Essays on the History of Computer Science in Russia


The book is a collection of various materials concerning the period of origin of computer science in Russia. Papers by leading specialists are included analyzing the ways of development of cybernetic movement in our country, as well as memoirs of the participants of those events, essays on most distinguished scientists and scientific schools, reprints of some important papers of the ‘50s and ‘60s. A series of archive materials is published related to the activities of famous scientists of those days: A.I. Berg, L.V. Kantorovich, A.N. Kolmogorov, A.A. Lyapunov, and others.

The book is intended for scientists as well as for general readers interested in the history of computer science.

Preface

The dramatic history of the struggle for cybernetics in our country followed by the recognition of the new science, its subsequent rapid development in the ‘60s which assured a front-rank position of the Russian computer science, as well as the later events in the history of cybernetics and computer science in Russia all deserves to enter the annals of the history of science.

The birth of cybernetics is usually associated with the publication, fifty years ago, of Norbert Wiener’s book “Cybernetics or control and communication in the animal and the machine”. In fact, 1998 may be considered an anniversary year in more than one sense: it has been 50 years since Wiener’s book was published, 40 years since it was first translated into Russian, and 40 year since the publication of the first original Russian monograph on cybernetics, the “Signal” by I. A. Poletaev.

Therefore, the appearance of the present collection seems to be rather timely. Included in it are authentic documents of the epoch, of which some have previously been published in various books and periodicals, while others were preserved during those long years in the private archives of the participants of those historic events. It is through the memoirs penned by a variety of authors that we have tried to recapture the atmosphere of those years and delineate the figures of prominent scientists of those times (A. I. Berg, V. M. Glushkov, L. V. Kantorovich, A.N. Kolmogorov, A.A. Lyapunov) whose common efforts secured the proper standing of cybernetics and, later, of the computer science in Russia.
The idea of this book was first conceived by M. G. Haase-Rapoport. He was one of those who stood at the very origins of Russian cybernetics to which he devoted his whole life. He participated in all crucial events of those years, while his unique “scientific diaries” – dozens of large format notebooks in which Modest Georgievich used to record everything related to the science he served – have now become a priceless source of our knowledge of those times. He shared his plans with us and invited us to take part in their implementation.

In order to enrich the book with collective memoirs of the people who were in the midst of things, Haase-Papoport organized in 1983 a special seminar on the history of cybernetics which was held regularly at the Polytechnic Museum in Moscow. Many of the “pioneers” of our cybernetics appeared at the sessions of this seminar to discuss outstanding scientists, individual scientific schools, or specific events. The audio recordings of the seminar as well as Modest Georgievich’s “scientific diaries” allowed us to bring the spirit of those old times back to the reader.

Modest Georgievich did not live to see the completion of this book. However, we have always tried to follow his vision in the course of our work. We have also made use of his drafts and ideas as well as of the materials from his huge archive which is still waiting for an inquisitive researcher. To the memory of Modest Georgievich Haase-Rapoport, a true knight of the science, we dedicate this book.

The completion of this book would have been impossible without the help of many people involved in the history of Russian science. Numerous documents became accessible to the editors when they were provided with the opportunity to study the private archives of A. A. Lyapunov, L. V. Kantorovich, and I. A. Poletaev. The fact that these documents now appear in print is due to the efforts of the children of these scientists, Nataliya Aleexeena Lyapunova, Vsevolod Leonidovich Kantorovich, and Andrey Igorevich Poletaev. Susanna Stepanovna Maschan who had for a long time worked with A. I. Berg was kind enough to familiarize the editors with a series of previously unknown materials on the role that A. I. Berg had played in the evolution of cybernetics in our country.

As a rule, most people who participated in the events of those times readily responded to our invitation to take part in the preparation of materials for this book. Thanks to their interest and enthusiasm, the essays and memoirs by O. S. Kulagina, I. A. Melchuk, R. I. Podlovchenko, V. A. Ratner, A. A. Titlyanova, V. A. Uspensky, and V. A. Zalgaller now appear in this collection. V. A. Uspensky, furthermore, presented important materials concerning A. N. Kolmogorov and his attitude toward the cybernetics. Included are also several essays on the development of mathematical and structural linguistics within the “culture medium” of cybernetics. These essays have been written by the protagonists of the process, Vyach. Vs. Ivanov, I. A. Melchuk, V. A. Uspensky.

We had the assistance of many others as well. We would like to express our deep gratitude to all of them. The book is now ready, but the flow of new materials is not
diminishing. Therefore, we are hopeful that this volume will soon be followed by another one.
The editors themselves were witnesses to, and participants of, the events described. Still, they have tried to minimize their inevitable subjective viewpoint in the interpretation of the events. All the texts are presented with minimal editing.

Dmitri Pospelov, Yakov Fet

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