

sulphate, and antihistamines are surprisingly deadly to young children. The report draws attention, too, to the value of advising old people about their own safety. Many do not clearly appreciate the risks they run from such ordinary domestic obstacles as a staircase or a slippery bath, let alone the hazards of the road. To reduce the last it is now generally conceded that individuals must accept a greater restriction on their freedom of action than has been traditional by such measures as the imposition—and enforcement—of further speed limits<sup>6</sup> and by a curb on the drinking of alcohol before driving.

In its own composition, as in its reports, the Accident Services Review Committee reflects the many-sided attack on the prevention of accidents and the provision of treatment for the injured that experience in recent years has shown to be necessary. A multiplicity of causes underlie most types of serious accident, while the treatment of the casualties may tax the resources of diverse specialists. The latest report of the Review Committee will be a useful stimulus to thought on these lines.

## College of Pathologists

For an institution that is only two years old the College of Pathologists has gone far. Six years ago, when the formation of a college was first being mooted by the Association of Clinical Pathologists, we said of pathology in these columns: "If any discipline of medicine deserved to be recognized through the setting up of some institution, then pathology would have the highest claim, certainly now in this twentieth century of scientific medicine."<sup>1</sup> As exponents of what is pre-eminently *the* basic clinical science pathologists have more than earned their right to collegiate status. In May 1963, less than a year after the unanimous vote at the founding meeting to set up a separate college,<sup>2</sup> the College of Pathologists was firmly on its feet, and the names of its first president and council had been announced.<sup>3</sup> In recognition of his personal distinction and his leadership in bringing the College into being, the 1,118 founding subscribers elected Sir Roy Cameron, F.R.S., as the first president, with Professor D. F. Cappell, Professor J. W. Howie, and Dr. A. G. Signy as vice-presidents. To-day Sir Roy Cameron still presides over the fortunes of the College. And in two years the membership has nearly doubled, standing now at over 2,000. This speedy growth greatly exceeds expectation: "no one could have predicted," says the College council in its annual report,<sup>4</sup> "that [this figure] would be reached in such a short time." That the College could confer this year its honorary fellowship on such distinguished medical scientists as the President of the Royal Society, Sir Howard Florey, himself a former professor of pathology, the President of the Royal College of Physicians of London, Sir Charles Dodds, who made his name as a biochemist, and Dr. Peyton Rous, distinguished for his researches on cancer, augurs remarkably well for the College's future fame.

Education and standards of practice are of concern to any medical college, and it is not surprising to learn that the

council of the College of Pathologists regards as its most important task the control of the College's examination system. For medically qualified pathologists there are now two primary examinations each year, in the spring and autumn. The primary is a broadly based examination, taken after two years' full-time work in pathology. The final examination, for which candidates are eligible after a further three years in the practice of pathology, is taken in one of four main branches of the subject—medical microbiology; histopathology and forensic pathology; chemical pathology and toxicology; or haematology. Non-medical pathologists such as some chemical pathologists and dental and veterinary pathologists can become members on the basis of their published work, but the College council is now considering the introduction of a suitably modified examination to meet their special requirements. This provision for non-medical membership reflects the close collaboration which nowadays so often exists at the laboratory bench—and elsewhere—between doctors and their scientific colleagues. This is the shape of the practice of medicine to come, and the College has been quick to give formal recognition to this fact of modern medical life. Concern with qualifications has led inevitably to review of the whole question of the training of pathologists and the facilities provided by laboratories in which the trainee pathologist is expected to work. The College is also concerning itself with the training of laboratory technicians.

There is no doubt that the M.C.Path. is already highly regarded. It has quickly taken its place alongside the similar diplomas of the older colleges as a guarantee of thorough grounding in the subject of pathology. The College council, which has acted energetically and with foresight, can rightly take much credit for this satisfactory state of affairs.

## Sickle-cell Anaemia and Anaesthesia

When in 1949 Linus Pauling and his associates<sup>1</sup> published a paper entitled "Sickle Cell Anaemia, a Molecular Disease" much that had previously been obscure became clear. Firstly, the mode of inheritance, as expounded by J. V. Neel,<sup>2</sup> was explained. The abnormal sickle (S) haemoglobin was inherited through the action of a gene which could be derived from both parents to produce the homozygous condition (sickle-cell anaemia) or from one parent only to produce the heterozygous condition (sickle-cell trait). And secondly the molecular nature of the abnormality explained many of the clinical features of the disease.

Under conditions of reduced oxygen tension the S haemoglobin in the red cells comes out of solution, and the resulting "crystallization" produces the bizarre, sickle-shaped cells. In sickle-cell anaemia the greater part of the haemoglobin is of the S type, but there is a small fraction of foetal or F haemoglobin which is resistant to denaturation with alkali. In the arterial blood in sickle-cell anaemia only about 5% of the erythrocytes are sickle-shaped, whereas after prolonged exposure to low oxygen tension 90–100% become so. These cells may block capillaries, venules, or even arterioles. If an area of skin affected by this process is examined, a tangled mass of these cells will be found held together in a loose fibrin mesh. In poorly vascularized areas, such as the lower leg, this may cause chronic ulceration.<sup>3</sup> In patients with the

<sup>1</sup> *Brit. med. J.*, 1959, 1, 1171.

<sup>2</sup> *Ibid.*, 1962, 1, 1820.

<sup>3</sup> *Ibid.*, 1963, 1, 1180.

<sup>4</sup> *The College of Pathologists: Annual Report of the Council, 1st July 1964–30th June 1965.*