Date	Obsr	ap.	n	θ		ρ		O—C θ	O—C ρ	
1879·75	Burnham	6	1	290°	±	0″·6	±	(+ 11°)	(+ ″·12)	(— ″·05)
1891·78	Burnham	36	3	306·6		·79		+ 3·2	+ ·04	+ ·01
1894·10	Sellors	11½	2,1	301·4		·59		— 5·8	— 0·8	— ·20
1897·73	See	24	1	312·1		·52		— 1·2	— ·02	— ·27
1898·88	Aitken	12	1	314·0		·81		— 1·3	— ·02	+ ·03
1898·93	Boothroyd	24	1	307·3		·80		— 8·0	— ·11	+ ·02
1900·06	See	26	1	316·8		·89		— 0·5	— ·01	+ ·11
1907·01	Wilson	26	1	330·9 [1]		·65		+ 0·2	+ ·00	— ·04
1910·27	Olivier	12	2	339·3		·66		+ 0·7	+ ·01	+ ·03
1914·07	Innes	9	2	351·2		·58		+ 0·5	+ ·00	+ ·06
1916·10	Innes	9	2	358·7		·52		— 1·1	— ·01	+ ·07
1919·25	Dawson	17	2	21·3		·28		— 0·7	— ·00	— ·05
1920·12	Dawson	17	3	36·4		·31		+ 4·9	+ ·03	+ ·02
1920·89	Dawson	17	3	47·0		·25		+ 5·5	+ ·03	— ·02
1923·00	Dawson	17	3,2	37·4		·20		+ 5·1	+ ·02	— ·01
1925·95	van den Bos	26½	4	144·1		·22		— 3·7	— ·02	— ·02
1926·96	van den Bos	26½	4	165·3		·24		— 0·2	— ·00	— ·01

[1]) printed 300·9.

The first result is an estimate, and BURNHAM states that the pair was an easy one at the time. As this estimate precedes the first measure by twelve years, it is still of value at present: indeed, the measures 1891—1927 were represented slightly better by an orbit with a period of 48 years, but the 1879 result showed this orbit to be wrong.

Ephemeris (Equinox of date).

M	t	θ	ρ	M	t	θ	ρ
+ 12°·0	1926·96	165°·7	0″·255	+ 50°·5	1933·89	237°·2	0″·404
17·5	1927·95	180·0	·270	56·0	1934·88	243·1	·428
23·0	1928·94	192·9	·290	61·5	1935·87	248·3	·452
28·5	1929·93	203·9	·310	67·0	1936·86	253·0	·476
34·0	1930·92	214·2	·332	72·5	1937·85	257·3	·500
39·5	1931·91	223·0	·355	78·0	1938·84	261·2	·522
45·0	1932·90	230·5	·380	83·5	1939·83	264·8	·545

The motion of 36 Ophiuchi, by *W. H. van den Bos.*

$17^h\ 9^m\ 12^s$ — 26° 27′ (1900) 5·29 — 5·33 *K* 1

The close pair in this well known triple system (BOSS P. G. C. 4370 — 1 — 2) belongs to the class of binaries of long period called 61 Cygni-pairs by BURNHAM *).

The observations, though undoubtedly representing orbital motion, are satisfied by a straight line within the errors of observation. Many cases of this kind have been investigated by LEWIS (The Struve stars), DOOLITTLE and others. LEWIS, though his conclusions are correct, misstates the case:

„The motion is rectilinear, but the velocity increases when the distance decreases, hence the pair is a binary". The law of areas must hold for both optical and physical pairs; non-uniform rectilinear motion can only be explained by errors of observation. The errors of the relatively inaccurate measures of distance (especially the older observations) fail to show the curvature with certainty, but the more reliable position angles are in conflict with rectilinear motion.

*) Of all the pairs, classed as such by BURNHAM, δ Herculis is the only one, known to me, for which the improbable explanation given by him (two large but independent proper motions) is likely to be the correct one.

The numerous observations were combined into mean values, reduced to 1900, and represented by the formulas:

$$\rho \cos\theta = -4''{\cdot}13 - 0''{\cdot}0050\ (t-1900)$$
$$\rho \sin\theta = -0{\cdot}89 + 0{\cdot}0352\ (t-1900)$$

1823·9	7n	224°·5	5″·33	+ 0°·9	+ 0″·15
1840·2	11	218·8	4·83	+ 0·8	— .03
1856·3	10	212·9	4·38	+ 1·0	— ·22
1876·5	33	203·0	4·33	— 0·2	— ·03
1884·0	27	199·5	4·36	— 0·2	+ ·06
1892·9	23	195·1	4·24	— 0·5	— ·01
1903·8	25	190·3	4·24	— 0·1	+ ·02
1913·8	13	186·0	4·18	+ 0·6	— ·04
1925·3	12	179·9	4·31	— 0·1	+ ·05

The orbital character of the motion should manifest itself in a change from + to — residuals in angle, and from — to + and back to — in distance. The first trace of this effect is shown by the angles. The first distance is based on measures of SOUTH only; his distances are as a rule too large.