magnitudes. The fractional share of the different observers in taking the plates is for VAN DEN BOS ·69, HERTZSPRUNG ·16, FINSEN ·10 and VAN GENT ·05. The vast majority of the measures were carried out at Leiden with the Toepfer machine of the Danish Carlsberg Foundation. The total number of single settings on these plates is 317721, which are distributed as follows:

	number of settings	fraction of total
HERTZSPRUNG	191654	·60
STRAND	41334	·13
VAN DEN BOS	16657	·05
PLAUT	10304	·03
KOOREMAN	9340	·03
PELS	7486	·02
KLEIBRINK	6768	·02
FINSEN	5418	·02
WESSELINK	2260	·01
A. DE SITTER	1291	·00
others (Antares)	25209	·08
total	317721	·99

Leiden Ann. XVIII, part 2	62832	·20
B.A.N. No. 278 (α Cent)	34291	·11
B.A.N. No. 346 (Antares)	31332	·10
not formerly published	189266	·60
total	317721	1·01

The results have been given here in about the same form as in *B.A.N.* No. 327. The accuracy reached is now assumed to be the same for both co-ordinates. The number of plates used for the forming of the individual mean values has been omitted on purpose, as this number has sometimes been taken as a measure of the accuracy obtained, which it is not, in contrast to the visual measures, where the number of nights in which the double star has been observed is of some significance. One double star image made with a large refractor gives about the same accuracy as an ordinary visual measure with the micrometer.

The too often overlooked main advantage of photographic measures is that the number of exposures, which it pays to make on the same plate, is far greater than the number of nights, on which a pair can be measured visually with advantage by the same observer. As a consequence of this fact the mean error of the final mean result varies photographically much more than visually. In the latter case a fair idea of the accuracy reached may be obtained from the personality of the observer, the character of the pair and the size of the instrument used, while in the case of photographic measures it is for the same purpose necessary to take the mean error obtained for each plate into account. For the same reason visual and photographic observations should be treated separately and not combined into common mean values without regard to the superiority of photographic measures of the wider pairs if properly made.

The total weight of the results collected in the present paper is $3024000''^{-2}$, of which one half falls on each co-ordinate. This may be compared with the total weight of the Potsdam series $6300000''^{-2}$ (*Publ. d. Astroph. Obs. Potsdam*, Nr. 75; 1920) and of the Lick series $4806100''^{-2}$ (*B.A.N.* No. 332).

The following median mean errors have been found for a single image in each of the two co-ordinates:

	scale $1^{mm} =$	$\Delta\alpha\cos\delta$		$\Delta\delta$	
Lick	11″7	± ″054	± 4ᵘ6	± ″043	± 3ᵘ7
Potsdam	16·4	·072	4·4	·065	4·0
Johannesburg	18·9	·078	4·1	·070	3·7
Leiden	39·4	·14	3·6	·14	3·6

In ordinary photographic measures of double stars the mean error in each co-ordinate of a single image is therefore about $\pm 4^{\mu}$. This may be improved by the use of fine-grained plates for the pairs bright enough to stand the longer exposure time then necessary.

Remarks on four faint stars in the Pleiades, by *Ejnar Hertzsprung*.

In *Ap. J.* **94**, 399, A. VAN MAANEN has published relative proper motions for only 137 out of 800 measurable stars on two pairs of plates of the central region of the Pleiades taken at Mount Wilson, with the main purpose of detecting new members of the group. Three stars brighter than 15ᵐ are counted as being of this kind (l.c. Tab. 5). The results obtained in Leiden from a number of pairs kindly placed at our disposal from several observatories are as follows:

No. vM	(1900) 3ʰ40ᵐ	(1900) +23°	m_pg approx.	millennial p.m. relative to Alcyone			number of pairs
				α cos δ	δ	m.e.	
	s	′ ″	m	″	″	″	
27	35·6	40 20	14·7	+ 23·4	− 6·4	± 2·4	19
29	37·3	49 37	12·4	+ 30·1	+ 4·1	1·0	48
70	88·4	35 21	14·7	− 13·9	+ 33·1	1·7	18

It is evident from this that none of these three stars shares the motion of the group.

The large p.m. of the star No. 89 appears to have been given with the wrong sign in $\alpha\cos\delta$.