as the standard individual dose in combination with streptomycin as it is with isoniazid.

I do not wish particularly to advocate the use of P.A.S. in any combination, for it has been shown to be less good than regimes including isoniazid and should rate as second-best treatment. I wish only to draw attention to the facts, for, as is well known in the North, "facts are chiels that winna ding."—I am, etc.,

St. Wulstan's Hospital, Malvern. T. W. LLOYD.

REFERENCES

[1] Medical Research Council, *Brit. med. J.*, 1952, **1**, 1157.
[2] —— ibid., 1955, **1**, 435.

Chlorpromazine in Tetanus

SIR,—I wish to draw your attention to a mistake which appeared in the paper by J. R. Lawrence and M. J. W. Sando (*Journal*, August 1, p. 113) in quoting from Laurence *et al.*[1] concerning the dose of chlorpromazine given in tetanus. The dose given was 500 mg. intravenously and not 50 mg. as stated. In this particular patient an abscess which had not appeared obvious during the acute stage of the illness was found at necropsy in the soft tissues of one foot. Toxin was obviously being elaborated from this abscess and influenced the enormous dose of chlorpromazine. However, I should like to add that, as stated in a more recent paper,[2] a dose of 50 mg. of chlorpromazine intramuscularly four-hourly in combination with 200 mg. of phenobarbitone sodium given as required achieved satisfactory control of spasms in all the cases, including the most severe ones. Only 3 patients out of 27, of whom 16 were regarded as severe, required more than 1.0 g. of phenobarbitone sodium in addition to 300 mg. chlorpromazine in any one day, and even their spasms were adequately controlled with slightly larger doses of phenobarbitone sodium.—I am, etc.,

London, N.15. E. BERMAN.

REFERENCES

[1] Laurence, D. R., Berman, E., Scragg, J. N., and Adams, E. B., *Lancet*, 1958, **1**, 987.
[2] Adams, E. B., Wright, R., Berman, E., and Laurence, D. R., ibid., 1959, **1**, 755.

*** A correction appears at p. 200.—ED., *B.M.J.*

The Kinins

SIR,—Your article "Keeping up with the Kinins" (*Journal*, July 25, p. 95) contains some inaccurate statements to which I would like to draw your attention.

(1) Rocha e Silva introduced the term "bradykinin" to describe a polypeptide causing slow contraction of plain muscle which was formed by the action of the venom of the snake, *Bothrops jararaca*, on serum. When similarly acting polypeptides were obtained by other means it was felt necessary to introduce the more generic term "plasma kinin," since it was not certain whether the same active principle was present in each case.[1]

The term plasma kinin includes bradykinin as well as kallidin, pain-producing substance, and other unnamed bradykinin-like substances. All these active polypeptides are formed from plasma in different ways, but they are indistinguishable when tested biologically, all causing a slow contraction of plain muscle and vasodilatation. It is possible that the same active principle is responsible for the activity of the different plasma kinins, and the biological evidence from parallel assays is in agreement with this hypothesis. On the other hand, there is no proof of this yet. The question can be settled only by elucidation of the chemical structure of the isolated peptides.

(2) In view of this it is not justified to say, "To-day we know that bradykinin and kallidin are the same substance . . . ," for the chemical structure of these substances is still unknown.

(3) The statement "another kinin is plasma kinin" is also incorrect, since plasma kinin is a generic term and does not refer specifically to the one formed by plasmin, as the article implied.

(4) Wasp kinin differs from the other kinins because it *is* destroyed by trypsin, not because it *is not* destroyed, as stated.

(5) The term "kinin" was originally used to describe the active peptide in wasp venom, but it is now used more widely to include the plasma kinins, urinary kinins, wasp kinin, and colostro-kinin. In the article the term is applied more generally to physiologically active polypeptides which have the common property of causing contraction of smooth muscle. Substance P, for example, is referred to as a kinin. Such wide application of the term kinin would mean that oxytocin, the vasopressins, the angiotensins (hypertensins), pepsitensin, and pepsitocin are also included. Since all these as well as substance P show definite differences in their biological properties from the kinins there seems little justification for such an extension of the term.

(6) Finally, it should be mentioned that the idea that functional hyperaemia in salivary glands was due to the release of a plasma kinin was put forward by Hilton and Lewis.[2 3] Their experiments were the first indication of the physiological role of these substances.—I am, etc.,

National Institute for Medical Research, London, N.W.7. E. W. HORTON.

REFERENCES

[1] Lewis, G. P., *J. Physiol. (Lond.)*, 1958, **140**, 285.
[2] Hilton, S. M., and Lewis, G. P., ibid., 1955, **129**, 253.
[3] —— —— ibid., 1956, **134**, 471.

St. Luke's Day Service

SIR,—May I, through the courtesy of your correspondence columns, once again draw the attention of your readers to our special service for doctors which is to be held in All Souls Church, Langham Place, W.1, this year on Sunday, October 18, at 11 a.m. ? We greatly value our link with the medical profession, and have been encouraged by the support which they have given to these services during the last seven years. Sir Geoffrey Marshall and the Minister of Health, Mr. D. Walker-Smith, M.P., have kindly agreed to read the lessons.

We shall be happy to reserve seats for doctors and members of their family who apply for tickets in advance. Application (stating the number of tickets required) should be made to the Church Secretary, All Souls, Langham Place, W.1, by October 15.—I am, etc.,

London, W.1. JOHN R. W. STOTT, Rector of All Souls, Langham Place.

Correction.—We much regret the mistakes in the letter from Dr. E. Eric Pochin on the subject of radioiodine in thyrotoxicosis (July 25, p. 97). First, the author's name was misspelt; secondly, the final sentence of the first paragraph should have read as follows: "The leukaemia was described as acute in nine of these cases and developed at about 18 months after radioiodine treatment in six of them, occurring after 2, 2½, 3, and 7 years in the remaining four"; and, thirdly, the volume and page number of the last reference (*New Engl. J. Med.*, 1959, **260**, 76) were misplaced.