their work, and they usually disappear, but the nutritional upset persists, and under the influence of lymph stasis the papilloma may ultimately in the course of years evolve into carcinoma without the intervention of any new factor.

In lupus cancer, x-ray cancer, and tongue cancer I have traced every stage of this process, and Mr. O'Connor will find the evidence fully stated in my book *The Genesis of Cancer* (Kegan Paul, London, 1931). I have not had the material for extending my observations to cancer of the penis and of the cervix, but it seems most unlikely that these forms of cancer are exceptions to a rule which appears to be general. The papilla is a little physiological engine. It must be supplied with not too rich a mixture at the right pressure, and must have a free exhaust. Lymph stasis following local bacterial infection violates all these conditions, and cancer is the ultimate consequence.

Temporary lymph stasis is seen in every focus of acute inflammation as Nature's method of inducing proliferation and repair. The enormous legs of elephantiasis show how intense is the proliferative impulse imparted to a tissue if the lymph stasis is permanent. It was from a case of elephantiasis which presented about fifteen separate epitheliomata on the affected limb that my researches started.—I am, etc.,

London, W.1.

W. SAMPSON HANDLEY.

A Method of Abdominal Palpation

SIR,—Dr. E. W. Price (Nov. 1, 1947, p. 703) argues in favour of abdominal palpation when the patient is sitting upright or leaning forward. I have been convinced for a long time that the abdominal palpation used on patients supine is frequently insufficient, and so I complete this first examination, when necessary, by the following methods:

(1) *Genu-cubital Position*.—This throws forward the deeper organs and enables one to distinguish some pains, especially those issuing from the right iliac fossa.

(2) *Orthostatic Position*.—When the patient leans forward, or is sitting, his legs are drawn up against his abdomen. Therefore I usually ask the patient to *lean backwards* and relax as much as he can. In order to make this possible he must be supported at the back. The physician behind the patient could support him, but this situation might prove awkward in some instances.

In order to avoid this difficulty I have had a "palpation board" constructed. It is 14 in. (35.6 cm.) wide and 6 ft. (1.83 m.) high. The top part of the board is attached to the wall at a distance of 17 in. (43.2 cm.), while the base of it is 24 in. (61 cm.) away; this inclines the board at an angle of 8–10 degrees.

To use the vertical palpation, one stands behind the board, between it and the wall. The patient is standing against the board in a leaning position and completely relaxed. The top part of the board is adapted with a groove; this enables it, when not in use, to be slid back against the wall so as not to take up too much room.—I am, etc.,

Geneva.

M. J. DEMOLE.

General Anaesthesia and Surgical Shock

SIR,—In a recent article (1947) I cited evidence to prove that fainting and shock are identical in origin, and that both are due to overstimulation of the sympathetic nervous system, a prominent cause of which in civilized man is pain. Opponents of the theory of the sympathetic origin of shock have pointed out that shock fails to develop in conditions such as biliary and renal colic, in which pain is intense and prolonged (Moon, 1938). Painful (sensory) impulses, however, are not the only shock-producing impulses arising in damaged tissues (Moon, 1944).

That pain is capable of causing shock is clearly demonstrated by the effect, in pre-antiseptic days, of the introduction of general anaesthesia on the mortality from surgical operations (amputations). It is to be remembered that general anaesthesia, though effectively cutting off all painful impulses from the vasomotor centre via the sensorium, does not prevent the reception by that centre of non-sensory shock-producing impulses from the traumatized area via the spinal cord. To prevent the reception of such impulses spinal anaesthesia is required (Tomb, 1937).

In an address to the Hunterian Society in 1848 "On the Advantages of Ether and Chloroform in Operative Surgery" Dr. T. B. Curling quoted statistics showing that the death rate from surgical operations in the London hospitals during the year 1847–8 fell by 50% consequent upon the introduction of general anaesthesia—a result which must be attributed to the diminution of shock from the prevention of pain and the sympathetic overstimulation arising therefrom.—I am, etc.,

Sydney.

J. WALKER TOMB.

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Thiouracil in Toxic Goitre

SIR,—In his letter (Dec. 6, 1947, p. 927) in connexion with our paper on "Thiouracil in Toxic Goitre" (Nov. 15, p. 759) Mr. Henri Roualle mentions experiments in which thyroid tumours have been produced in rats treated with thiouracil. Although these and previous experiments on the same lines are remote from the clinical use of thiouracil, a watch must be kept for neoplasm developing in the thyroid in patients taking thiouracil. After four years' experience we have not yet seen such a development nor has it been reported as far as we know. In the animal experiments the thyroid enlarges, whereas in our experience thiouracil often leads to a reduction in the size of the goitre.

Mr. Geoffrey Keynes and Dr. J. W. Linnell (Dec. 13, p. 971) think that the ten deaths in our 95 patients are to be attributed to thiouracil or perhaps failure to employ some other form of treatment. In nine of the ten this was not so, as shown by the details we gave. Three cases were too near death on arrival for any treatment to be effective; they had thiouracil for a few days to a few weeks before death. Six patients died from cardiovascular disease not immediately due to toxic goitre. The average age of these nine patients who died was 70 years.

As to the potency of thiouracil in restoring normal rhythm in goitrous fibrillation, our figure of 50% restored understated the case. This was because we included in the failures two patients who died shortly after coming under observation and before there was time for thiouracil to exert its effect, and also one, possibly two, patients who also had mitral stenosis. No quinidine was used for any patient. It therefore seems that thiouracil is almost the equal of thyroidectomy in converting goitrous fibrillation to normal rhythm. Lastly, as to the cases in which thiouracil is to be preferred to surgery in toxic goitre, we think that this applies to the elderly, thiouracil being the safer, particularly in those with evidence of degenerative or hypertensive cardiovascular disease. Again, in younger patients with smooth goitres of moderate or small size our results showed good control with thiouracil and a high proportion of remissions.—We are, etc.,

Bournemouth.

HAROLD COOKSON.
F. H. STAINES.

Tetraethylammonium Bromide

SIR,—In the annotation (Dec. 27, 1947, p. 1041) attention is drawn to the great possibilities of the drug tetraethylammonium bromide (T.E.A.B.). Stimulated by the early American publications, we obtained supplies of this drug early this year for clinical trial through the kindness of Dr. W. R. Thrower and Messrs. May and Baker. A short paper is being prepared giving the results of this trial, but it is not out of place to remark here that we have in general failed to produce the very favourable results reported by Coller *et al.* last June (*Annals of Surgery*, 1947, 125, 729).

Our main use of the drug was to attempt to reduce those symptoms most troublesome to hypertensives attending the medical out-patient department—i.e., headaches and giddiness—by weekly or fortnightly administration of T.E.A.B. intravenously or intramuscularly. We found that some patients obtained dramatic benefit, headaches disappearing for days or even weeks and vision clearing appreciably, so that the smaller newspaper previously unreadable could be read with comparative ease. This last statement was made quite independently by three separate out-patients who had never seen each other and to whom no suggestion had been made that improvement