

LETTERS, NOTES, ETC.

MERCUROCHROME.

MR. R. W. E. STICKINGS, O.B.E., B.Sc. (Wandsworth, S.W.), writes: In the *British Medical Journal* of August 11th, p. 238, there appears an article on "Mercurochrome 220 soluble" by Sir William Pope and others, in which a comparison is made of various trade samples of mercurochrome with a "standard" sample prepared by Messrs. British Colloids Ltd. We must admit that the general conclusions drawn are in agreement with our own findings, but we think it unfortunate that among the trade samples analysed only one sample even approached the "standard" preparation in its conformity with the theoretical composition of di-sodium dibromo-hydroxymercuri-fluorescein. We are also surprised that all the four samples analysed contain such a high proportion of water eliminated at 110° C. *in vacuo*. Admittedly, the preparation of mercurochrome on a large scale presents several difficulties, as the starting material, fluorescein, is itself not easy to obtain in a state of absolute purity. Moreover, dibromo-fluorescein, whilst it may be recrystallized on a laboratory scale, is very insoluble in the ordinary solvents in commercial use. After this stage the intermediates and finished product are not crystalline, so that simple methods of ensuring purity are not then available. In spite of this it is possible to get a close approximation to purity at each stage, and only by doing so can a mercurochrome approximating to the theoretical composition be produced. In the final stages of the manufacture—that is, the formation of the solid sodium salt—care has to be taken to avoid decomposition, as it is easily possible for inaccurate methods to cause decomposition of metallic mercury in globules from a perfectly bright solution. But we are of opinion that from the point of view of stability a moisture content of 10 per cent. is not desirable in the finished product, and there appears no valid reason for its presence. In confirmation of this an examination of two samples of British-made mercurochrome (Messrs. May and Baker, Ltd.) showed a moisture content of 2.8 per cent. and 2.6 per cent. respectively after four hours at 110° C. *in vacuo*, whilst another sample of a well-known American brand contained as much as 12.6 per cent. under the same conditions. The samples of British manufacture contain 27.4 and 25.8 per cent. mercury, and 22.1 and 21.2 per cent. bromine, respectively. Both the mercury and bromine figures vary less than 1 per cent. from the theoretical figures, and to maintain a closer approximation to theory than this in the manufacture of hundredweights of this substance is little short of impossible. The toxicity of this material is tested as a routine on rabbits, and a consistent toleration of between 20 and 30 mg. per kilogram of body weight is manifested.

MALIGNANCY AND THE ENZYME.

LIEUT.-COLONEL V. N. WHITMORE, I.M.S. (Sialkot, Punjab), in a note dated August 10th, writes: It would be of interest to know what, if any, investigations are being made by the Cancer Research Committee as regards tissue and, *ipso facto*, cell enzymes, both intra- and extra-cellular, as a likely factor in the irregular mitosis of the malignant cell. Is the "specific factor" of Gye and Barnard the malignant cell enzyme, and the ultra-microscopic virus the broken down or separated mitotic material, and is the unlimited potentiality of growth due to continued catalysis of malignant cell enzyme associated with the absence of the anti-enzyme? The vital role of the enzyme in the chemical physiology of cell life leads one to assume its importance in the equilibration essential to regular mitosis, and a defective or altered enzyme to a replacement of a normal cell by a spurious prototype with the embryonic potentiality of rapid and irregular karyokinesis. The accepted fact—accepted beyond all reasonable dispute—that the origin of malignancy is local presupposes also that the normal physiological metabolic processes in the cell are being unduly stimulated by a definite factor, or enzyme; that the life-history of a normal cell depends on its own ability to conform physiologically, and solve its own bio-plasmic chemistry—in other words, to activate its enzyme (and anti-enzyme) and thus ensure autometabolic equilibration and physiological karyokinesis. It is also a fair assumption that the greater the metabolic and physiological activity of the cell the greater the liability of the normal cell enzyme to become defective. The complex physical properties of enzymes, including reversibility of action and catalysis, probably due to two factors, are to some extent understood, at all events, to a greater extent than their chemical properties. It is fair to assume that the normal physiology of cell life, when interfered with by any influence acting locally, be it an hereditary (endocrine) factor, an autotoxin or persistent focal devitalization the result of persistent irritation, or deficient trophic influence, should be so altered as to affect fundamentally the normal properties of the enzyme on which the physiological metabolism of the cell, including mitosis, depends. The hypothesis of such a theory appears a justifiable one, and that the processes of life itself, which Sir Lenthal Cheate suggests must be probed before an adequate solution is found, is but a higher evolutionary form of a continuous biochemical reaction.

MEDICAL TREATMENT IN CHINA.

DR. O. MARRIOTT (Haywards Heath, Sussex) writes in reply to Fleet Surgeon Home's inquiry (August 4th, p. 228): With the experience of twenty years' practice in Hong-Kong, where I had a very considerable number of Chinese patients, and had several Chinese families as "contract patients," I have repeatedly inquired, especially of the intellectual classes who should know, whether there were any grounds for this constantly repeated

story by Europeans—more especially by globe-trotters—that the Chinese paid their doctors a fee while in health and suspended payment if they became ill. All those asked stated that there was no such custom; they sometimes admitted having heard of it, but only from Europeans asking about it. I am convinced that among Chinese in the south—that is, Kwang-Tung—there is no such custom. Globe-trotters repeat such fables as this so often on their tours that when they come home and write their "book" they really believe they are true.

DR. F. H. JUDD (China Inland Mission) writes: I may say that I never came across the alleged Chinese custom of paying fees to their doctors while well and discontinuing them when ill, although I was a medical missionary in Kiangsi Province more than twenty years.

THE PREVENTION OF TUBERCULOSIS.

DR. W. HOPKINS ASHMORE (Monkstown, Dublin) wishes it to be known that the point he made in the discussion by the Section of Tuberculosis at Cardiff was that the practice of collecting sweepings of rooms in which tuberculous patients are being nursed, and the placing of this dust on an open dump, is a very definite factor in the spread of tuberculosis. He advocates the incineration of all house refuse as a remedy to the diffusion of infectious diseases. He writes: It is quite incomprehensible to me why, in view of our present knowledge of bacteriology, we still persist in the daily practice of collecting the sweepings of rooms in which are patients suffering from tuberculosis, measles, scarlatina, diphtheria, and typhoid fever, and of spreading this dust on an open dump, which is frequently situated in a convenient place beside the main road, or in the centre of a thickly populated suburb.

LORD HALDANE'S DEFINITION OF THE "EGO" OR "SELF."

SURGEON REAR-ADMIRAL CHARLES M. BEADNELL, R.N.(ret.), writes: In your note in the *Journal* of August 25th upon Lord Haldane, F.R.S., you make no allusion to his excursions into the realms of psychology. The distinguished statesman-philosopher was, as is well known, an ardent Hegelian, and in his Gifford Lectures of 1902-3 he made a somewhat desperate attempt to reconcile with the tenets of modern science the topsy-turvy doctrine of the great German metaphysician that reality is identifiable with thought. I think few, if any, modern scientists would admit the success of a venture which involved even Lord Haldane himself in contradictions. In his *Pathway to Reality*, the title under which the lectures were published, he states (p. 31): "In the universals of thought, and not in the impressions of sense, are to be discovered the true foundations of the world . . . thought rather creates things than things thought." *Esse* was, for Haldane, *Intelligi*, not *Percepti*. I think the general verdict of modern science rather is *Nihil est in intellectu, quod non prius fuerit in sensu; nisi ipse intellectus*. Quite in keeping with his idealism was his famous definition of the subject of thought, the thinker, the "Ego" or "Self," and it should be carefully contrasted with his words as quoted above. He states (p. 154): "If you look quite simply into your own bosom and try to find out what your Ego is, you will find that you have embarked upon a very difficult task . . . your Ego comes to disclose itself as a mere asymptotic regress towards a notional pure subject of knowledge—a thinker without thoughts, an abstraction, nothing at all." Such a definition, whittling away the Self into nothing, is surely at variance with the contention that thought is the reality. The definition has been welcomed by a certain school of psycho-analysts, but to the average mortal will, I opine, prove unacceptable. On the one hand, the most modest and self-effacing will find it somewhat unappreciative, and, on the other hand, those who, like Kipling's cat, have too much Ego in their cosmos and prefer to walk by themselves, will regard it with severe displeasure.

HOMOEOPATHIC CONGRESS.

DR. F. B. JULIAN (Liverpool) writes: The British Homoeopathic Congress, which is meeting this year at Liverpool, will devote its business sessions to a symposium on gastric and duodenal ulcer. The sessions will be held in the surgery theatre of the University, by kind permission of the Dean of the Medical Faculty, and papers will be contributed from the general medical, surgical, pathological, and homoeopathic standpoints. The Congress meetings are on September 21st, commencing 9.45 a.m.

LITTER.

DR. H. MEREDITH (Wellington, Somerset) writes: Yesterday, in the Doone Valley, there was—as is usual in beauty spots—a lot of paper, etc., lying about. The most glaring piece was an envelope addressed to ———, M.D., of Hendon, and around were advertisements of Wampole. Surely the medical profession ought to be the first to discountenance such things. If ———, M.D., throws his correspondence about like that, I wonder what he does with his sandwich wrappings. No wonder private owners are closing their estates to the public.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 45, 46, 47, 50, 51, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48 and 49.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 135.