of its long period and distinctly observed amplitude 0.5 st. mag.

It was interesting to look for this long period in the case of UZ Persei. Indeed, Mr. Gerasimovič's light-curve shows that the brightness at minima and maxima does not remain constant, but varies slowly.

It may be seen from the accompanying table that

Minimum I.D. mag.	Maximum I.D. mag.
2,417,450 10.85	2,416,800 10.56
8,300 10.90	7,800 10.55
9,200 11.00	8,700 10.62
2,420,200 10.88	9,700 10.57
1,100 10.72	2,420,800 10.45
2,000 10.75	1,550 10.48
.. ..	2,400 10.52
Range 10.72-11.00	Range 10.45-10.62

there is a secular oscillation with a long period of about 5000 days or 14 years, and amplitude 0.3 mag.

It is clear that this star is of μ Cephei type. My paper on μ Cephei and the principle of classification of irregular variable stars of this type will be published later.

W. ZESSEWITSCH.

University Observatory,
Leningrad, May 18.

Rapid Approximate Calculation.

FOR all work in which an error up to 10 per cent in the final result is admissible, the following rough logarithm-table provides a means of multiplying and dividing which is appreciably more rapid than direct calculation, and in simple cases does not require pencil and paper.

Log..	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
No. .	5/4	$\pi/2$	2	5/2	π	4	5	2π	8

With some of the figures, of course, everyone who has occasion to use logarithms at all is familiar; that the logarithms of $\pi/2$ and 2π can be obtained from that of π by subtracting or adding 0.3 is also in itself self-evident; nevertheless, it seems worth while to point out explicitly how very convenient it is to be absolutely familiar with the whole table. The error in every case is less than 1 per cent, and with a little practice it will be found possible also to estimate very quickly the second place of decimals for any number at all, with an error that is usually less than 1. An error of 4 in the second place, corresponding to 10 per cent in the number, should then occur only in the results of fairly complicated calculations.

An error in the decimal point is much less probable than when working with the slide-rule; the method is in fact very reliable for fixing the position of the decimal point in slide-rule results. Its principal other applications are obviously for estimating whether a theory or an experimental method is roughly suitable for a particular purpose, and for checking the experimental results of students in cases where a numerical slip is suspected.

R. D'E. ATKINSON.

Berlin, May 29.

The Spectrum of the Corona.

IN view of the interest attaching to the identification of the unknown lines of the solar corona, I have examined the possibility that they might be due to the occurrence of 'forbidden' transitions between terms in the spectra of ionised iron (Fe II), calcium

(Ca II), titanium (Ti II, Ti III) and argon (Ar II), as well as several important forbidden transitions of the neutral titanium atom.

Ionised iron, calcium and titanium are all present at high levels in the chromosphere, and although there is no indication that argon is present, it was examined in consequence of a suggestion, now disproved by H. N. Russell and I. S. Bowen (*Astrophysical Journal*, 69, 196; 1929), that the coronal lines might arise from neutral argon. Wave-lengths corresponding to some 500 forbidden transitions have been computed, but in no case have any coincidences been found between these and the coronal wave-lengths which would not be considered a pure matter of chance. Similar calculations seem to have been made by I. S. Bowen and D. H. Menzell (*Publ. Astro. Soc. Pac.*, 40, 322; 1928), but details of this publication have not been available to me.

Another possibility that the coronal lines might arise in second type collisions involving the metastable 1s terms of ionised calcium (Ca II) is under consideration, but has so far also yielded negative results.

E. M. LINDSAY.

Department of Physics,
Queen's University, Belfast,
July 3.

The Ovarian Hormones.

THE writer of an article on "The Hormones of the Sexual Glands" in *NATURE* of June 15, p. 913, says that "the oestrous reaction of ovariectomised animals following an injection of 'cestrin' appears incomplete, in that copulation is only infrequently observed, and in the spayed bitch the hormone only produces symptoms of pro-oestrus, so that possibly the missing factor may be the hormone responsible for the initial development of the accessory sex organs". The reference is probably to a paper by Dr. S. A. Asdell and myself published in the *Proceedings of the Royal Society* (1927), but it is to be pointed out that the injections described in that paper were made into anoestrous bitches and not into spayed ones. The argument above quoted, therefore, does not apply. I write open to correction and without the references before me, but I believe I am right in saying that Dr. Wiesner of Edinburgh has concluded from experimental evidence that more than one ovarian factor is concerned in the production of pro-oestrus and oestrus.

F. H. A. MARSHALL.

Beresford, Yarmouth,
Isle of Wight,
June 21.

THE paragraph to which Dr. Marshall refers was based on two statements made by Parkes in his review of ovarian activity (*Biol. Reviews*, vol. 3, pp. 212 and 213; 1928), quoting papers by Parkes, Fielding and Brambell (*Proc. Roy. Soc.*, vol. 101; 1927) and by Asdell and Marshall, the paper to which Dr. Marshall refers. Parkes found that of 92 induced oestrous periods in ovariectomised mice kept with males, only 7 were accompanied by copulation; of these 7, 3 occurred in mice which were found to have regenerated ovarian tissue. I had not referred to the original papers when writing the article and accept Dr. Marshall's correction. On the other hand, the failure of the injections in Dr. Marshall's experiment to provoke the full oestrous reaction surely indicates that a further factor is required, unless it is assumed that some inhibiting factor is present in the anoestrous bitch.

THE WRITER OF THE ARTICLE.