the patient. Surely he should have at least one source of information, authoritative for examination purposes, that he can rely on. It is curious to find Mr. Miles—a joint author of one of the most popular text-books of surgery—disparaging the text-book in surgical education. It certainly seems to me a very important part of it, especially such a text-book as Mr. Miles is the joint author of. Of course, clinical work is of the utmost importance to the student, but what student would be so foolish as to present himself for examination without a careful study of his text-book also? It is profoundly true that the student should not seek knowledge merely for examination purposes, but all the same he naturally has to bear in mind that his examination must be passed, and what I now plead for is that he should have a reliable guide, as to what will be acceptable there, seeing that there is so much divergence of opinion amongst his teachers.

Mr. Miles seems to consider it unreasonable to expect a student to give the statements of a standard text-book if he believes them to be incorrect, or for an examiner to have to accept such statements from a student if he considers them wrong. But the student could always say on what authority he made statements contrary to those of the standard text-book, and so long as he knew what was the statement of the standard text-book that would be sufficient; and I can see no difficulty in an examiner receiving the statements of a standard text-book from a candidate, even though it might not represent his own view. Mr. Miles says the examiner should know the conflicting views held on surgical matters, and be ready to accept any one of these views from a candidate, but as I have pointed out elsewhere in this letter, the difficulty does not arise with regard to such controversial matters, but in connexion with those about which the examiners do not realise how divergent are the views in the various text-books. I need only add with regard to Mr. Miles's letter that the 1921 edition of his text-book has, so far as I know, only been quite recently published, and it is the 1915 edition which is now being very widely read by students.

Mr. J. Hutchinson thinks I suggest the production of an "infallible" text-book. It will be obvious from the earlier part of this letter that such an idea was very far from my mind. Undoubtedly there would be considerable difference of opinion among the members of the editorial committee, as Mr. Hutchinson points out, and the final form of many of the statements in the standard text-book would have to be determined by a majority of votes. If there is one thing this correspondence more emphasises than any other it is the wide and frequent divergence of surgical opinion. Why should the student suffer because of this in his examination? The only fair thing to do for him, it seems to me, is to produce a text-book, the statements of which he knows will be acceptable at his examination. Mr. Hutchinson fears this would render the examination less practical. But how would it do this? I fail to see that it would have any effect on the practical part of the examination. To provide the student with a standard text-book could not make him rely more on it than on any other text-book to the exclusion of practical work. As I have already pointed out, no student can rely entirely on practical work, valuable though it is, he must study some text-book; then let it be one, on statements in which he can rely, as acceptable at his examination.

I am much tempted to enter into a discussion on the nature of myeloma, but interesting though it would be (and I may say my own views coincide with Mr. Hutchinson's) it is really beside the point of my plea. It is the marked divergence of statement to which I call attention, and it matters not to the student from the examination point of view which is really the correct one, but the important matter to him is which will be acceptable at his examination. I do not for a moment mean to imply that this is all that really interests the student, for I know it is not,

and I am quite sure he is usually very keen on information and anxious to discover the exact truth, quite apart from examination work, but we cannot blind ourselves to the fact that the passing of their examination must be a real and constant anxiety to many.

I am, Sir, yours faithfully,

Bristol, June 11th, 1922.

CHARLES A. MORTON.

PERNICIOUS ANÆMIA AND ACHLORHYDRIA.

To the Editor of THE LANCET.

SIR,—Dr. T. Izod Bennett and Mr. E. C. Dodds deserve congratulation for the latest of their admirable series of contributions to our knowledge of the secretory disorders of digestion, which appeared in your issue of June 10th. For the following reasons, however, I feel sure that they draw an erroneous conclusion from their observations, when they suggest that the achlorhydria of pernicious anæmia is secondary to the anæmia.

1. There is abundant evidence that the achlorhydria precedes the development of the anæmia. As Robert Hutchison first pointed out in 1909, there is generally a more or less long history of digestive disturbances of the type commonly associated with achlorhydria preceding the first symptoms of anæmia. In one case achlorhydria was actually discovered three years and in another 12 years before the onset of anæmia.

2. In 164 out of 166 test-meals carried out at Guy's and the London hospitals on cases of pernicious anæmia achlorhydria was complete. At whatever stage in the development of the anæmia the examination is made there is achlorhydria. It was present, for example, in cases in which the hæmoglobin percentage had not fallen below 85, 85, and 68; it is thus a far more constant symptom than any other, even than the hæmatological signs, such as a high colour-index and the presence of macroblasts, as these are often absent in the early stages and even temporarily when the anæmia is severe.

3. It persists when the anæmia has disappeared, either spontaneously or as a result of treatment. Thus in four cases it was still present when the hæmoglobin percentage was 85, 82, 80, and 70 respectively, compared with 45, 38, 23, and 53 respectively some months or years before.

4. I cannot agree with Dr. Charles Miller that gastric secretion is always notably diminished and is often absent in patients with ulcer who have recently had a serious hæmorrhage. Fractional test-meals in the last four cases of the kind I have seen gave curves of exactly the form which would have been expected, apart from any hæmorrhage, although the percentage of hæmoglobin in these cases was 30, 33, 48, and 49, which is quite as low as one would expect to find in an average series of cases of pernicious anæmia when first examined. Achlorhydria may, of course, be found occasionally with a chronic gastric ulcer whether there has been a hæmorrhage or not. In two cases of secondary anæmia caused by rectal hæmorrhage with a hæmoglobin percentage of 44 and 42 respectively, and in two cases of chlorosis with a percentage of 25 and 48 the curves of gastric secretion were normal. It is clear, therefore, that anæmia does not cause achlorhydria.

5. Complete achlorhydria only occurred in 30 per cent. of our series of cases of cancer of the stomach; it bore no relation to the severity of the associated anæmia or the part of the stomach in which the growth was situated.

6. In a long series of cases it becomes clear that the achlorhydria is not a specific one, but that whatever its origin may be it predisposes to the development of pernicious anæmia. Thus in many cases the history points to its being congenital or "physiological." In one it was due to alcoholic gastritis, in another it resulted from a gastro-enterostomy performed for ulcer, and—what proves conclusively that it is primary and not secondary—in at least four cases pernicious anæmia followed the artificial achylia produced by

total gastrectomy performed for cancer. There is thus no constant pathological change, such as atrophy, in the gastric mucous membrane after death, and in one case of pernicious anæmia, in which a fragment was excised during an operation for appendicitis, Dr. R. D. Passey found no atrophy and no more inflammation than in a specimen obtained under similar conditions in a case of "benign" achlorhydria.

For the above reasons I believe that pernicious anæmia is caused by poisons absorbed from the intestine, where they have been produced by the action of bacteria coming originally from the mouth, the presence of achlorhydria having deprived the stomach of its antiseptic powers, which normally exert a powerful influence in protecting the bowel from such infection.

I am, Sir, yours faithfully,

ARTHUR F. HURST.

New Lodge Clinic, Windsor Forest, June 12th, 1922.

Obituary.

GORDON LEY, F.R.C.S. ENG., M.R.C.P. LOND.

Gordon Ley, whose tragic sudden death in an aeroplane accident we recorded last week, was the son of Mr. Richard Ley of Exmouth, and was born in Exeter on June 19th, 1885. He was educated at Malvern and at the London Hospital, qualifying M.R.C.S., L.R.C.P. in 1908, and becoming F.R.C.S. in 1912 and M.R.C.P. in 1913. His early interest in obstetrics is shown by the fact that in 1907 he won the obstetric scholarship and prize at the London Hospital. Gordon Ley's first resident appointment was that of house surgeon at the Gloucester Royal Infirmary in 1910; from there he proceeded to Queen Charlotte's Hospital, where he held in succession the posts of junior and senior resident medical officer over a period of eight months. It was this appointment which determined Ley's choice of a career. Obstetrics inspired him with enthusiasm and his natural abilities soon became apparent. In 1913 he was appointed pathologist to the Chelsea Hospital for Women, holding this post till 1921, and in March, 1914, obstetrical registrar and tutor to Charing Cross Hospital, which appointment he held almost up to the time of his death.

Gordon Ley suffered from congenital valvular disease of the heart, and his physique was so low that he was totally rejected for military service during the war. Few men, however, worked harder than he did at home. He voluntarily acted as resident medical officer to the City of London Maternity Hospital throughout the war, and from the beginning of 1917 onwards, owing to the absence on military service of his senior colleague, he did almost the entire work of this hospital. In addition he volunteered his assistance at the London Hospital, which had been deprived of the services of two of the gynaecological staff by the exigencies of the war, and had charge of beds there, besides taking over the duties of obstetrical registrar and tutor for a great part of the war period, and also acted as pathological assistant. Further, he took charge of the Jewish Maternity Home, Underwood-street, as consulting physician, and he was on the rota of the Lady Howard de Walden Maternity Home for officers' wives. Throughout the war he lectured twice a week at the Midwives' Institute, and continued this work up to the time of his death. In 1918 he was appointed gynaecologist to the Hampstead General Hospital, and in 1919 assistant obstetric surgeon to the City of London Maternity Hospital, both of which appointments he held up to the time of his death.

In addition to this record of hospital work Gordon Ley found time for original research, and he has left us a short series of admirable papers on clinical and pathological problems connected with obstetrics. His first considerable effort was the collation of 100 cases of full-term extra-uterine pregnancy from the

literature, with two original cases upon which he had operated himself. Two years later he published an able communication on accidental hæmorrhage, advancing cogent reasons for regarding this condition as toxæmic, and from the results of microscopic examination of the uteri removed for this condition, he was able to offer an explanation of the mechanism of production of the bleeding. This paper should form the starting point for future work on the subject. Another subject to which Ley devoted much attention was carcinoma of the ovary. The preliminary results at which he arrived were communicated to the Section of Obstetrics and Gynaecology of the Royal Society of Medicine in 1919. Since then he had continued his work, and had undertaken to open a discussion on Primary Carcinoma of the Ovary at the forthcoming meeting of the British Medical Association at Glasgow. This work is unfortunately not sufficiently advanced to allow of its being published as a posthumous paper. Short articles Ley also contributed to various medical journals and volumes of joint authorship.

Mr. T. Watts Eden writes: "Gordon Ley was a man of outstanding personality, with a quick, receptive intelligence, and a remarkably retentive memory. He thought independently and strongly about any subject in which he was interested. He was endowed with a cheerful and confident disposition, and was optimistic perhaps to the verge of recklessness. Although hampered by a frail physique, he was a tireless and enthusiastic worker, and loved work. Like most men of his mental calibre he did not suffer fools gladly, and accordingly not all men were found to speak well of him. There can, however, be no doubt that he was one of the ablest men of his standing in the whole country. That he could have done work of conspicuous merit, or even of historic importance, had he lived, and had his health been maintained, there can be little doubt. Those who knew him well will regret his untimely departure, not only for his unfinished work, but for the loss of his example as a devoted worker and a loyal friend."

"A. S. M." writes: "Gordon Ley's tragic death marks one more instance of the untimely cutting off of a life valuable to medicine. Skilled in his profession, a brilliant and swift operator, he yet found time to engage in research in obstetrics and, under the auspices of the Medical Research Council, had begun investigation in a field which has been much neglected hitherto. He rejoiced in friendship and high ideals. Under an amiable cynicism he hid a kind and sympathetic nature that spent itself freely and without thought of return in the service of others. Women, especially, who in hours of crisis and suffering have found help in his encouraging presence, his words of advice and counsel, and the skill of his hands, must mourn to-day not only the loss of their physician, but also that of an understanding friend. Off duty he was a charming playfellow. Children knew and appreciated his rare sympathy and he was ever at home with them. His artistic bent found expression in collecting old china, in the reading of poetry, and the making of verse. The spirit of adventure surged high in him: hence his delight in aviation; but he also loved the sea and to be out in a small sailing boat in the roughest of weather. Surely, it was fitting that in death the waves of England's sea received him."

FREDERICK TURTLE, M.D. ST. AND.

A VETERAN has passed away in the person of Dr. Frederick Turtle, of Woodford. Born in 1833 at Newcastle-under-Lyme, he was apprenticed, as was the custom in those days, to Dr. Tom Foster, of Manchester, before entering upon his medical curriculum, which at that time consisted of three winter and two summer sessions, at the Middlesex Hospital. He obtained his first qualification, M.R.C.S. Eng., in 1855, and the L.S.A. a year later, and he then held the posts of house surgeon at the Royal Free Hospital, and resident medical officer to the Marylebone Infirmary at a time when the clinical