

# Origins and Foundations of Computing

Friedrich L. Bauer

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In Cooperation with  
Heinz Nixdorf MuseumsForum

With Editorial Assistance from Norbert Ryska



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## Foreword

The Heinz Nixdorf Museum Forum (HNF) is the world's largest computer museum and is dedicated to portraying the past, present and future of information technology.

In the "Year of Informatics 2006" the HNF was particularly keen to examine the history of this still quite young discipline. The short-lived nature of information technologies means that individuals, inventions, devices, institutes and companies "age" more rapidly than in many other specialties. And in the nature of things the group of computer pioneers from the early days is growing smaller all the time.

To supplement a planned new exhibit on "Software and Informatics" at the HNF, the idea arose of recording the history of informatics in an accompanying publication.

My search for suitable sources and authors very quickly came up with the right answer, the very first name in Germany: Friedrich L. Bauer, Professor Emeritus of Mathematics at the TU in Munich, one of the fathers of informatics in Germany and for decades the indefatigable author of the "Historical Notes" column of the journal Informatik Spektrum.

Friedrich L. Bauer was already the author of two works on the history of informatics, published in different decades and in different books. Both of them are notable for their knowledgeable, extremely comprehensive and yet compact style. My obvious course was to motivate this author to amalgamate, supplement and illustrate his previous work.

Only one thing occasionally hindered the otherwise fruitful, almost daily exchange of information between Friedrich L. Bauer and myself – the incompatibility of our two computer systems: a situation that remains irritating even 60 years after the invention of the computer and which will never be entirely resolved.

I heartily thank the publishing houses Springer and Vieweg for permission to use their published material.

For a number of years now the HNF has been editing its publications jointly with the publishing house Schöningh in Paderborn, and my inquiry as to whether it was interested in this publication very promptly received a positive response, for which I sincerely thank Dr. Raimar Zons.

Many thanks to Alfred Wegener for procuring and archiving numerous text and image files. Dr. Jochen Viehoff dealt with the optimization

of numerous images for printing. And many thanks to Marcel Jaspaeert for his substantial contribution to laying out the manuscript, for which task he – unwillingly but with his usual alacrity and competence – had to acquaint himself with Donald Knuth’s computer typesetting program **TEX**, to which Professor Bauer remains faithful.

LS Language Services GmbH translated the text with great technical expertise and sensitivity.

I very much hope that this little book – “*pauca, sed matura*”, as Carl Friedrich Gauss would have said – will in future be found on many computer scientists’ bookshelves, and particularly on those of computer science and informatics students. No one can claim to have fully mastered his or her own technical discipline without knowledge of its history. Even the originators of the HNF had to begin their design process by directing their attention “back to the roots” in order to attain a vantage point from which they could observe the inception of later developments and evaluate their significance.

A scientific discipline such as informatics possesses numerous roots and is well grounded. But it is only natural to have doubts, to wonder whether, perhaps, one is not merely a sideshoot from some more significant rootstock. This feeling of uncertainty has accompanied informatics since it was established as an academic subject towards the end of the 1960s. Perhaps this “Brief History of Informatics” can also serve to give it more confidence and security.

Like the “Year of Informatics 2006”, we hope this book will arouse both curiosity about the field of information technology and interest in current digital developments in our society.

Paderborn  
August 2009

Norbert Ryska  
Director  
Heinz Nixdorf MuseumsForum

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