Introduction

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This book presents Niklaus Wirth as a "teacher".

Wirth has often been praised for his excellent work as designer of programming languages, of compilers, of operating systems and even of hardware– shortly, as an engineer. I suspect that his own self-image is primarily that of an engineer. As a child he admired trains and airplanes. And now, in the status of a professor emeritus, he still has this capability of admiration for the new and exiting, which is probably one of his secrets to keep himself and his inspiration young.

It is less broadly known, however, that Niklaus Wirth is an outstanding teacher. He is a member of a teacher dynasty with long traditions, but one who has never felt a specific vocation to be a teacher. Nevertheless, as a university professor he has assisted many young people to understand technology, and more importantly, to discover their own individual style and relationship to this technology.

With the exception of some of his closer cohorts – Prof. Hoare, Prof. Dijkstra and Prof. Rechenberg –, the contributors to this book are disciples of Wirth. Some of them have become university professors as Wirth himself, some have become scientists in industrial laboratories, while others have moved to the most diverse corners of the world in pursuit of commercial careers in various fields. This book is their kaleidoscope, giving views into programming language theory, compiler construction, software engineering, operating system design and hardware design – just to mention the main areas. These are all fields where Wirth set basic initiatives and his pupils have expanded on these with own ideas and impulses. We hope that the reader of this book acquires some insight into the recent past and near future of some core technologies of computer science and into the personality of the man who has so influenced these technologies.

Many of the papers touch on one persistent attribute of Wirth: his unequivocal demand for simple solutions. Wirth’s predilection for simplicity can be attributed, in my opinion, to a natural honesty: he does not talk about topics he does not really understand; and he readily admits to not understanding something. These rare characteristics have allowed him to preserve his ability to see and learn and invent, and have been his greatest asset in leading others to discover the obvious and to discard the complicated.

The authors and the editors of this book hope to pass on to the reader this love for honesty and enthusiasm for simple engineering solutions. And to pass on a feeling for a man to whom we are all so indebted.