On the period of C H Normae, by *Ejnar Hertzsprung*.

This eclipsing variable I estimated on 292 Franklin-Adams plates, which material only gave evidence that the period is a fraction of $25^d\cdot95$. I therefore appealed to the Harvard Observatory for further observations, with the result that 13 new epochs of minimum, for which I am indebted to Miss HOFFLEIT, were communicated to me. These, together with three Johannesburg-Leiden epochs, are given in the accompanying table. The ephemeris derived according to least squares is:

$$\text{Min. at J.D. } 2423664^d\cdot83 \; + \; 3^d\cdot241743 \times E$$
$$\pm \; \cdot015 \; \pm \; \cdot000010 \text{ (m.e.)}.$$

Min. at J.D.	E	O—C	Observatory
d		d	
24212639·60	0	— ·06	H
14811·71	670	+ 8	H
17813·51	1596	+ 3	H
19959·53	2258	+ 1	H
24319·67	3603	+ 1	H
24656·75	3707	— 5	H
24682·68	3715	— 6	H
25441·34	3949	+ 4	L
25713·53	4033	— 8	L
25739·49	4041	— 6	L
26245·25	4197	— 1	H
26864·43	4388	0	H
27237·27	4503	+ 4	H
27279·42	4516	+ 5	H
27548·52	4599	+ 8	H
27603·53	4616	— 2	H

A new eclipsing variable star rarely found faint, by *Ejnar Hertzsprung*.

On only two nights out of about 300 the star CPD — 55°3641, $10^h32^m36^s\cdot2$, — 55°28''·7 (1875), $10^m\cdot1$ was found distinctly below normal brightness, at which latter the variable is very nearly equal to CPD — 55°3643. Taking this star as zeropoint C. J. KOOREMAN found the following provisional magnitudes by measurements in the Schilt photometer.

A least squares solution, in which the width of the minimum and the common slope of the two branches of the lightcurve were included as unknowns, yielded the shortest interval observed between two minima to be $35^d\cdot009 \pm {}^d\cdot006$ (m.e.). A minimum occurred on J. D. hel. M. astr. T. Grw. $2423879^d\cdot400 \pm {}^d\cdot004$ (m.e.). The duration of the eclipse is about $^d\cdot3$.

J.D. hel. —2420000	$\Delta m_{prov.}$	J.D. hel. —2420000	$\Delta m_{prov.}$
d	m′	d	m′
3844·2929	·16	3879·3816	·48·
·3206	·37	·4335	·46
·3400	·42	·4855	·26
3879·2320	— ·05	3914·3110	·24
·2569	·05	4281·2010	— ·06
·2818	·07	5067·2731	— ·05
·3068	·19	·2890	·04
·3317	·30	·3050	— ·06
·3566	·38	7427·5745	— ·09

Photographic estimates of H K Carinae, by *Ejnar Hertzsprung*.

The variable star HK Car has a companion, which is disturbingly bright and close for estimates on Franklin-Adams plates. Nevertheless the star was estimated on 808 such plates. Mean results for 11 groups are given in the accompanying table. The form of the lightcurve found here may for the reason just given be seriously distorted especially near maximum light. But the time when that brightness on the rising branch is reached which is separated by half the period from the same brightness on the descending branch, is relatively well determined. The phase of this point is found to be $^P\cdot58$, the phase being calculated according to the formula:
phase $= {}^{d^{-1}}\cdot149355$ (J.D. hel. M. astr. T. Grw. — 2420000). The corresponding mean date is J.D. $2424731^d\cdot51 \pm {}^d\cdot04$ (m.e.).

The period was redetermined from 31 observations, each the mean of at least two plates on the middle part of the ascending branch, and thus found to be $6^d\cdot6962 \pm {}^d\cdot0002$ (m.e.).

n	P	s
81	·048	1·84
81	·143	2·64
81	·252	3·34
81	·376	3·85
81	·483	3·35
40	·561	2·68
40	·613	1·21
81	·681	·60
81	·771	·46
81	·878	·70
80	·961	1·48