

drops are instilled into the affected eye and both eyes are occluded. The patient should be sent to hospital in the recumbent position if the detachment originated in the upper half of the fundus, sitting if it started in the lower half.

The prognosis after operation is good in 80% of early cases, if operated on within a month of the onset of the detachment, if the patient is young, if there is no gross refractive error, and if the retina except for the area of the tear is in good condition. It is bad if the detachment has been present for a long time, and if there are a high degree of myopia, a degenerate vitreous, multiple holes, large tears, or a total detachment.

Miscellaneous Causes of Sudden Blindness

Poisoning.—In some susceptible persons relatively small doses of quinine—within therapeutic limits—may cause vaso-spasm of the central retinal artery, anoxaemia of the ganglion cells of the retina, and blindness. Generally, however, this catastrophe has followed large doses taken by mouth for abortion or injected with urethane as a sclerosing agent. In such cases the patient is collapsed and almost pulseless and requires several hours of artificial respiration. Methyl alcohol damages particularly the papillo-macular area. In both quinine and methyl alcohol poisoning treatment with vasodilators and full doses of vitamin B₁ and B₂ may be tried, but often the anoxaemia in the former and the toxic damage to the ganglion cells of the retina in the latter have been present too long for treatment to be effective.

Loss of Blood.—A single large loss of blood has not been known to cause loss of sight and bilateral optic atrophy, but repeated haemorrhages, commonly from the alimentary tract and the uterus, may reduce the haemoglobin to 40% or less, a degree of anoxaemia at which the function of the retinal ganglion cells cannot be maintained.

Hysteria.—The onset of hysterical blindness is sudden. It may follow a mental shock, be a feature in an intense anxiety state, or become manifest in order to afford an escape from either some unpleasant duty or some particular danger, such as may arise under active service conditions in war. Both sexes are affected, and I have not found it more common in one than the other. The behaviour of the patient often simulates blindness so perfectly that doubts sometimes arise about the diagnosis, and careful observation in hospital becomes necessary for its detection. Suspicions are aroused by the finding of pupils that react briskly to light, a normal optic disk and fundus in each eye, the absence of any head injury which might affect the higher visual centres, or any history of severe illness, poisoning, or intracranial vascular catastrophe in a patient with an unstable personality. Occasionally, firm reassurance or the performance of some trifling measure such as instilling homatropine and cocaine, or even saline, drops into the eyes will lead to recovery of vision. Psychiatric treatment, suggestion while under small doses of thiopentone, and electric shock therapy have also been successful in restoring sight.

Next article on Emergencies in General Practice.—
"Poisons Children Swallow," by Dr. J. O. Craig.

Refresher Course Book.—Copies of the second volume of collected articles from the Refresher Course for General Practitioners are still available at 25s. (postage 1s.) each. The first volume is now sold out.

Clinical Pathology Book.—"Clinical Pathology in General Practice," a collection of 39 articles on clinical pathology that appeared in the *Journal* as part of the Refresher Course for General Practitioners, is now available, price 21s. (postage 9d.).

Both these volumes are obtainable from the Publishing Manager, B.M.A. House, Tavistock Square, London, W.C.1, or through any bookseller.

LORD ADRIAN ON THE FUNCTIONS OF THE ROYAL SOCIETY

At the anniversary meeting of the Royal Society on November 30 Lord ADRIAN, O.M., delivered his farewell presidential address. He had completed his five-year term of office as president of the Society. After the customary presentation of medals and review of the year's outstanding scientific achievements, and a graceful welcome to the president of the U.S.S.R. Academy of Sciences and his colleagues who were present at the meeting, Lord Adrian devoted the remainder of his address to an examination of how the Royal Society could best fulfil its task of "Improving Natural Knowledge." Lord Adrian said:

"At the end of his term of office it is to be expected that your president will have ceased to marvel at his presumption in accepting so exalted a position and will have had time to consider its responsibilities. He will not have had much time, for the work of the Society grows apace, but in spite of that the duties of the president are certainly less arduous than most people might suppose. He is supported at every turn by the knowledge of a great society at his back and by the council and the whole staff at Burlington House inspired by an assistant secretary with a genius for tactful and effective administration. In fact the president is so well cared for that it is a wise regulation which sets a limit to his reign.

Election of Fellows

"Fellows will not need to be told of the many fields of activity in which the Royal Society is now engaged. It dispenses grants, awards medals, publishes journals, and holds its scientific meetings; but I am convinced that the most important thing it does now is to exist and to perpetuate its existence by electing new Fellows.

"Our meetings and periodicals are no doubt the best evidence of our existence, but they are scarcely essential to it. Indeed, their scope needs constant adjustment if they are not to be submerged in the present flood of scientific activity. Every subdivision of science has now begun to organize its special conferences and lectures. With so many subdivisions and so much to publish, the customary medium for printed communications is either a journal devoted to one special field or one which will take the shorter papers and publish them with the least delay. I am not suggesting that our own meetings and journals could be abolished without great loss but rather that we should continue our policy of arranging meetings where the specialist is encouraged to state his case before an audience of fellow scientists who are not all fellow specialists. That is certainly an important task.

"In electing new Fellows, however, we perform a task which becomes more and more important as natural science expands and subdivides. It is essential to its progress here that there should be a council of scientists of acknowledged reputation able to form an impartial judgment on the claims of every field and on the merits of those who work in them. Scientific issues are now of great concern to those who frame the laws and policy of the State, and there must be some independent body to advise on them.

Relationship to the State

"Statesmen and lawgivers are not likely to need advice on the latest developments of scientific thought; they might get better advice from the younger generation who have been trained in modern ideas and techniques and are used to the present scale of laboratory work. What is needed, however, is not an academy to pronounce on the controversial points of scientific theory but one with a reasonable knowledge of the direction in which research is leading.

"We have never aspired to an organized control of scientific research: even in times of grave national emergency we have preserved our status as a private body willing to cooperate with the State but unwilling to forfeit our independence. It is, of course, true that the Fellows of the

Society have always played a large part in directing research into fruitful channels, but they have done so as heads of laboratories, teachers, and leaders of research teams. It is true also that we control funds entrusted to us by past benefactors and that many of these funds must be used for the furtherance of particular branches of science. The value of the funds we hold now amounts to over a million pounds, and we have also to administer yearly Government grants of more than £50,000 for aiding scientific research, scientific publications, and international activities. These sums, however, are small compared with the total which must be spent annually by any country dependent on machinery, and with the political system of this country it seems far better for the Royal Society to keep itself outside the State organization. The larger this becomes the more important will it be for us to maintain our status as an independent body of scientists whose chief aim is the advancement of knowledge.

Impartiality on Scientific Issues

"It is neither necessary nor desirable for the Society to give an official ruling on scientific issues, for these are settled far more conclusively in the laboratory than in the committee room. This principle has been recognized by the Royal Society since its foundation and it is stated specifically in the advertisement to the *Philosophical Transactions* in 1753. This points out 'that the certainty of the facts and the propriety of the reasonings contained in the several papers so published must still rest on the credit and judgment of their respective authors.' The advertisement goes on to say 'that it is an established rule of the Society, to which they will always adhere, never to give their opinion as a Body upon any subject either of Nature or Art, that comes before them.' And to make the position almost painfully clear the advertisement goes on, 'And therefore the thanks which are frequently proposed from the chair, to be given to the authors of such papers as are read at their accustomed meetings, or to the persons through whose hands they have received them, are to be considered in no other light than as a matter of civility, in return for the respect shown to the Society by those Communications.'

"This stern insistence on our impartiality has not prevented us from issuing reports from time to time when the occasion seemed to demand them. There are, for instance, the reports of the Food Committee during the 1914-18 war. But it has never been suggested that the Society assumed any other responsibility than that of choosing the committee of experts to draw up the report.

"That, however, is the kind of obligation which the Royal Society should be specially fitted to discharge. It is right that the State should obtain the best scientific advice on practical issues and it must know where to turn for the best panel of advisers. There are, of course, numerous societies to deal with particular fields, and some of these would be just as competent to nominate experts from their membership. But the fragmentation of science has left disputed borderlines as well as unclaimed territory, and if our Fellows have been properly chosen we should be able to justify the claim to represent all branches of science at the highest available level. Although we do not pronounce officially on matters of scientific controversy we can say who are the leaders in any field and we know what sort of people they are.

"If this were our only, or our principal, function it might seem to reduce our status to that of a scientific employment agency; but the applications of science are now of such consequence that the State must be forced to spend more and more of its income on science and technology. With scientists in short supply it must expand research, teaching, and development. It must be careful not to harness too many active investigators to desks in Whitehall or to the committee rooms of universities, yet its administration must show an understanding of scientific needs. We cannot blame Government departments and Ministers for mismanaging scientific affairs if we are unwilling to assume our responsibility for aiding them.

A Constitution to Match Growing Responsibilities

"How far then does our constitution and our present practice fit us for such responsibilities? This year commemorates the death 200 years ago of a great political scientist, Charles de Secondat, Baron de Montesquieu, a Fellow of the Royal Society who was renowned in every country for his analysis of the principles of government. Montesquieu came to us from France and was impressed by the precautions against autocracy inherent in the British constitution. His praise of the liberal form of government developed in this island was linked with the suggestion that the weather had a great deal to do with it. He says:

'In a nation so distempered by the climate as to have a disrelish of everything, even of life, it is plain that the government most suitable to the inhabitants is that in which they cannot lay their uneasiness to a single person's charge.'

But his analysis of our laws made him conclude that we were, or at all events had the opportunity to be, the freest country in the world and that it is in our nature to defend our liberties from autocratic control.

"I do not think the procedure for our election of new Fellows could be made more representative than it is now. It may not be strictly democratic, for the election must be made by the existing Fellows, but we come from every field of natural science and our ages vary within reasonable limits. At present our youngest Fellow is 31, and council this morning authorized the dispatch of a letter conveying the congratulations of the Society to our colleague, Dr. Ridley, whose 100th birthday falls on December 10. We have to be constantly on the watch to avoid neglecting the claims of scientists whose work cuts across the standard classification. But the machinery is elastic: I have seen it at work over a fairly long period, and I have always been impressed by the individual capacity for honest judgment which goes to the formation of a collective opinion on scientific merit. It is certainly a responsibility which we do not take lightly, and it is right that it should occupy much of our time in the early months of the year. Whatever else we should be doing this is time well spent.

"But nowadays the Society has many other things to do, and I am not sure that we have evolved the system of self-government which enables us to give adequate consideration to all of them. Election to our council must be governed by the need to keep a balanced representation of different branches of science. Council would soon become ineffective if its numbers were expanded to keep pace with every new development, but with a body of only 16 members, apart from the officers, to represent our 560 Fellows, it is naturally difficult for more than a small proportion of them to gain any insight into the way in which our business is conducted. And for those who are chosen to serve on council the volume of business to be decided must often seem far too great for meetings which can rarely last much longer than one and a half hours and occur only 12 times a year. Naturally a great deal of the work falls on the secretaries, who must be prepared with advice on many of the matters which do not involve major issues; but even though council is willing to accept this advice without lengthy discussion there are certain important decisions to be made at each meeting, and it is very difficult to find the additional time needed for the discussion of more general problems. With the present growth of scientific effort problems of general policy are bound to be in our minds, and I know that the president must often seem unduly repressive when there is a long agenda and the council meeting must be over in time for the ordinary meeting of the Society.

Conclusion

"I have no solution to offer which would not involve more time spent in committee rooms and less in our laboratories. That may be a burden which we must accept. But I would urge the Society that it should act only as an adviser and should not be willing to accept the kind of detailed

administrative work which it is sometimes asked to undertake. Our difficulties arise from the fact that our responsibilities have grown. We must be constantly on guard to see that we have the leisure to survey them.

"My successor, with his new officers and council, will have troublesome decisions to face, but we need not fear that the Society will ever be in danger of becoming less representative of science as a whole or less important in the affairs of the country. Your president becomes increasingly aware of its importance as he learns the duties of his office. Some of them are onerous, but it would be absurd to suggest that he has a thankless task in representing our great and ancient Society. So in conclusion all that I need add is the earnest hope that my successor will find his position as enjoyable as I have found it during these past five years."

Nova et Vetera

SWEDEN'S HOSPITAL ADMINISTRATION IN THE SIXTEENTH CENTURY

How did the indigent sick fare at the hands of their Swedish compatriots four centuries ago? To what extent did the ample provision for the spiritual welfare of the inmates of the public hospitals compensate for lack of the material welfare that we now enjoy? These and other questions come to mind on reading what Dr. Hans Rudberg has to say on the subject of Sweden's first general legislation on hospital administration (*Svenska Läkartidningen*, September 2, 1955). The law he quotes is dated 1571. It was drafted by Laurentius Petri, and in the preamble to it he stresses its underlying theological principles, the obligation not to neglect the care of the indigent sick in view of "our Christian faith and the prospect of our eternal salvation." Further on, in the body of the law, more specific instructions are given on this score. The sick must not fail to say grace at meals nor to repeat the Lord's Prayer before eating. Having eaten, they must praise the Almighty and implore blessings on their benefactors. At least once a day and at a given time collective prayers must be said for peace on earth, for the welfare of the powers that be, and for all concerned with the management of the hospital.

There is a hint of social discrimination in the injunction to favour the admission to hospital of persons who come from a good neighbourhood and have kept good company in their prosperous days. The patient who neglected his meals for a stroll in town was assured that he had forfeited his rights to them. If he turned obstreperous he was "first to be deprived of his food for a time, and if this in conjunction with admonitions failed he was to be dismissed the hospital." The comparatively fit were to help the unfit. "They were to comfort one another . . . particularly towards the end, and when anyone died they were to the best of their means to prepare him for burial." Marriages were banned in hospital, "but, if anyone in hospital is so strong that he dare launch out into matrimony, he must do so after he has left hospital and must then be able to support his wife and himself." So long as a patient was an inmate of a hospital he could sign no valid will, as it had become his sole legatee. This must often have been a tantalizing problem for his relatives when confronted by the choice between keeping father at home or consigning him plus savings to hospital. Dr. Rudberg finds that this confiscatory attitude of the authorities to the inmates of public hospitals is in marked contrast to ethical standards on the subject in Sweden at the present time. He suggests that it was the outcome of ownership of the hospitals by the Church of its day.

CLAUDE LILLINGSTON.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Intestinal Length in Man

SIR,—I have read Miss Betty M. L. Underhill's article (*Journal*, November 19, p. 1243) with much interest, having recently dealt with a case of regional enteritis in which the small bowel was extremely short.

The patient is a young lady of 25 years who had persistent diarrhoea for the last eight years. She was admitted to hospital with the clinical features of pellagra, which responded well to intensive vitamin therapy and a high-protein diet. Faecal fat content was 44%. Subsequently vomiting occurred, and a tender mass was palpable in the right lower quadrant of the abdomen, associated with distension and visible peristalsis. At operation a localized stricture was found in the lowermost part of the ileum. Higher in the ileum there were several adjacent strictures with balloon-like dilatation of the intervening portions of bowel. Measurement with a ruler showed that the total length of the jejunum and ileum was 9 ft. 2 in. (280 cm.). The two diseased segments were resected, the most distal section being performed at the ileocaecal junction in order to conserve the entire length of the colon. The upper deficiency was made good by end-to-end anastomosis, and the lower by re-implanting the ileum into the caecum. The length of jejunum and ileum remaining was 6 ft. 9 in. (205.5 cm.). Histological examination confirmed the diagnosis.

In the two months since operation the patient's body weight has increased by 3 st. (19.1 kg.) and her bowels act either once or twice daily only. Faecal fat content of stools has fallen to 35%.—I am, etc.,

London, W.2.

ARTHUR PORRITT.

Contraindications to Thiopentone Anaesthesia

SIR,—You are to be congratulated for giving prominence to the contraindications to and the dangers of thiopentone sodium as a general anaesthetic (*Journal*, October 1, p. 836).

Most drugs have their drawbacks, but the fallacy of arguing *post hoc ergo propter hoc* is more commonly demonstrable in anaesthesia than in any other branch of medicine. Many of the weird and worrying phenomena associated with general anaesthesia, such as "status lymphaticus," twitching, convulsions, cardiac arrhythmias (especially with cyclopropane), and inexplicable collapse during or after an operation, can be ascribed to the intrusion of two extraneous factors—hypoxia and hypercapnia. Both are the inevitable effects of hypoventilation—a state in which there is diminution of the amount and rate of gaseous exchange between the blood and the alveolar air. Most anaesthetists would agree that the morbidity and mortality attributed to thiopentone sodium, and indeed to anaesthetic agents in general, can largely be ascribed to these same factors rather than to an inherent danger in the agent itself.

Narcosis produced by the anaesthetist is a temporary pathological condition or disease. It is not devoid of peril, mainly because of the depression of the respiratory centre and the coma which necessarily results when sensitivity to painful stimuli is abolished. All narcotics share the property of depressing the vital centres in large doses. Thiopentone has an unfortunate predilection for the all-important centre for respiration, depressing it to a far greater degree than any other narcotic. Compared to it, even morphine is mild—it lessens the rate of respiration long before it paralyzes the centre completely. In order to produce coma, or merely to dampen painful stimuli, doses of such magnitude are required that hypoventilation of great intensity occurs. This necessitates immediate attention to the diminished