principal differences are that *Coxiella burnetii* is not dependent on an arthropod vector, does not share the Proteus XK antigens, and produces a different disease complex in man. The creation of a new genus *Coxiella* within the family Rickettsiaceae is therefore justified in the eyes of the distinguished authors of Bergey.¹ I cannot help but agree with them and suggest that if the "criteria" of Dr. Smith were adopted taxonomy would frankly be impossible.—I am, etc.,

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REFERENCE

- ¹ Bergey's *Manual of Determinative Bacteriology*, edited by R. S. Breed, E. G. D. Murray, and N. R. Smith, 1957, 7th ed., p. 947. Baltimore.

some play a similar role in the implantation of the human egg as they do in the rat.—We are, etc.,

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- ¹ Cohen, S., Bitensky, L., Chayen, J., Cunningham, G. J., and Russell, J. K., *Lancet*, 1964, 2, 56.
² Woessner, J. F., jun., and Brewer, T. H., *Biochem. J.*, 1963, 89, 75.
³ Wood, J. C., and Psychoyos, A., *C.R. Acad. Sci. (Paris)*, Ser. D., 1967, 265, 141.

Lysosomes and Menstruation

SIR,—Although much information has been gathered on the structure and ultrastructure of the endometrium during the menstrual cycle, little is known about the enzymatic changes which ultimately lead to the onset of menstruation. Cohen¹ and his co-workers suggested from histochemical observations that tissue disintegration during the menstrual phase may be "caused by the breakdown of lysosomes and the release of autolytic enzymes which they contain," but quantitative biochemical studies of the lysosomes of the human endometrium appear to be lacking.

In 1963 Woessner and Brewer² drew attention to an increase in the activity of the lysosomal enzyme acid cathepsin D in the human uterus during postpartum involution. They postulated that the enzyme was involved in the degradation of uterine collagen, and other studies³ on the endometrium of the rat during early pseudopregnancy also suggest that this is true. Since the breakdown of endometrial tissue during menstruation presumably involves a loss of collagen from the connective tissue matrix, it was decided to investigate the activity of acid cathepsin D in samples of human endometrium taken at hysterectomy or by curettage, and dated according to well-established histological criteria.

The activity of the enzyme was measured using a haemoglobin substrate² in tissue homogenates derived from 28 samples of endometrium, 12 from the proliferative and 16 from the secretory phases of the cycle. The mean values for the specific activities (expressed as μ moles of tyrosine liberated per gramme fresh weight per hour), together with their standard errors, were 42.7 ± 3.5 and 88.6 ± 11.3 respectively. Statistical analysis of the data showed that despite considerable variation within the samples the difference in the means is highly significant ($P < 0.01$). In addition, the increase in cathepsin activity appears to be progressive, being lowest in the early proliferative and highest in the late secretory phase.

We believe that this increase in enzyme activity is associated with the dissolution of the connective tissue framework of the endometrium, and that the onset of menstruation is therefore due, at least in part, to the involvement of lysosomal enzymes. It is hoped that investigations currently in progress will establish whether other hydrolytic enzymes are also involved, and whether lyso-

Scientists in Medicine

SIR,—I write as a graduate scientist who has been working for nearly 16 years in a hospital pathology laboratory. In the light of this experience I would like to comment on the Zuckerman Report,¹ on your leading article concerning it (7 December, p. 593), and on some of the correspondence from medically qualified pathologists which has followed.

The Zuckerman Report and the letters from Professor S. C. Frazer (21 December, p. 768) and Dr. A. L. Woolf (11 January, p. 114) are only too correct when they point out the lack of status, career prospects, and financial reward for most graduate scientists in the N.H.S. compared with that available from other employers. Changes along the lines of the Zuckerman Report will have to be made if the N.H.S. is to attract enough good scientists, for few people would agree with the inference of your leading article that more are not needed.

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REFERENCE

- ¹ Report of the Committee on Hospital Scientific and Technical Services, 1967-8. H.M.S.O., London.

Steroid "Pseudorheumatism" in Asthma

SIR,—The introduction of disodium cromoglycate (Intal, FPL 670) into the therapeutic regimen for asthma has allowed reduction, or even withdrawal, of corticosteroid drugs in many patients in whom this had not previously been possible, and so-called steroid "pseudorheumatism"¹⁻³ has supervened in 9 out of 26 patients. None

of the patients had a past history of arthritis. Control of the asthma remained satisfactory. Features of the asthma in the nine affected patients (Table I) were similar to those in the 17 unaffected patients. Details of previous corticosteroid treatment in the affected group are shown in Table II.

TABLE I.—Features of Asthma

Patient	1	2	3	4	5	6	7	8	9
Sex	F	F	F	M	F	F	M	M	F
Age (years)	31	26	42	50	60	51	34	49	52
Age of onset of asthma (years)	1	2	9	11	54	47	32	35	31
History of sensitivity	+	+	+	+	+	+	0	0	0
Prick skin test reactions	+	+	+	+	+	+	+	+	0
Broncho-pulmonary aspergillosis	0	+	0	+	0	+	0	0	0

TABLE II.—Details of Prednisone Therapy

Patient	1	2	3	4	5	6	7	8	9
Duration (years)	12	1.7	0.6	10	5	2.5	2.25	10	12
Average daily maintenance dose (mg.)	10	10	12.5	10	2.5	10	7.5	7.5	10
Daily dose at onset of symptoms (mg.)	0	0	2.5	1	0	1	0	2.5	2
Period of reduction (months)	3	5	1	3	2	6	5	2	0
Period to symptoms (months)	3	5	3	3	3	6	6	3	2