

PREFACE

The first Brambell Symposium, of 1974, was published in 1976 by C.U.P. under the title of "Maternofoetal Transmission of Immunoglobulins". At that time, and perhaps inevitably, it recorded certain departures from the position Brambell had adopted in forming his hypothesis of selective protein transmission stated in his final book in 1970. But the basic idea, that of the importance of specific receptors for IgG, was certainly reinforced, and the papers of the 2nd Brambell Symposium of 1978 carry forward this interpretation of events.

The book opens with three chapters on transmission across that yolk-sac membrane which was the first object of study of Brambell and his team. It continues by considering a number of related phenomena, transport across the neonatal gut following the earlier work and progressing to a consideration of transport across the gut of the adult animal: the liver, and IgG catabolism: the brain, and the blood/brain barrier. It is clearly true that the field is widening, and the enquiry coming to closer grips with the basic mechanisms underlying the phenomena of transport, and its consequences. The techniques employed are now considerably refined, and a number of papers are given by, essentially, molecular scientists. But immunologists and morphologists are also well represented.

The central theme is the receptor hypothesis, but now receptors have been demonstrated by several techniques in a range of tissues. They have not yet been isolated and characterised, but this may well come soon. There is, however, a paradox, for it has not yet been demonstrated how receptors on the surface of the cell may effect the critical stages of transport into and through the cell. The obvious first thought is that they take out of the presented medium only the acceptable homologous IgG, leaving outside the cell the heterologous proteins which are not transported. But many years ago, and again recently it has been shown that this is not so: it seems that all proteins presented are taken into the cell, and that it is within the cell that their subsequent fate is determined. Since this is so, it is hard to comprehend how specific receptors on the surface influence transport, unless there are multiple parallel processes going forward together; and this is quite possible. Clearly detailed biophysical examination of the processes of the cell surface and its glycocalyx are needed, and perhaps advances in this area will, by the time of a presumptive 3rd Symposium have resolved our present apparent paradoxes.

W.A. Hemmings