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Introduction

A. De Weck

It is probably a platitude to state that we are presently experiencing a new golden age for immunology. Our understanding of cellular and humoral immunological reactions considerably increased during the last fifteen years and their importance in various fields of biology and medicine has become evident. The increasing significance of immunology in natural sciences and medicine is best demonstrated by the fact that immunologists shaking hands with laymen no longer have to go into lengthy explanations about the nature of their job, as was so often the case in the past.

Although the role of immunology and the relevance of allergic phenomena in the pathogenesis of various diseases were recognized by a number of pioneers already before World War II, it is one of the great merits of Paul Kallós, the founder of this series more than 30 years ago to have given to allergy and clinical immunology some most fruitful impulses, the importance of which only now starts to be realized. In 1939 already [1], Paul Kallós stated that 'only an intimate collaboration between basic and clinical research could really permit a progress in knowledge and the application of new results for the benefit of patients'. The concept that close contacts between theoretical biologists and medical practitioners are essential to progress in allergy has been one of the basic principles of the first Editor of this series and his guideline throughout his medical and scientific activities. The explosive development of basic immunology during the sixties is reflected by the increased pace of publication of new volumes of Progress in Allergy. At a time where the number of immunological journals and of original papers may no longer be encompassed even by the most voracious reader, review articles acquire a special significance and will frequently influence the thinking of immunologists for years to come.

The contribution of BYRON WAKSMANN, who joined PAUL KALLÓS as Editor in 1962, to the favorable development of this series and to its establishment as a collection of first class reviews in allergy and immunology cannot be overestimated.

Accordingly, it is not without some anguish that a junior Editor may envisage joining so successful elders and sharing with them what certainly amounts to a general responsibility towards the immunological community.

At the beginning of the seventies, allergy and immunology are entering in a new and probably very decisive period. Basic immunology has now become a branch of molecular and cell biology and, as recently stated in provocative terms by JERNE [2], its complete solution may be approaching. Never before have such concentrated efforts been undertaken in order to solve the remaining basic problems of immunology such as the types and functions of cells involved in immune responses, the genetic basis of antibody diversity, the molecular aspects of antibody production and secretion, the molecular characteristics responsible for various functions of antigens, the mechanisms responsible for regulation of antibody formation and the induction of the immune response. The considerable investments of universities and research agencies and the interest of the scientific community for basic immunology is documented in recent years by the foundation of Institutes of Immunology, of numerous national Societies of Immunology, of an International Union of Immunological Societies – which will hold its first Congress in Washington in 1971 – and also by the creation of several new immunological journals. However, for those interested in immunology not only as scientists, but as doctors, this evolution, however fruitful and necessary for a better understanding of human diseases, is not without presenting some problems. In order to ensure the rapid application of new immunological knowledge, proper channels of communications between basic immunologists and clinicians should be maintained and developed. The creation of units or departments of clinical immunology in universities and major hospitals will probably provide the basis for such exchanges and it is significant that after having recognized the importance of fostering basic immunology, the World Health Organization is now increasingly emphasizing clinical immunology.

With the all-encompassing significance and the prestige attached nowadays to the word immunology, it may be wondered whether allergy will be able to maintain much longer its broad original meaning implying a specific alteration of the capacity of the organism to react. From an etymological and historical point of view the fields covered by allergy and clinical immunology could be considered identical. On the other hand, it cannot be denied

that the rapid development of immunology on a broad front and its division in subspecialities such as immunohematology, immunological deficiencies, autoimmune diseases, transplantation and tumor immunology frequently had for consequence to isolate 'classical' allergists and to restrict them to the management of atopic diseases. However, there is a basic unity between all clinical aspects of immunology, namely the immunological apparatus itself, and its various modalities of action. The complaints of some traditional allergists about the ever increasing invasion of basic immunology in their professional journals and meetings are not compatible with progress in allergy, even if this term would be considered in its most restrictive clinical sense. At a time where a new generation of allergologists recognizes the importance of basic immunology in their daily lives and actively participates in the study of immunological phenomena, there appear to be no reasons to modify either the title or the orientation of this series. Progress in Allergy should remain a free means of communication and exchange between all kinds of immunologists and physicians. In some respects the concern expressed by PAUL KALLÓS and BYRON WAKSMANN in 1962 [3] appears somewhat prophetic and is still up to date: 'It is to be hoped that men coming from departments labeled 'Clinical Immunology' or 'Allergy and Infectious Diseases' will regard themselves as the allergists of the next medical era and will regard asthma, eczema, hay fever and urticaria as equal to systemic lupus erythematosus, rheumatoid arthritis, and Hashimoto's thyroiditis in their medical importance, on the one hand, and their interest as subjects for investigation, on the other. It would be a great misfortune were allergists and clinical immunologists to become separate categories of doctors'.

An important but still somewhat neglected field of allergy is the recognition and identification of molecular and chemical properties of clinically significant antigens and allergens. Reviews on house dust allergens [L. BERRENS, vol. 14], lipid antigens [M. M. RAPPORT and L. GRAF, vol. 13] insect allergens [S. SHULMAN, vol. 12] and protein antigens [M. KAMINSKI, vol. 9] have appeared in recent volumes. In this volume, G. SPRINGER reviews the antigenic determinants shared between lower forms of life – predominantly bacteria and viruses –, some human blood group antigens and a few related substances such as the so-called Forsmann antigens present on mammalian cell membranes, a subject of considerable immunological interest and clinical importance. Cross-reacting antigens and especially the chemical nature of the determinant substrates are peculiarly emphasized. Such cross-reactions may have a profound bearing on the immunological response of the host to