Determinations of the histamine sensitivities of 11 untreated rats gave a value of 27 μg. $\pm$ 3 (mean $\pm$ S.D.). Table I shows the histamine sensitivies of rats after 48/80 treatment.

It can be seen that the sensitivity to histamine decreased 6 hr. after treatment. However, 2 days later there was observed an increase in sensitivity which persisted for 28 days. 40 to 50 days after treatment sensitivity decreased towards the control figure for untreated rats. The sensitivity of the uteri to the inhibitory action of adrenaline was unaltered throughout the course of these experiments.

These results show that 48/80 treatment selectively modifies the sensitivity of the uterus to applied histamine. There is a similarity in the period during which increased sensitivity persisted in these experiments and the period during which tissue levels of histamine remain low after 48/80 treatment. Feldberg and Talesnik (1953) have shown that after 48/80 treatment the tissue content of histamine is lowered, remaining low up to and sometimes beyond 50 days after treatment. It may be that there is an inverse relationship between histamine sensitivity and histamine tissue content. Paton (1957) has observed that those species like the rat with high tissue histamine levels are relatively insensitive to the effects of injected histamine, whereas those species like the guinea-pig with low histamine levels are more susceptible.

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A Reaction between Prednisolone Phosphate and Sodium Metabisulphite

SIR,—The reactivity of bisulphites with certain substances of pharmaceutical interest has been previously noted (Higuchi and Schroeter, 1959).

We observed the pH values of certain aqueous experimental preparations containing prednisolone phosphate and sodium metabisulphite to rise for several days after preparation. A close examination of the ultra-violet absorption spectra of their aqueous dilutions showed slight bathochromic shifts (1–2 mμ); increased amounts of sodium metabisuphite produced greater shifts. The maximum shift attainable was 8 mμ, when λ_{max} occurred at 255 instead of at the normal wavelength of 247 mμ. A recently developed enzyme method for prednisolone phosphate (Boon, 1960), which is specific for phosphoric esters of solvent extractable alcohols, when applied to fresh mixtures of prednisolone phosphate and sodium metabisulphite gave the expected values. After the spectral change had occurred, the prednisolone phosphate contents, as determined by the enzyme method, were unexpectedly low. In a series of solutions of constant prednisolone phosphate and various metabisulphite contents there was after equilibration a rank correlation between the shift in λ_{max} and the deficit of

prednisolone phosphate. Paper chromatographic evidence suggested the presence of a new compound more water-soluble than prednisolone phosphate. Aqueous solutions of a reaction-product isolated by freeze-drying an aqueous prednisolone phosphate solution saturated with sulphur dioxide had λ_{max} at 255 mμ. The infra-red spectrum of the solid gave no evidence for presence of a $\triangle^{1,4}$ compound, indicating the probability that only one double bond was conjugated with the 3-keto group in Ring A.

Two solutions, one containing 3·3 per cent prednisolone disodium phosphate and 5 per cent sodium metabisulphite, the other 2·7 per cent and 2 per cent, respectively, had rat-liver glycogen responses, after equilibration, consistent with the prednisolone phosphate contents determined by the enzyme method, which showed deficits of 90 per cent and 61 per cent respectively. The extent of the reaction is markedly dependent on pH, proceeding most readily at acid pH values. It is apparently completely and rapidly reversed in the pH range 10 to 12, since brief contact with alkali reverses the spectral shift and restores the deficit revealed by the enzymatic determination.

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The Emulsifying Properties of Gum Acacia

Sir,—In the discussion of the paper "The Emulsifying Properties of Gum Acacia" presented to the British Pharmaceutical Conference at Newcastle upon Tyne (Shotton and Wibberley, 1960) I postulated that a seven times washed emulsion of heptane if subjected to further homogenisation would crack, as there would be insufficient acacia to stabilise the new interfacial area produced. I have now submitted the seven times washed emulsion of heptane to a second homogenisation, using the same hand-operated homogeniser. A more effective machine was not used as the volume of emulsion available was small.

The results are much as predicted. The emulsion issuing from the homogeniser had deteriorated, and globules of oil were clearly seen. On standing, the emulsion separated into three layers: an upper layer of heptane, a middle layer of emulsion, and the aqueous phase. It was not possible to separate quantitatively the heptane layer produced by the breaking of the emulsion, but a substantial fraction of the heptane separated after a few minutes, and the quantity increased on standing until only a small amount of emulsion remained.

Examination of the emulsion under the microscope immediately after homogenisation showed that the globule size range was increased from the 1 to 25 μ of the original washed emulsion to 1 to 150 μ or more, and the larger globules were more numerous. After 7 days the number of the large globules in the residual emulsion had decreased.