A chapter on synaptic transmission by A. I. Shapovalov is largely devoted to a consideration of events at the neuromuscular junction, although acetylcholine does not appear until the seventh page. The work of Katz, Eccles, Koelle and others is discussed in some detail. Similarly, the chapter on central inhibition is largely devoted to a discussion of the ideas of Eccles and his associates.

One might think that a chapter on the pharmacology of smooth muscle would be out of place in a book with this title, but, coming where it does, it is not inappropriate.

The book makes interesting reading, but it is more suitable for the expert in this field rather than students. Even so, those who are not familiar with Russian drug names may find themselves lost from time to time.

P. B. BRADLEY

OBITUARIES

A. A. Lombard

ADRIAN LOMBARD, who died on July 13, had been the director of engineering of Rolls-Royce, Ltd., since 1958. In this position he had full responsibility for the design, development and supporting research on all the company's aero engines. When he became chief engineer at the age of 39 he was, in fact, only the third man in the history of the company to take on these responsibilities, his predecessors being Mr A. G. Elliott and Sir Henry Royce. Like them, he had worked on the design of motor cars, having started his engineering career with the Rover Company. He was in the small design team that worked on the Whittle jet engine, which Rover started to develop in 1940, and he continued as chief designer when Rolls-Royce took over the Rover work in 1943. From then onwards he was directly involved with a continuing line of Rolls-Royce jet engines, including the pure jet Derwent, Nene and Avon; the turbo-prop Clyde and Tyne; the Conway, which was the first by-pass engine in production, and the Spey by-pass engines; a family of vertical take-off engines and others still under development.

Lom, as he was called throughout the industry, was a dedicated man with the single-minded purpose that the engines his company produced should be the best in the world. He would never accept second place. He drove his large team of well qualified men by example, enthusiasm, humour, sometimes sarcasm and always a sheer disbelief that improvement was impossible. He enjoyed argument—on specific cases rather than general issues—and had a phenomenal memory which enabled him to discomfort any opponent who had changed his ground since the last encounter. His own academic qualifications were slight, but he was intensely interested in any scientific work that affected a design and with an intuition uninhibited by preconceived theories could always make a penetrating comment or novel suggestion in any discussion. At the same time he was a firm believer in the absolute necessity for a far sighted programme of research on problems related to the gas turbine, particularly on the materials side, and insisted on adequate resources being provided for it. In fact, whenever a new idea came up, such as the air cooling of turbine blades in the early days of the gas turbine or more recently the use of carbon fibre reinforcement of plastics, he personally followed the progress of its development right through to the production stage.

Lombard's work did not end at home with jet engine design. He went around the world selling the engines on their technical merits and feeding back the requirements of the operators to his own team. In this dual role he had continually to make that most difficult of all design compromises, the balance between a performance that is easily achieved but not attractive to the user and that which is extremely attractive but unachievable in an economic time scale. His subordinates were continually dismayed by the promises that he had made abroad on their behalf, but his determination ensured that those promises were finally honoured. As a result of his wide travelling and of the many important lectures he delivered to aeronautical and engineering societies in a number of countries, he was internationally recognized and honoured, being appointed C.B.E. this year and receiving the James Clayton prize of the Institution of Mechanical Engineers jointly with Dr S. G. Hooker.

The application of science to technological progress owes much to men of Lombard's calibre: it is sad there are so few of them.

S. L. B.

Dr A. W. Gledhill

DR ALAN W. GLEDHILL died suddenly on July 19, 1967, while attending an international veterinary congress in Paris; he was 57. He was born at Southend-on-Sea and was educated at Bedford School and Trinity College, Cambridge, where he studied mathematics. On choosing a career in veterinary medicine, he studied further at the Royal (Dick) Veterinary College, Edinburgh, and the Royal Veterinary College in London. From 1935 to 1939 he served as veterinary officer in Uganda, being particularly concerned with the control of epizootic diseases.

He returned to Britain in 1939 to work with F. Blakemore at the Institute of Animal Pathology in Cambridge. Here he was concerned with one of the first isolations of swine influenza virus in Britain. His main interest, however, was in *Erysipelothrix rhusiopathiae*, the bacterium causing swine erysipelas, and his interest continued after he left Cambridge. He made important contributions to knowledge of its antigenic constitution and the application of this knowledge to production of a vaccine.

In 1947 he was appointed veterinary officer to the National Institute for Medical Research, Mill Hill, in succession to R. E. Glover. He co-operated with the team working there in WHO's World Influenza Centre. In 1951 came a discovery which affected all his subsequent work. Infant mice in the breeding stock at Mill Hill were dying of a hepatitis which was apparently due to a hitherto unknown virus. Unexpectedly, however, its activity could be inhibited by tetracyclines. It was shown that its effects were due to the synergistic action of two agents, one stable, one more labile, each relatively harmless by itself. The labile agent proved to be the blood-parasite, *Eperythrozoön coccoides*, and it was this which was susceptible to antibiotics. In much of this work Gledhill co-operated with Dr J. S. F. Niven, Dr G. W. A. Dick and myself.

These discoveries initiated a series of studies on non-specific factors affecting susceptibility and resistance. A number of agents were examined for their mutual enhancing or sparing activity: bacterial endotoxins, *Eperythrozoa*, tuberculosis and the viruses of mouse hepatitis, infectious ectromelia, mouse leukaemia and lymphocytic choriomeningitis. The results were complex; much depended on timing and dosage.

All this work had a bearing on latent infections, particularly in mice, and the confusing effect of these for laboratory workers. Gledhill was accordingly keenly interested in the possibility of maintaining stocks of "specific-pathogen-free" animals. He had been appointed head of an Animal Division at the National Institute for Medical Research and was particularly concerned in planning accommodation for laboratory animals which would ensure a supply of really clean stock.

Gledhill was an attractive colleague with an original mind, always enthusiastic, never happier than when wrestling with a problem complex enough to deter all but a really devoted seeker after truth.

C. H. ANDREWES