each observation as marked in fig. A, to the adopted mean values as represented in fig. B; for maximum out of the observations made between phase 0.19 — 0.29 and 0.49 — 0.59, for minimum out of those made between phase 0.04 — 0.14 and 0.35 — 0.45, resulting in

m. e. at maximum of $0.^m045$
m. e. at minimum of $0.^m047$

From these figures we may assume the resulting m. e. of the variable's brightness at maximum and at minimum to be $\pm 0.^m02$.

In face of these facts we may conclude that the variable's brightness at the odd and even maxima and minima is the same. The period of variation may therefore be accepted as:

$$0.^d303285 = 7^h\ 16^m\ 4.^s95$$

With this period the phase in the table with the observed magnitudes are given.

In fig. C. the dots represent the mean brightnesses, as given in fig. B for phase 0.000 to 0.3500, according to the new adopted period of $0.^d303285$; the crosses for phase 0.303 to 0.670 of the old double period, reduced by $0.^d303285$ to bring it back to the new adopted period. The dots and crosses are equally distributed along the drawn light curve.

Results of our investigation:

Epoch of minimum J. D. 2424231.096 G. M. T. (old) + $0.^d303285$
2424231 $2^h.18^m$ + $7^h\ 16^m\ 4.^s95$

The difference of the star's magnitude at maximum and at minimum is $0.^m53$; adopting 8.20 ptg. (H. D.) for the comparison star c, the change of the variable's brightness is from 8.06 to 7.53. The visual light variation determined by ROBERTS is $0.^m44$.

The light curve is symmetrical at maximum and minimum and the star remains longer in its maximum than in its minimum phase.

June 1927.

V CENTAURI

by J. Voûte.

The variability of this star (α_{1900} $14^h25.^m4$ δ_{1900} $-56°27'$) was detected in 1894 by A. W. ROBERTS, who has also determined a period of variation of 5.49394 days for it, from out his 267 visual observations.

We have photographed the star during three years with our UV-Triplet, exposures of two minutes duration being given, with the plates placed 3 mm intra-focally. Gevaerts "Sensima" plates were in use for the first year, and Eastmann 40, solely, for the two following years. Totally on 162 nights 277 exposures were obtained, viz in 1925 on 47 nights 96, in 1926 on 66 nights 84 and in 1927 on 49 nights 97 exposures.

For determining the variable's brightness the following five comparison stars have been used:

	C. P. D.		H. D. ptm.	H. D. ptgr.
a	— 55° 6025	A_5	7.0	7.7
b	— 55° 6023	A_5	6.9	7.3
c	— 56° 6317	B_9	7.6	8.3
d	— 56° 6283	B_8	8.1	8.7
e	— 55° 6067	B_8	8.1	9.0
var.	— 56° 6296			

The brightness of each of these comparison stars relative to the star *e* has been deduced out of five plates taken with the coarse-grating before the object-glass. These plates have been measured by three of us. The mean value of the three measurements is given in the table below; plate 240 has been given half weight.

	240	1938	2720	2721	2883	Mean
						m
e - d	—0.30	—0.31	—0.10	- 0.13	—0.13	—0.18
e - c	—0.56	—0.56	—0.48	—0 54	—0.54	—0.53
e - b	—1.60	—1.29	—1.41	—1.32	—1.33	—1.36
e - a	—1.83	—1.63	—1.73	—1.63	—1.61	—1.67

We found that a period of 5.4941 days, is in better agreement with our observation, than the adoption of ROBERTS' period.

The results of our observations and measurements of the variable's brightness relative to the star e is given in the following table, the phase has been computed with the new adopted period beginning from J.D. 2424229.000.

Plate	J. D. Hel. G.M.T. (old)	Phase	Rel. magn. $m_v - m_e$	Plate	J. D. Hel. G.M.T. (old)	Phase	Rel. magn. $m_v - m_e$	Plate	J. D. Hel. G.M.T. (old)	Phase	Rel. magn. $m_v - m_e$
	2424000.+	**1925**			2424000.+				2424000.+		
		d	m			d	m			d	m
482	295.0573	0.1281	—0.98	458	292.3239	2.8888	—0.06	148	245 2881	5.2999	—1.16
484	295.2510	.3218	— .93	133	237.4037	2.9096	— .07	124	234.3535	.3535	— .16
299	262.3111	.3465	— .04*	606	309.0175	3.1001	— .02	156	245.3780	.3898	— .18
302	262.3389	.3743	— .93	512	298.0413	.1121	— .18*	158	245.3902	5.4020	—1.11
99	229.4019	.4019	— .86	611	309.1217	.2043	— .24			**1926**	
227	257.0921	.6216	— .86*	326	265.1899	.2254	— .24*				
633	312.0438	.6315	— .85	425	287.1809	.2399	— .13	1139	652.0878	0.0421	—1.05
233	257.1889	.7184	— .73*	329	265.2285	.2639	— .14*	1907	729.0297	.0666	— .07
130	235.2203	.7262	— .71	113	232.3721	.3721	— .24	1216	663.1392	.1053	—1.12
240	257 3089	.8384	— .75†	558	304.0051	.5818	— .61	817	597.2839	.1792	—0.93
359	268.3203	.8616	— .75*	568	304.1718	.7485	—0.94	823	597.3728	.2681	— .88
250	257.3679	0.8974	— .68	446	293.2538	.8187	—1.06	1474	680.0506	.5344	— .89
498	296.0316	1.1024	— .62	187	249.3411	.8588	— .11	1788	713.0316	.5508	— .79
584	307.0468	.1294	— .67	190	249.3855	.9032	— .28	1882	724.0773	6083	— .84
101	230.2923	.2923	— .59	195	249.4154	3.9331	— .26	921	614.2827	.6957	— .74
102	230.3027	.3027	— 59*	524	299.0719	4.1427	— .42	1049	636.3023	.7387	— .65*
371	274.3037	.3509	— .62	621	310.1029	.1855	— .61	1379	675.0008	.9787	— .61
310	263.3799	.4153	— .58*	527	299.1552	.2260	— .62	1234	664.0198	0.9859	— .75
548	302.0308	.6075	— .56	336	266 2382	.2736	— .65*	1234	664.0885	1.0546	— .75
264	257.1196	.6492	— .60*	342	266.3045	3400	— .66*	1834	719.0416	.0667	— .62
550	302.2356	.8123	— .38	204	255.3260	.3496	— .72*	1379	675.2250	.2029	— .61
267	258.3161	.8456	— .34*	209	255.3684	.3920	— .70*	1245	664.2614	.2275	— .72
271	258.3717	1.9012	— .22*	471	294.0455	.6104	— .59	975	620.3131	.2320	— .53
596	308.0661	2.1487	— .26	574	305.0502	.6269	— .51	975	620.3669	.2858	— .53
111	231.1954	.1954	— .11	579	305.1141	.6908	— .53	1488	680.9971	.4809	— .47
600	308.1426	.2252	— .08	399	283.2559	.8090	— .72	1584	691.9884	.4840	— .53
318	264.2493	.2847	— .19*	403	283.2975	.8506	— .62	1983	735.9924	.5352	— .46
377	275.2745	.3217	— .15	290	261.3260	.8556	— .56*	938	615 2022	.6152	— .46
139	242.4067	.4185	— .13	292	261.3966	4.9261	— .57	1597	692.1494	.6450	— .37
451	292.0482	.6131	— .02	626	311.0046	5.0922	— .34*	1258	665.0101	1.9762	— .17
171	248.2077	.7254	— .05	214	256.1600	.1836	— .24	1750	708.9999	2.0132	— .13
175	248.2459	.7636	— .18	214	256.1920	.2156	— .13	1402	676.0785	0564	— .27
180	248.3160	8337	— .12	218	255.2074	.2310	— .14*	1689	698.0693	.0708	— .27
276	259.3099	.8394	— .06*	148	245.2666	.2784	— .27	1845	720.0880	.1131	— .27
280	259.3469	2.8764	—0.04*	120	234.2944	5.2944	—1.21	1258	665.2552	2.2213	—0.15

Plate	J. D. Hel. G.M.T. (old)	Phase	Rel. magn. $m_v - m_e$	Plate	J. D. Hel. G.M.T. (old)	Phase	Rel. magn. $m_v - m_e$	Plate	J. D. Hel. G.M.T. (old)	Phase	Rel. magn. $m_v - m_e$
	2424000.+	d	m		2424000.+	d	m		2424000.+	d	m
865	610.3568	2.2639	—0.25	1307	668.0731	5.0392	—1.31	4026	1110.9923	2.9363	—0.16
865	610.4102	.3173	— .23	1969	734.0112	.0481	— .52	3053	1045.0444	.9413	— .05
1500	681.9978	.4816	— .10	900	613.1660	.0731	— .22	3312	1007.0587	.9555	— .10
1735	704.0102	.5176	— .14	1872	723.0489	.0740	— .46	3179	1056.1044	2.9894	— .14
1607	693.0557	.5513	— .16	900	613.1931	.1002	— .12	3507	1978.1031	3.0117	— .20
1158	660.0962	.5564	— .18	832	602.3036	.1989	— .14	2831	1034.2065	.0681	— .12*
1806	715 0459	.5651	— .15	1457	679.2319	.2098	— .41	3055	1045.1840	.0809	— .11
1319	671.1072	.5792	— .15	845	602.3845	.2798	— .13	2840	1034.2336	.0950	— .27*
802	594 2247	.6141	— .12	1216	663.0024	5 4626	—1.25	3066	1045.2242	.1211	— .18
1319	671.2343	.7063	— .03			**1927**		2742	1023.2746	.1251	— .23*
941	616.4113	.8243	— .01					2887	1012.3756	.2134	— .32*
1419	677.0201	2.9980	— .06	2510	998.3059	0.1319	—1.04*	3218	1061.0027	.3936	— .35
881	611 0958	3.0029	— .09	3672	1009.3044	.1422	—1.06	3676	1084.0735	.4880	— .50
1938	732.0489	.0858	— .17†	3612	1080.9946	.4091	—0.97	3218	1061.1117	.5026	— .46
1705	699.0852	.0867	— .12	2709	1015.1219	.4656	— .86*	2971	1040.1154	.5062	— .48
996	622.2536	.1725	— .18	3612	1081.0994	.5139	— .91	2472	996.2507	.5708	— .60
1287	666.2106	.1767	— 18	2993	1043.0763	.9432	— .67*	2652	1007.2509	.5828	— .70*
1419	677.2249	.2028	— .15	2518	999.1253	.9518	— .71*	2486	996 3219	.6420	— .73*
1419	677.2260	.2038	— .10*	3816	1098.0237	.9559	— .72	2652	1007.3228	.6547	—0.69*
1287	666.2620	.2281	— .16	3906	1109.0233	.9663	— .76	3076	1045.9936	.8905	—1.16
1533	688.2475	.2372	— .30	3000	1043.0763	0.9732	— .64	3359	1068 0072	.9040	— .13
1090	644.3106	.2531	— .27	3494	1076 0949	1.0035	— .65	3835	1101.0069	.9397	— .26
1179	661.0462	.5064	— .44	3419	988.2387	.0522	— .71*	2445	991.1280	.9422	— .26*
1625	694.0452	.5408	— .65	2518	999 3196	.1456	— .67*	3085	1046.0680	.9649	— .27
1335	672 0884	.5604	— .57	3104	1049 0519	.4310	— .53*	3527	1079.0641	.9727	— .44
1335	672.1113	.5833	— .86	3861	1104.0241	.4622	— .56	3846	1101.0471	3.9793	— .21
1179	661.2503	.7105	— .69	3429	1071.1243	.5270	— .54	3359	1068.1086	4.0054	— .38
1116	650.2753	.7237	—0.88	3105	1049.1589	.5380	— .55	3536	1079.1030	.0116	— .45
1546	689.0044	3.9941	—1.37	3429	1071.1611	.5638	— .51	2883	1035.1850	.0464	— .38†
1720	699.9990	4.0015	— 25	3105	1049.2068	.5859	— .43	3188	1057.1627	.0477	— .55
1949	733.0023	.0392	— .43	2937	1038.1856	.5764	— .50	2328	980.2696	.0720	— .44
1442	678.0846	.0625	— .52	2621	1005.3065	.6384	— .49*	2449	991.2614	.0749	— .47*
1854	722 0461	.0712	— .56	2937	1038.2738	.6646	— .44	2564	1002.3252	.1512	— .52
776	568.2687	.1286	— .62	2714	1022.0552	.9063	— .27*	2883	1035.3509	.2123	— .53
889	612.3541	.2612	— .38	3732	1088.0329	.9533	— .38	2989	1041.0250	.4158	— .75
1024	634.3355	.2662	— .68	2720	1022.1330	1.9826	— .39†	3797	1096.0329	.4592	— .73
1644	694.9853	.4809	— .70	2721	1022.1607	2.0103	— .38†	2376a	986.2545	.5628	— .71
1192	662.0469	.5071	— .65	3549	1072.0833	.4860	— .18	2382	986.2797	.5880	— .67*
1818	717.0035	.5227	— .64	2960	1039.1224	.5132	— .16	3563	1079.1925	.9011	— .65
1192	662.1302	.5904	— .68	3472	1072.1326	.5353	— .19	3091	1047.0437	.9406	— .54
961	618.1904	.6034	— .64	2960	1039.2196	.6104	— .07	3574	1080.0515	4.9601	— .58
1355	673.1891	.6611	— .65	3312	1067.0045	.9013	— .10	3870	1107.9815	5.4196	— .27
1457	678.9987	4.9764	— .53	3498	1077.9968	.9054	— .12	3799	1097.0176	.4439	— .08*
1554	690.0163	5.0060	—1.35	3045	1045.0235	2.9204	—0.04	3807	1097.0558	5.4821	—1.16

Asterisks (*) in the table signify that the value is the mean of two exposures when these have been made in immediate sequence, while the sign † will denote that the indicated values are obtained for plates exposed with our coarse-grating before the objective.

The observations have been combined into groups, and so chosen that they are as far as possible equally distributed over the whole period of variation; these mean values are:

Phase	Rel. brightness to star e	n	Phase	Rel. brightness to star e	
d	m		d	m	
0.191	—1.01	11	3.251	—0.20	11
0.526	—0.87	9	3.582	—0.62	12
0.855	—0.71	14	3.871	—1.14	14
1.161	—0.64	11	4.067	—1.48	15
1.465	—0.54	13	4.341	—1.68	10
1.785	—0.39	13	4.618	—1.63	10
2.178	—0.21	13	4.988	—1.48	13
2.542	—0.13	13	5.209	—1.17	9
2.866	—0.07	14	5 411	—1.16	8
3.097	—0.16	13			

All the observations are represented on Plate VI, and the mean light curve has been drawn pretty well through the places given in the above table of mean values.

The mean error of a single observation, determined out of the difference of each observation to the adopted mean light curve resulted to

$$\text{m.e.} = \pm 0^{m}.055.$$

Between ROBERTS' epoch of maximum and ours occurred 1676 periods, counting backwards from our epoch of maximum 2424233.44 and our new determined period will make ROBERTS' epoch of maximum only 0.20 days earlier; if this is caused by a change in the period or by the difference which may occur between the time of photographic and visual maximum, is difficult to be said.

The results of our investigation of V Centauri are:

Max. 2424233.44 Helioc. G. M. T. (old)

Period 5.49410 days

$m_{min} - m_{max} = 1^{m}.64$

$Phase_{max} - Phase_{min} = 1.55$ days, time of increase of light from minimum to maximum.

Its minimum brightness is of a longer duration than its maximum one, the light curve makes a considerably sharper bend at maximum. The descending branch of the light curve shows some interesting peculiarities. If we draw a smooth curve after max., as indicated by the dotted lines we will see that $0.^{d}5$ and $2.^{d}1$ after max., there is a disturbance causing a litte increase of light which lasts for the first one shorter than for the second one, but amounts for the former not quite $0.^{m}1$, for the latter more than that.

Our observations have not confirmed ROBERTS' suspicion of a difference in brightness between the odd and even maxima. The light variation, as observed by us photographically, is double that of ROBERTS' — visually observed.

September 1927.