

PREFACE

An examination of the educational process within a given society can provide both important clues to an understanding of the moral and intellectual climate in which its people live and significant data for an estimate of the direction of its progress. Its present educational endeavor, perhaps more effectively than any other common process, can serve as a barometer of tomorrow's social climate.

Under the impact of revolutionary advances in physical science and because of the urgent tasks which face contemporary man, now committed to economic development on a world-wide scale, scientific and engineering education have acquired unprecedented importance. The trends in these two fields provide a sound basis for estimating the present and future technological and industrial capabilities of any one nation or group of nations, and potentially of mankind as a whole.

Unfortunately, progress toward the ideal of universality of science and, by extension, of economic development has been greatly impeded by the withdrawal of the Soviet Union and other countries dominated by the Soviet Union from the common tasks of international cooperation. Soviet science and technology have been mobilized to challenge and to compete—not to cooperate—with the rest of the world. They are a vital force in the development of the military and economic capabilities of totalitarian government. At present these capabilities represent a threat to the survival of individual and national integrity throughout the world.

It is critically important, therefore, for us to examine Soviet education, especially in the fields of science and technology.

In this book my aim has been twofold: to present a general outline of the entire educational system of the Soviet Union from elementary through graduate school and selectively to illustrate in some detail Soviet training in physics and mechanical engineering. The present

volume derives directly from research on Soviet education which was carried out at the Center for International Studies, Massachusetts Institute of Technology. The original study and the present volume cover Soviet education up to 1957. I have attempted also to indicate some of the major trends which seem likely to influence Soviet educational efforts in the years immediately ahead.

The reader should be forewarned that this is not a comparative study although, in order to illustrate contrasts or similarities, some direct references to American educational data have been given. In citing American examples my only purpose was to provide an occasional frame of reference—a yardstick by which the scale of the Soviet educational scene could be concretely appreciated. In no case were such comparisons meant to suggest the relative merit or lack of merit of either system.

The first chapter considers the Soviet organization of general education through the secondary level and touches upon the major alternatives to academic advancement, such as labor and vocational training programs. Chapters 2 and 3 examine the ten-year school, the Soviet counterpart of the American twelve grade system from elementary through high school. Chapter 4 deals with a sector of the Soviet system which includes many so-called technicums and other specialized schools which train students for work in a great variety of fields at the subprofessional level. The major part of the book, Chapters 5 through 10, is devoted to Soviet undergraduate higher education, with Soviet curricula in physics and a typical major in mechanical engineering shown in detail and compared with the most nearly equivalent curricula at the Massachusetts Institute of Technology. Chapter 11 comments on the organization and conduct of Soviet graduate training. In the concluding chapter I have attempted a necessarily speculative type of inquiry, seeking to convey my view of Soviet education in the context of its goals and contrasting these with the goals of American education.

The scope of material here presented is necessarily limited. I am aware that many aspects of Soviet education not specifically discussed here or only barely indicated, including sociological factors, would be of interest to the general reader and the specialist alike. A more detailed presentation and analysis of technical material on curricula, textbooks, and teaching methods would perhaps be desired by an educator. A social scientist would wish to examine statistical data and trends in a more comprehensive manner. Nevertheless, I have endeavored to present as balanced an array of facts, including the latest available official Soviet statistics, as could be synthesized from the

usually scattered, highly selective, and unrepresentative official pronouncements and gross statistics. It is perhaps unnecessary to emphasize that no useful judgment can be derived from any uncritical acceptance of such undifferentiated data and sweeping generalities on education in the Soviet Union as are being distributed by the Soviets for foreign consumption.

It is my hope that this book may usefully contribute to the growing store of American knowledge of Soviet education and thus help in developing a better understanding of its social and political implications.

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