

## PREFACE

Utilization of fish and shellfish as human food goes back to early human life on this globe. Drying and salting of aquatic products presumably antedates by a substantial margin the preservation of any other food commodity. Development work in this particular field has been pursued through the centuries and has received the aid of substantial research efforts in a number of countries. It can be seriously argued whether any other category of food has been so extensively studied and investigated and offers so many complex and intriguing technical and scientific challenges.

In preparing what was to be the final volume of "Fish as Food," the overwhelmingly rich amount of information struck even the expert in the field and forcefully indicated, in spite of recent improvements, the lack of a comprehensive abstracting and documentation service in this area in particular as well as in food science in general. Perusal or use of the bibliographic section on fish processing will clearly underline this state of affairs. The extensive lists of references should provide useful and ample documentation to the number of researchers and technologists working in this field as well as in adjacent areas.

In organizing and editing this abundant material it soon became evident that even drastic cutbacks would not allow it being condensed into one single volume, as planned. Reluctantly, but as I hope to the benefit of the scientific community, it was decided to divide this contemplated third volume, covering the general area of the handling and processing of aquatic products into two equally large tomes—the first of which is constituted by this volume.

The international scope of this treatise is retained with contributions from the United States, Europe, the U.S.S.R., and Japan.

One particular difficulty was encountered in the preparation of these volumes. A number of scientific findings are intimately interwoven with technical innovations and industrial developments, and such relationships had to be brought into focus in order to grasp the significance and application of many investigations and discoveries. This was essential especially since the "basic" scientific findings in the fields of fish chemistry, biochemistry, and microbiology were reviewed in Volume I. In order not to detract in any substantial way from a theoretical presentation of these applied areas and in order to place such findings into clear perspective it was decided to include a chapter on the general development of processing at sea (in the next volume) and another on the regional trends in the present development of industrial fisheries (Chapter 12, this volume).

Aquatic products continue to attract attention from food scientists and

the general public. These two last volumes fill the recognized gap between production and consumption. Only through wise utilization and efficient processing is it possible to save these extremely perishable riches of the oceans and freshwaters and place them within reach of the consuming public independent of seasons and of fishing fortunes—and mostly far removed from the catching grounds. This is also a prime requisite for fish and shellfish making an essential contribution to alleviating world hunger, looming so seriously over the future horizon of mankind.

I am most indebted to all the contributors to this volume for their effective cooperation and considerable indulgence with all the arduous work involved in rewriting and condensing overrich material. To all I tender my thanks and apologies. It gives me particular pleasure to acknowledge my indebtedness to Dr. Clark Paris, Michigan State University, who throughout these years has given me unstinted help in every aspect of this undertaking, not only in literature searching but also in proofreading and the preparation of the index. Good help has also been rendered by Dr. Sh. Doha, now at East Pakistan Agricultural University, Dept. of Fisheries, Mymensingh. He was employed to aid in various phases of this work, and Mr. Carol Jones, graduate student, MSU, for library research. Finally, I also wish to acknowledge the efficient support I received from the MSU Library in all its branches, and in particular from the Science Division, not only by its head, Dr. Ml. Kabalin, but by all there employed.

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