culation is indicated by our findings[1 2] that in blood obtained from the uterine veins this factor was greater than that in the arterial blood. Plasminogen activator levels were estimated by the euglobulin lysis time (E.L.T.) method.[3]

Evidence supporting our findings is provided by the observations published by bination of phenformin-stanozolol is as Maki *et al.*[4] These workers, investigating the fibrinolytic activity in blood from the vasa efferentia of the uterus and comparing it with that in blood from a cubital vein, found that this activity was considerably increased in the blood from the uterus. They suggested that this constituted indirect evidence that the uterus contributed activators to the systemic circulation. Moreover, in a comparative study of blood from a uterine vein and a uterine artery in 14 patients, Cash,[5] using the E.L.T. method, found marked increased fibrinolytic activity in the former.—I am, etc.,

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Vagotomy for Peptic Ulceration

SIR,—I am indebted to Mr. H. Burge for his communication (31 January, p. 301) as this gives me an opportunity to explain to him why he has failed to use the leuco-methylene blue dye successfully to detect the vagus nerve branches in the operation of vagotomy. I fear that Mr. Burge's lack of success with this perfectly simple procedure must be due entirely to his failure to apply the technique correctly. The leuco-methylene blue is most effective in detecting even the smallest branches of the vagus nerve, which he describes, quite rightly, as being almost hair-like in size. Without using the leuco-methylene blue dye it is a physical impossibility to seek out these tiny tendrils, so militating against the success of the vagotomy operation.

I must also make the point that the dye is not used to "test" the completeness, or otherwise, of vagotomy but to aid the operator in identifying the nerves before removal. If the surgeon wishes to use the Burge electrical stimulation test after completion of the operation, then that is fine.

May I appeal to Mr. Burge, therefore, to use the leuco-methylene blue dye properly, when, I can assure him, he will find, as I and many others do, that the dye does indeed show up clearly the hair-like branches mentioned in his letter. In support of this, I can show Mr. Burge a number of pathological reports selected at random and relating to tissue removed at vagotomy, which show that after a selective or total vagotomy that 75% of specimens excised after staining were indeed nervous tissue, thus showing that the dye can detect these fibrils after the main trunks have been dealt with.—I am, etc.,

MAURICE LEE.

London W.1.

Pertussis Vaccine as Immunological Adjuvant in Leukaemia and Lymphoma

SIR,—We read with great interest the report of Drs. R. J. Guyer and D. Crowther (15 November, p. 406) on the possible delay of the onset of relapse in patients with acute lymphoblastic leukaemia who were brought into remission first by conventional chemotherapy, and then were treated with *Bordetella pertussis* vaccine.[1]

Early in 1967 we observed that treatment with *Bordetella pertussis* vaccine exerted immunosuppressive effect in mice. In these low-leukaemia mice no pyroninophilic lymphoid cells were mobilized in the spleen upon stimulation with phytohaemagglutinin[2] and a cell-grafted antigenic lymphoma showed an accelerated course of growth.[2 3] Recently, we found that intravenous treatment of high-leukaemia A.K.R. mice at birth with *Bordetella pertussis* vaccine induced a leukaemoid reaction. However, at the tenth month of life, a 10-fold decrease in leukaemia was observed in the treated group, as contrasted to sham-treated control A.K.R. mice.[4]—We are, etc.,

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Miliary Tuberculosis in the Elderly

SIR,—Since so little is being published on tuberculosis in the world's medical literature, it is encouraging to read Dr. A. T. Proudfoot and colleagues' article (3 May, 1969, p. 273) and also your leading article on the same subject (p. 265).

Tuberculosis among older adults and elderly people remains a serious problem. In a few countries, including Canada, Britain, Holland, Scandinavian nations, and the U.S.A., where preventive methods have protected infants and children against invasion of tubercle bacilli for several decades, there has been phenomenal reduction in clinical disease in people born during that era. However, older adults and the elderly people of today were infected in large numbers as children before these preventive measures were established.[1] Many of those who have survived are still harbouring tubercle bacilli in caseous material in encapsulated lesions of primary tuberculosis complexes. These lesions which are avascular, do not recrudesce, but in a small percentage of them nature resorbs parts of walls of capsules and tubercle bacilli are evacuated without other change in the primary lesions. Wherever the evacuated tubercle bacilli lodge they result in endogenous reinfections on allergic tissue, resulting in such conditions as effusions in serous spaces and chronic pulmonary tuberculosis. Evacuation of tubercle bacilli into a lymphatic or blood vessel results in miliary tuberculosis. This may occur in the absence of other overt disease, and therefore is the first manifestation of clinical tuberculosis.

This situation must be expected to continue whenever older adults and elderly people are harbouring encapsulated lesions of primary complexes. The problem will not be solved until these individuals have been replaced by oncoming generations who have been successfully protected against invasions of tubercle bacilli. In some places this changing situation is now in evidence. In the State of Minnesota in 1954 a county-wide tuberculin-testing survey revealed that 47.7% of men from 50 to 59 years and 44.1% of women of the same age reacted to tuberculin.[2] However, testing in the same state in 1967 revealed that 6.3% of men and women of 50 to 59 years reacted. Among those of 60 years and older, 10.5% reacted to tuberculin. In the same state in 1967 all of the deaths from tuberculosis were in people of 45 years or older, and of the new cases reported that year 83% were in that age period.

When the time comes in any area that no person in the earlier decades of life is invaded with tubercle bacilli there will still be well-encapsulated lesions of primary complexes in the bodies of some elderly people. In the old-age period tuberculosis remains one of the world's most serious diseases. Therefore the diagnostic and therapeutic procedures practised and recommended by Dr. Proudfoot and his coauthors should be adopted by the medical profession everywhere if the tubercle bacillus is to be prevented from spreading from elderly people back to infants and children.—I am, etc.,

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Renin and Acute Renal Failure

SIR,—I was interested to read the findings and hypotheses put forward by Dr. J. J. Brown and others (31 January, p. 253) regarding oliguric renal failure. As they say, plasma renin activity is increased in patients with cirrhosis and ascites and may be accompanied by diminished renal blood flow and failing renal function.

In work to be published shortly[1] my former colleagues and I have shown a significant inverse relationship ($r = -0.59$, $P = <0.05$) between plasma renin activity and the renal clearance of para-aminohippurate in 13 such patients. However, when clearance of para-aminohippurate was increased (mean increase 58%) by a constant intravenous infusion of dopamine, plasma renin