J. Hyg., Camb. (1984), **93**, 395
Printed in Great Britain

Special Feature

Corynebacterium diphtheriae

Corynebacterium diphtheriae was first observed by Klebs in 1883 and was cultivated a year later by Loeffler, whose description in 1884 of the causative organism of diphtheria remains a standard. Diphtheria was a life-threatening disease throughout the world until the therapeutic use of antitoxin and the use, as a public health measure, of childhood immunization with toxoid. In Britain the use of toxoid was advocated by the Ministry of Health in the early 1920s, but it was not until 20 years later that extensive programmes of prophylaxis were carried out under the advertising campaign *Diphtheria is Deadly*.

C. diphtheria has remained a source of interest despite the current low levels of disease. It provides a model of toxin action, its genetics are not yet fully explored and its taxonomy has yet to be elucidated. As the type species of its genus, *C. diphtheriae* is assured of a place in any taxonomic scheme, yet it is well separated from other *Corynebacterium* species, including *C. ulcerans* and *C. ovis*, which are also able to express the toxin. The morphologic similarity of all the coryneforms, which can be described only as pleomorphic Gram-positive, non-spore-forming bacilli which stain unevenly with Gram's stain, has long been a source of confusion. The gradual, even reluctant, acceptance in medical microbiology that the coryneforms may comprise several distinct genera and that the spectrum of species may range through *Corynebacterium* to *Mycobacterium* via *Rhodococcus* and *Nocardia* and that other, wholly unrelated genera such as *Brevibacterium* are also included in the clinically important coryneforms, should do much, eventually, to resolve this taxonomic and classificatory muddle.

The following invited papers explore some aspects of the biology of the type species and undoubtedly most pathogenic of the coryneforms – *Corynebacterium diphtheriae*