

and six patients lived in semidetached houses, sharing a common sitting-room. The design of this new sanatorium attracted much interest, including prominent visitors from the capitals of Europe.

Hassall's recovery continued, and he became physician to the Royal National Hospital for Consumption and Diseases of the Chest, having raised most of the money needed for its construction. However, at the age of 60 he was forced to move to the more temperate climate of San Remo, on the Italian Riviera. There he continued to practise and write until a few weeks before his death at the age of 77.

In the latter half of the nineteenth century the eponymous title of Hassall's corpuscles was also attached to the cellular deposits in the urine of patients with cystitis. Today it is confined to the lamellated bodies unique to the medulla of the thymus. How would Hassall have reacted to recent knowledge gained on the behaviour of his corpuscles? He would surely have been interested in their waxing and waning in size with involution of the thymus, in their active uptake of antigens and antibody from the circulation, as well as their storage of gamma-

globulin in healthy human beings at all ages and in patients with myasthenia gravis and rheumatoid arthritis. However, why these bodies occur only in the thymus remains a mystery. It has been postulated that they play a part in long-term immunity, a function which no doubt would have appealed to Hassall's keen interest in preventive medicine.

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The photograph of Dr. Hassall is reproduced by courtesy of the Wellcome Trustees.

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NEW APPLIANCES

Plastic Laryngoscope

Dr. W. N. VELLACOTT, consultant anaesthetist, and Dr. A. J. SEAR, consultant in dental surgery, Royal Infirmary, Worcester, write: There still seems to be a place for a mass-produced, reliable, relatively cheap—that is about half the present price—laryngoscope for use both in operating-theatres and in wards. Most hospitals have resuscitation kits in many of their wards, and a laryngoscope is often thought to be an essential part of such kits. Gillett and Patkin (1964) designed a model with a Macintosh (1943) blade, home-made of wood and aluminium and costing only a few shillings; and the staff of the C.M.C. Hospital, Vellore (1965), have described one locally manufactured of iron with an aluminium blade.

We have turned to plastic to provide what we think is required, and have used acetal copolymer, a very strong hard plastic with a low coefficient of friction which allows the blade to slide easily over mucous membrane. It is also thought to be less traumatic than metal to teeth and soft tissues.

With the aim of increasing electrical reliability a screw switch has been adopted which transmits pressure to all electrical contact points in the circuit simultaneously. The contact points have been reduced from eight, nine, and twelve (the numbers found on the latest models of three currently used laryngoscopes) to five. Side-loading of the battery into the handle of the instrument, with a detachable cover, has been used in the design (see illustration). This allows ready access for inspection and cleaning.

All laryngoscopes fail occasionally, and this sometimes happens when the cords are visualized and intubation is imminent. This must usually be due to slight movement at the jointed angle of the instrument as the tongue is lifted. As laryngoscopes are now less frequently carried about in pockets and cases, the joint allowing the instrument to fold can reasonably be discarded, and this has been done on the model described. On trial it has been switched on and off 20,000 times without electrical failure, apart from the very occasional need to replace a bulb. The blade is of the Macintosh type, and we find it suit-

able for almost all patients from the age of 3 years upwards.

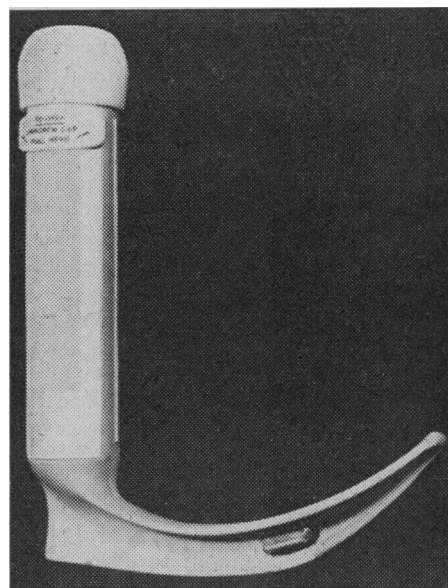
The adequate cleansing of laryngoscopes has always been a problem. Many of us are probably satisfied with scrubbing the blade under running water, the brush being kept in a suitable disinfectant when not in use. Others prefer to boil the instrument after such a procedure, or treat it in a modified Swan Maid (or other) domestic dish-washing machine as recommended by Barrow and Meynell (1966). Surface disinfection presents so wide a field that useful comment is difficult. Phenolic and acidic disinfectants are said to be better avoided (Plester, 1967). A number of recently introduced disinfectants we have tried appear to do no harm to the plastics we have used. Attention, however, has lately been drawn (Leigh and Whittaker, 1967; Steingold *et al.*, 1967) to the tendency for some disinfectants to be absorbed to a greater or less degree by some plastics, reducing the strength of the solution. Much careful work seems necessary to clarify the situation.

Though not often available, ethylene oxide sterilization is efficient and harmless to these plastics. It suffers from the disadvantage of being rather slow (five to eight hours), but seems ideal for prepacked storage in wards or anaesthetic-rooms. Emanations of this gas from a plastic are said to continue for some time, and an "airing" period may in some circumstances be desirable after treatment (Cunliffe and Wesley, 1967); this seems unnecessary in the case of laryngoscopes, which are in contact with body tissues for such a short period. In all of these methods the bulb can be left in place—a considerable advantage.

Acetal copolymer, of which this instrument is made, may be boiled or dish-washed indefinitely, and has a high degree of resistance to all chemicals likely to be met with in anaesthetic-rooms or operating-theatres. Autoclaving, however, cannot be recommended owing to minor distortions and shrinkage. The insulation used is made of polytetrafluoroethylene, a fluorocarbon polymer which is unharmed by repeated boiling

or autoclaving, and has a very wide resistance to chemicals.

We believe this instrument a great deal more reliable electrically than any metal one we have used, and it has shown no deterioration during a year of continual daily use in the theatre.



The laryngoscope may be obtained from Longworth Scientific Instrument Co. Ltd., of Abingdon, Berkshire.

We should like to thank Messrs. L. G. G. Charlesworth Ltd., Plastic Moulders, and White Electrical Instrument Co. Ltd., of Malvern, and a number of anaesthetists and others who have helped with the development of this instrument.

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