

test can be substituted. Publications confirming its value have been made by Van Slyke and Evans (1948), Paine and Duff (1949), and Black (1950). If a reaction sets in against it, before a better bedside test is substituted, more lives will be lost than would be lost from errors in consequence of its use. Its reliability has been checked by biochemists of the Courtauld Institute of the Middlesex Hospital. Mr. Barrett in 1941 and Mr. Rose in 1951 reported that with freshly passed urine of the pH range likely to be met the error did not exceed 1 g./litre when chloride was low—i.e., 0.5 g./litre.

Dr. Taylor's main objections are four:

(i) Urates might make at most an error of 0.7 to 1.4 drops. Even if maximal, such an error is too small to matter, and does the maximum concentration he *assumes* frequently occur?

(ii) Ammonium carbonate, formed from urea, may cause an error up to 2 g./litre if urine is left standing for 24 hours—i.e., until it goes bad. By such time the result would be so belated as to be valueless in any case.

(iii) Errors are likely to be made by inexperienced nurses, students, and house-officers. Of course, inexperienced individuals can make a mess of any test, but not of so simple a one if properly taught.

(iv) Regarding his criticism of the test in practical use, he admits that only 0.5 g./litre is of consequence. Therefore I will confine my remarks to his errors within this range. He quotes: "Marriott (1947) considers that in concentrated urine, with a specific gravity of more than 1020, less than 3 g./litre (of chloride measured as NaCl) suggests (salt) depletion." Later Dr. Taylor states that two out of 26 urines, with less than 1 g./litre, showed 2-3 g./litre. Hence, 24 showed 0.2 g./litre and even the whole 26 came within my definition of abnormally low chloride—i.e., even if the test was as inaccurate as he tries to show, which it is not, it is satisfactory for practical purposes. The errors in his table relating to urines containing 0.5 g./litre seem to have been errors on the high side. Was the potassium chromate used contaminated with chloride, as can easily occur from impurity or from contamination by imperfectly washed test-tubes or pipettes? In my lecture, cited by Dr. Taylor, I specifically warned against this possibility and advised that a preliminary control test with distilled water should always be done. Was it done in his cases?

In conclusion, may I briefly allude to Dr. Taylor's adverse implications regarding schemes of treatment put forward by Black (1950) and myself (1947). My scheme was probably very imperfect, though I tried to improve it in later, unquoted, publications (1950, 1951). Criticism of it does not worry me from a personal point of view. It is possible to over-simplify advice regarding treatment, and those of us who have given such advice have probably been guilty of this error. At the same time, it is also possible to over-complicate issues. The majority of patients, and they are many, suffering from disorders of water and electrolyte balances are urgent cases whose lives are in jeopardy. Decisions about their diagnosis and treatment have often to be made in patients' homes or in hospitals at nights or week-end when the help of biochemists may not be available. It is unfortunate if the impression should prevail that there are so many pitfalls that it is safest to do nothing. Dr. Taylor's article contains no positive help at all to the inexpert. Negative criticism is not difficult: the attempt to give positive guidance in comprehensible form is much harder. Dr. Taylor would put us all in his debt if he would attempt the task.

I wish to thank Dr. D. N. Baron, Professor A. Kekwick, Mr. L. P. Le Quesne, and Mr. C. F. Rose for helpful advice. They are not, of course, responsible for the views expressed.

—I am, etc.,

London, W.1.

H. L. MARRIOTT.

REFERENCES

- Abbott, W. E. (1946). *Amer. J. med. Sci.*, **211**, 232.
 Black, D. A. K. (1950). *British Medical Journal*, **1**, 893.
 Denton, D. A. (1949). *Med. J. Aust.*, **2**, 521.
 Fantus, J. B. (1936). *J. Amer. med. Ass.*, **107**, 14.
 Marriott, H. L. (1947). *British Medical Journal*, **1**, 245, 285, 328.
 — (1950). *Water and Salt Depletion*. Thomas, Springfield, Illinois, U.S.A.; Blackwell, Oxford.
 — (1951). *Medical Treatment*, ed. Geoffrey Evans, Butterworth, London.
 Paine, D. T. H., and Duff, D. R. (1949). *British Medical Journal*, **2**, 137.
 Sanchez-Vegas, J., and Collins, E. N. (1946). *Amer. J. med. Sci.*, **211**, 428.
 Stewart, J. D., and Rourke, G. M. (1942). *J. clin. Invest.*, **21**, 197.
 Van Slyke, K. K., and Evans, E. I. (1948). *Ann. Surg.*, **128**, 391.
 Warren, J. V., Merrill, A. J., and Stead, E. A., jun. (1943). *J. clin. Invest.*, **22**, 635.

R.M.B.F.

SIR,—As only a few weeks remain before Christmas Day, I would like to remind your readers of our Christmas Gifts fund in the hope that those who have not sent their contributions will now do so quickly. We try to make the distribution of gifts some days before Christmas so that the recipients may have the money in time to make their purchases. I appeal earnestly for donations, which should be marked "Christmas Gifts" and sent to the Secretary, Royal Medical Benevolent Fund, 1, Balliol House, Manor Fields, Putney, London, S.W.15.—I am, etc.,

London, S.W.15.

FRANK JULER.

POINTS FROM LETTERS

Sweetening Agents

The secretary of the Soft Drinks Industry Co-ordinating and Advisory Council writes to say that, contrary to the impression given in the article "Chemical Manipulation of Food" (*Journal*, October 13, p. 863), neither dulcin nor P 4,000 is used in the preparation of soft drinks in Britain.

Mental Calculation of Injection Quantities

Dr. ANTONY M. GREEN (Umtali, Southern Rhodesia) writes: I have frequently found that nursing staff have difficulty in calculating the fractional dose to be given from a tablet of larger dosage. The calculation is not exactly easy for one whose mathematics is poor, and nurses generally dislike admitting that difficulty exists: as a result the quantity actually given is, I fear, too often arrived at by guesswork. I would like to draw attention to the following scheme by which any such calculation can easily be worked out mentally. To give 1/6 gr. from tablet of 1/4 gr.: dissolve 1/4 gr. in 6 min. and give patient 4 min. (or more easily as a multiple, dissolve in 12 min. and giving 8 min.). Again, to give 1/13 gr. from tablet of 1/8 gr.: dissolve 1/8 gr. in 13 min., give patient 8 min.; and to give 1/150 gr. from 1/100 gr.: dissolve 1/100 gr. in 15 min., give patient 10 min. In our hospital here the staff have found this method very helpful.

Bittner's Mammary Tumours in Mice

Dr. J. P. MCGOWAN (Aberdeen) writes: . . . I do not know what Professor Bittner's present views are regarding the cause of the condition: formerly he was of opinion that in all likelihood the agent was a virus. Because of this I repeat the statements made on this subject in my letter in the *Journal* of February 4, 1950 (p. 308), substituting, however, the more apt term "autocatalytic enzyme" for that of "hormone" employed there. It is highly probable that normal milk secretion depends to a large extent on the action of such an enzyme, and that the mammary tumours in mice are to be regarded not so much as tumours as a secretion of very abnormal milk, produced under the influence of a very abnormal enzyme of similar type and activity, the so-called "milk factor," which has made its appearance through harmful recessives becoming dominant during and because of the intensive inbreeding practised.

Cysts in the Surgery

Dr. J. L. KEARNS (London, W.12) writes: I think a lot of time in hospitals is lost in treating ganglia of the wrist and ankle, or Baker's cyst at the back of the knee, which can be treated in the surgery. Having tested for translucency, introduce a small trocar and cannula (No. 3, say), press out the fluid or glue as the case may be, and introduce from a syringe through the cannula a few ml. of "ethamolin." A second aspiration and injection may be necessary. If the stem of the injecting needle and syringe is collared by a tiny rubber ring the ethamolin goes in quite easily and without introduction of air. Prepatellar bursitis of the knee has not yielded so much success.

Registered Drug Samples

Dr. E. B. COWAN (Renfrewshire) writes: On several occasions within the past few weeks I have been called out of my bed at 7.30 a.m. to sign a postman's counterfoil for a sample package of drugs. There is no doubt about the reception which would be accorded to a drug traveller having the temerity to call on a doctor at that time in the morning, but by simply registering an envelope containing a few pills the postman is deputed to do the dirty work. Could it not be made a rule that registered sample packets must not be delivered with the first post? The fact that the packet is usually labelled "Medical Sample" should make it a comparatively simple matter to arrange this. It has struck me as futile that it is possible to register an unsealed packet containing drugs if such registration is intended to prevent the contents falling into unauthorized hands.