LETTER TO THE EDITOR

The Assay of Artemisia

SIR,—We are grateful for the opportunity, with the permission of the author, to read in proof the paper by Qazilbash on the assay of artemisia. This we have done with considerable interest, well knowing of his wide experience in this subject. Ours, we are well aware, is far more limited, nevertheless we ask for your courtesy to publish the following comments.

1. The purpose for which our assay process was worked out is quite different from that for which Qazilbash carries out his analyses, hence we are not bound to share quite the same views.

2. Qazilbash makes many criticisms of our process and states in his conclusion that the results obtained by his revised method are "better qualitatively as well as quantitatively", but he gives no indication in his paper by published figures that he has carried out even one assay according to our process.

3. The quantity of barium hydroxide used by us is not really in any larger excess than that used by him. For approximately 80 to 200 mg. santonin he uses 110 ml. freshly prepared 5 per cent. solution; for about 280 to 500 mg. we use 250 ml. of a saturated solution (prepared by dissolving barium hydroxide in boiling carbon-dioxide-free water, allowing to cool overnight without access of air, and filtering immediately before use); the strength is approximately 6·5 per cent.

4. Qazilbash does not give any evidence to show that our use of chloroform with the baryta gives a less pure yield of santonin, although in para. (iv) p. 28 he makes this statement.

5. The chief differences in our respective methods are in the weight of the yield of santonin and the correction used. Qazilbash, apparently, usually weighs 30 to 150 mg., we aim to obtain 230 to 450 mg. The corrections in both methods are not dissimilar, but the ratio correction/yield is far larger in the case of his process. As far as the correction itself is concerned, we would say that, much to our regret, we have been unable to find time to carry out any further work in this direction and we are much interested in the figures published in Qazilbash's paper. As we deal with two-and-a-half to three times as much yield for the use of less than twice as much solvent, our final filtration is necessarily quite different from his, and we would here reiterate that we did not, for this particular material, find kieselguhr helpful or necessary, while we would not wish to detract from its value for many other types of filtration.

6. Regarding the purity of the yield, as determined by its melting point, we would point out that we expect to obtain melting points of 173° C. or higher by our published method. Qazilbash, in Table I, only gives six figures out of a total of twenty-six as high as this, and of these six, two were obtained by the use of animal charcoal alone.

7. Qazilbash, in 1952, stated that his then published method was unsuitable for low-grade material. In the conclusion to his present paper it appears that his revised method can be modified in exactly the same manner as that suggested by ourselves for our process; we would stress, however, that we work always on larger weights of material.

The three of us who co-operated in the publication of our process are now separated, and, much to our regret, it seems unlikely that we shall be able to

carry out further work on the assay of artemisia. We thank you for allowing us to publish this note.

90 Greenhill, Hampstead, London, N.W.3. ELSIE W. KASSNER.
Analytical Control Laboratories, C. A. JOHNSON.
Boots Pure Drug Co., Nottingham.
Harrison and Self, N. A. TERRY.
26 Borough High Street, London, S.E.1.

October 13, 1955.

(ABSTRACTS—*continued from page* 70)

of reserpine may be mediated through the release of serotonin in the body. Experiments in dogs, which show a high increase in the excretion of 5-hydroxyindoleacetic acid, a major metabolite of serotonin, support this hypothesis.

G. F. S.

Silicone Aerosols, Control of Pulmonary Œdema. M. Nickerson and C. F. Curry. (*J. Pharmacol.*, 1955, **114**, 138.) Experimental pulmonary œdema, induced in rabbits by intravenous injection of adrenaline and in rats by inhalation of chlorine, was effectively controlled by the anti-foaming action of inhaled aerosols of dimethylpolysiloxane emulsions. In preliminary *in vitro* experiments with a 10 per cent. serum solution the most effective and easily handled silicone emulsion was XEC 151, (30,000 cs. dimethylpolysiloxane with 5 per cent. SiO_2), foaming being prevented where the silicone concentration was as low as 6×10^{-9}. A 10 per cent. aqueous emulsion of XEC 151 gave complete protection in rabbits against intravenous doses of adrenaline of 1 mg./kg. or less and 60 per cent. protection against 2 mg./kg. Emulsion XEF 215 (500 cs. dimethylpolysiloxane) was almost as effective as XEC 151. Death from chlorine-induced pulmonary œdema in rats was also prevented by these aerosols, but the range of exposure within which protection was obtained was much narrower than with adrenaline. It was suggested that the limits of dosage of adrenaline or chlorine against which the aerosols can protect are determined by toxic actions other than the production of pulmonary œdema. Inhalation of the aerosols did not alter oxygen transfer in the lungs of dogs and daily administration for up to 38 days did not produce inflammatory or granulomatous changes in the lungs of rats. Other workers have reported the low toxicity of these aerosols after both acute and chronic administration by various routes.

G. P.

Steroid Anæsthetic Agent. G. D. Laubach, S. Y. P'an and H. W. Rudel. (*Science*, 1955, **122**, 78.) The anæsthetic activity of a number of water-soluble steroids was compared with thiopentone sodium. The most promising of the series was hydroxydione (21-hydroxypregnane-3: 20-dione sodium succinate), which in mice and rats had intravenous anæsthetic potency equal to that of thiopentone sodium, but a much higher therapeutic index. In cats, dogs and monkeys the therapeutic index of the steroid was again high, but anæsthetic potency was only one-fourth of that of the thiobarbiturate. Respiratory depression during hydroxydione anæsthesia was relatively low and recovery rapid, uncomplicated and with minimum post-anæsthetic depression. Even with large doses of the steroid little or no endocrine activity was observed. G. P.