INTRODUCTION

Those not familiar with protein chemistry might justifiably wonder why, of the various elements in proteins, sulfur should be selected as a topic for a symposium. One obvious reason is that the functions of the more abundant elements in proteins, C, H, O, and N, are not well delineated; their consideration would indeed call for consideration of all the functions of the amino acid units in proteins. A more important reason is that sulfur, particularly in the form of the —S—S— or —SH group, has unique and important roles in the properties and reactions of many proteins. The past few years have seen a remarkable increase in the interest in and understanding of the role of —SH and —S—S— groups. This has been manifested in various ways—from development of better analytical methods for their measurement to increased insight into their role in mitosis—from problems of wool structure to function in bacteriophage.

Investigators in active research are called upon to meet varied challenges of experimental design and execution. Much stimulation and insight can come from the understanding and discussion of the researches of other students in closely allied areas. One main goal of this symposium was to bring together from somewhat scattered areas those whose present research had the common denominator of probing at functions of sulfur in proteins. Such an opportunity has not previously been provided. The symposium was intensive, stimulating, and certainly did much to reach the goal of interchange of information and stimulation of thought.

Another objective of the symposium is served by the present volume. The very nature of such a meeting makes attendance limited to only a few, yet many might profit from the information and discussion of the conference. Perusal of the present volume will attest to the varied and unusual roles which have already been demonstrated for —S—S— and —SH groups in proteins. The continued increase in volume of scientific literature makes it more and more difficult for an individual investigator to find information from allied areas pertinent to his own research. A volume such as this, which deals with the role of sulfur in a variety of biological systems, can thus bring to an investigator the information and stimulus of important developments from fields which in most aspects are quite unrelated to his work and with which he is not likely to be familiar. Further, it is hoped that the volume will help in the considered appraisal of related findings, in the limitation of unwarranted speculation, but most of all in the development of productive research.

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