



BIT by BIT

*An Illustrated History
of Computers*

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Preface

No machine, no matter how extraordinary, is as interesting as its maker. When Wilhelm Schickard, a German professor at the University of Tübingen, invented the first mechanical calculator in 1623, he was giving expression to an imagination much richer, much stronger, than any collection of gears and axles. “History,” declared the British historian and essayist Thomas Carlyle, “is the essence of innumerable biographies,” and this book is as much, if not more, about the people whose work led to the invention of computers as it is about computers themselves.

Bit by Bit is also about ideas — in particular, the ancient and great idea that intellectual work can be performed by machines. The notion apparently originated with the invention of the abacus in Babylonia about five thousand years ago and evolved, in ever more potent forms, into the slide rule, the mechanical calculator, the punch-card tabulator, the first electronic calculating machines, and finally, in the United States and Great Britain in the late 1940s, the electronic digital computer.

The invention of the computer was one of the greatest technological achievements of the twentieth century, but it wasn't until the development of the personal computer, in the mid-1970s, that the magnificent promise inherent in this machine was fulfilled. We have reached a new stage in the evolution of the great idea that began with the abacus, and it is only fitting that we now pause to trace the long history of the ultimate machine, the reflection of our minds, the computer.