following authors:

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A significant source of information about members of staff of the IBM Corporation was: Pugh, Emerson W., Lyle R. Johnson, and John H. Palmer, *IBM's 360 and Early 370 Systems*, MIT Press, Cambridge, Mass., 1991. While this book does not contain specific biographies of IBM pioneers, there are a number of anecdotes about them, and I have drawn extensively on this source to provide information on a number of persons included herein.

**EDITED FROM UNPUBLISHED CONTRIBUTIONS BY THE FOLLOWING AUTHORS:**

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The sources of these excerpts are included with each biography.

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