PREFACE

The skin and its appendages appear at first glance to be the most accessible body tissue for examination and study. Although it often is said that the location of the skin makes it an ideal subject for scientific investigation, in reality quantitative measurements of the skin have lagged behind studies of many internal organs, perhaps because visual inspection seemed so easy. Until recently, few instruments could compare in accuracy with an experienced observer's judgment in evaluating redness, pigmentation, wrinkling, thinning, atrophy, hair growth, or other changes in the skin. Quantitative measurements with devices, therefore, were seldom used and were not felt necessary to make a diagnosis or to follow the course of a patient's lesions.

Biochemical studies, until recent years, often required rather large samples of tissue and this meant in turn that a large scarring defect would have to be created in human skin to obtain an adequate sample. As a result, biochemists tended to neglect the skin and to study blood or urine or other materials which were more readily available and elicited less protest from experimental subjects or patients.

In recent years, however, modern electronic and other devices have become available for measurements of very small changes in physical or chemical characteristics of materials and many measuring devices function by nondestructive methods.

The co-editors of this symposium felt that a significant number of engineers, biologists, and physicians in institutions around the world were now applying these new techniques to the skin, getting results which were meaningful and unavailable with older, clumsier techniques. Because no previous attempt had been made to bring together the people in various disciplines who could contribute to the measurement of the properties of the skin by these nondestructive methods, it was felt timely to attempt to do so. An international symposium was held to which all those who were known to be working in the field were invited and to present their most recent work. Areas of research which have been well reviewed elsewhere such as water permeability and melanin pigmentation, were not included.

The meeting was relatively small but the group was notable by its enthusiasm and the cross-fertilization of ideas between engineers, dermatologists, cosmeticians, pharmaceutical chemists, and persons from other disciplines who could discuss each other's problems and contribute to new solutions. It was an exciting several days indeed and the scientists who attended were so enthusiastic that they felt the meeting should be repeated at intervals and some type of communication among the attendees maintained in an attempt to keep up to date on this rather rapidly moving and productive field.

It seemed particularly fitting to have the proceedings of most of the papers that were presented at the meeting published as a single issue of *The Journal of Investigative Dermatology* which would reach the audience of those who might be interested in these new techniques and modifications of old techniques and who might find the ideas and devices particularly useful for their own work. In addition, it is hoped that readers will make known their interest in the field so that if a future symposium is planned they will be able to participate.

All of us are especially indebted to Johnson & Johnson who provided a generous grant which made it possible to hold the symposium and in addition to pay for the additional costs of publication of the proceedings. Our special thanks to them for their generous and farsighted gift in furthering important quantitative knowledge of the skin.

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