

Preface

This book unifies the results of joint studies of the author and his younger colleague, Valery A. Labkovsky, now deceased. Whenever reference is made to the author of this book, the reader should understand this as *authors*.

The notion of “decision system,” analogous to the notion of “control system” used in control theory, has served as the basis for this unification. This analogy was noticed by A. A. Feldbaum in the 1960s, and his views influenced both of us greatly at the time.

Nevertheless, this analogy should not serve as an impediment to a realization of the main difference between decision theory and control theory: in decision theory, the nature of the criterion of the best decision is linked to the psychology of the decision-maker, and that is its central problem.

Perhaps this is why decision theory pays so much attention to the problem of uncertainty. It turns out that the notion of a random-in-a-broad-sense phenomenon proposed by A. N. Kolmogorov, which divides the whole spectrum of random phenomena into two classes, stochastic and nonstochastic, becomes most appropriate in this context. However, it is natural to ask whether nonstochastic phenomena exhibit any regularity? A positive answer to this question—the theorem of existence of so-called statistical regularities—was the second reason for the union in this book of various results of our joint studies.

The author thanks Anatoly Skorokhod for many years of courtesy and support of our research in the insufficiently studied field of nonstochastic random phenomena; Bertrand Munier for the suggestion that this book be published in English; Steven H. Crandall, who was one of the imaginary readers of this book, for help in visiting the United States for research in university libraries; Yaroslav Ivanenko and Vadym Mikhalevich for useful discussions, remarks, and suggestions; Ludmila and Yaroslav Ivanenko for their patience and assistance in preparation of this book in electronic format.

And finally, it is I alone, Victor Ivanenko, who is responsible for any flaws or other shortcomings in this book. I will be grateful to the reader for any suggestions or corrections.



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