

History of Programming Languages—II

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EDITORS' INTRODUCTION

In 1978, the ACM Special Interest Group on Programming Languages (SIGPLAN) sponsored a Conference on the History of Programming Languages (HOPL). Papers were prepared and presentations made at a Conference in Los Angeles, California. The Program Committee selected thirteen languages that met the criteria of having been in use for at least 10 years, had significant influence, and were still in use. The languages were: ALGOL, APL, APT, BASIC, COBOL, FORTRAN, GPSS, JOSS, JOVIAL, LISP, PL/I, SIMULA, and SNOBOL. The results of that conference were recorded in *History of Programming Languages*, edited by Richard L. Wexelblat [New York: Academic Press, 1981].

The Second ACM SIGPLAN History of Programming Languages Conference (HOPL-II) took place on April 20-23, 1993 in Cambridge, Massachusetts. The papers prepared for that conference form the basis of this present volume, along with the transcripts of the presentations, a keynote address "Language Design as Design" by Fred Brooks, a discussion of the period between HOPL and HOPL-II by Jean Sammet, and a talk on "What Makes History" by Mike Mahoney (the conference historian). There was also a banquet, hosted by Bernie Galler, and a closing panel of six language developers, chaired by Mike Mahoney. Unfortunately due to page limitations, the transcripts of the banquet, Forum, and the closing panel are not included in this volume. It is our hope that they can be published elsewhere. The Conference was preceded by a Forum on the History of Computing, chaired by Bob Rosin, and the papers presented at the Forum complete this volume.

The Program Committee for HOPL-II decided to have both invited and submitted papers, and we believe that the range of languages and the quality of presentation will make this volume a classic in the history of programming literature. The languages at HOPL-II were: **Ada, ALGOL 68, C, C++, CLU, Discrete Simulation Languages, FORMAC, Forth, Icon, Lisp, Monitors and Concurrent Pascal, Pascal, Prolog, and Smalltalk.**

The majority of this volume is the material on the individual languages, with a chapter devoted to each language, as follows:

- a paper by each author;
- a transcript of the author's presentation;
- a transcript of a discussant's remarks (not all languages);
- a transcript of the question and answer session;
- biographies of the authors.

It should be noted that some authors' presentations closely followed their papers, and since the book is oversized, the transcripts of these presentations were omitted, with the kind permission of the authors.

All papers were published as preprints in *ACM SIGPLAN Notices*, Vol. 28, No. 3 (March 1993). The papers are reprinted here with the permission of ACM and of the authors. In some cases changes have been made by the authors to correct typographical or factual errors. In some cases additional material has been added, with an appropriate notation by an author or editor.

EDITORS' INTRODUCTION

Jan Lee, Jean Sammet, and Bob Rosin, in their various capacities, have identified the numerous people who worked so long and hard on the Conference; however, we would like to identify the people who assisted us in the production of this volume:

Betty Henderson patiently transcribed 24 hours of difficult computer jargon, and put it on diskettes so Rick and I could begin editing;

We are especially grateful for the support of the National Science Foundation for providing partial funding for the conference and for the preparation of this book, under grant CCR -9208568 and to Nora Cortes-Comerer of ACM Press who secured the additional funding necessary for the completion of the project. In addition to sponsoring the conference, SIGPLAN and its current Chair, Barbara Ryder, provided additional funding for the preparation of photographs for this volume;

Alan Rose of Multiscience Press, Inc. (New York, NY) served as our producer, and Lauralee B. Reinke of Context Publishing Services (Sausalito, CA) formatted all of the material; without their expertise, the technical details of preparing a book of this size would have overwhelmed us;

Special thanks go to Anita LaSalle, Chair of the Computer Science and Information Systems Department at The American University for cassettes, diskettes, thousands of pages of photocopies, and FedEx charges to send materials around the globe; and to Sandy Linden, Mark Davidson, and Maureen O'Connell who provided us with administrative support;

And last, but not least, a special thanks to Dick Wexelblat who started this book project; he was always there to share his experience and to give advice when asked.

We are especially indebted to those individuals whose presentations were deleted from this volume due to page limitations, colleagues who gave of their time and talent without the reward of seeing their efforts in print.

Our families deserve our sincere appreciation, since efforts of this magnitude naturally intrude on family life:

Diane, John and Jeannine, Michael and Kathleen Bergin, and a special thanks to Karen and *baby* Gibson.

Finally, we would be remiss if we did not thank Jean Sammet, who has spent much of her professional life preserving the history of programming languages. There is no way to thank her adequately for inspiring the conference or for almost two years of campus visits, telephone conversations, telephone reminders, e-mail messages, and other support that she willingly gave us during the preparation of this book. Without her single-minded devotion to her profession, our discipline would be missing the incredibly rich history captured in this volume.

Tim Bergin
Rick Gibson