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TOME XXVIII № 1

Stellar Distribution
and
The Law of Chance

Third paper:
The Algiers Carte-du-Ciel Zone $\delta = +1^0$

By

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with the collaboration of

Miss **Lydia Pitka**

Tartu 1934

Abbreviations used:

T. P. = Publications de l'Observatoire Astronomique de l'Université de Tartu

D_1 = Stellar Distribution and the Law of Chance, *T. P.* XXVI.$_2$ (1924) (first paper of this series)

D_2 = Stellar Distribution and the Law of Chance, second paper, *T. P.* XXVII.$_7$ (1934)

D_3 = Present publication, or third paper of the series

K. Mattieseni trükikoda o-ü., Tartu 1934.

Counts of stars made by Miss Lydia Pitka on the Algiers $+1^0$ charts (complete zone) of the Carte-du-Ciel atlas are discussed in the following. The methods and notations are exactly those of D_2, to which publication we refer in cases when explanation is needed. Most computations were made by Mrs. Marta Blum-Koppel, of the computing staff of Tartu Observatory.

Table I contains a summary of the data referring to the irregularity of stellar distribution in the Algiers zone. The 2nd, 3d and 4th columns of the table give the right ascension (1900), the galactic latitude of the centre, and the total counted number. The rest of the data are the same as in Table III of D_2.

We notice that three charts are duplicated: № 56, 98, and 128. Of the duplicates, only one, namely the print with the larger total number of stars, was entered in the subsequent statistical discussion. From the discussion were further omitted charts with a total number less than 200; these are № 5, 29, and 97; probabilities of reality and weights were not calculated for these charts.

The total number of stars counted by Miss Pitka is 228 240, or an average of 1247 per chart. This amounts to 88.3 per cent of the average number counted by Miss Lukk in the Paris zone (D_1, page 12). The difference may be partly due to personal equation. The effect of distance from the centre of the chart is practically identical in the Paris and the Algiers zones, as may be inferred from a comparison of the following data with those of Table 2, page 10, D_1:

Distance from centre	0′.0	10′.0	20′.0	30′.0	40′.0	50′.0	61′.3	72′.4	84′.8
Average stardensity, Algiers $+1^0$	0.895	0.872	0.946	1.020	1.137	1.112	1.004	0.843	0.650

The method by which these data are obtained is the same as in D_1, pp 9—10; twelve charts with $N > 4000$ were not used in the derivation of the effect of distance.

Table I.

The Irregularity of Stellar Distribution in the Algiers Carte-du-Ciel Zone $+1^0$

Chart	α	B	N	Low density branch					High density branch				
				P_1	W_1	G_1	90% reality limit		P_2	W_2	G_2	90% reality limit	
							m	Groups				m	Groups
1	0^h04^m	-60^0	573	0.57	2.8	2.4	...	...	0.86	4.3	2.8	...	...
2	12	−60	792	0	1.0	...	...	...	0	1.1	1.0	...	...
3	20	−61	887	0.75	7.1	1.9	...	...	0.88	16.	3.8	...	...
4	28	−61	1037	0.85	4.6	2.4	...	...	0	...	...	...	...
5	36	−61	197	...	...	...	...	...	...	...	...	...	...
6	44	−61	352	0.91	120.	5.5	...	...	0.65	58.	1.0	...	...
7	52	−61	1073	0.75	4.3	...	...	...	0	1.4	1.1	...	...
8	1 00	−61	760	0	1.7	1.6	...	...	0.66	1.3	2.5	...	...
9	08	−60	638	0	1.4	...	...	...	0	1.2	1.3	...	...
10	16	−60	1066	0.970	13.	150.	...	...	0.75	1.7	98.	...	...
11	24	−59	683	0.57	3.3	3.5	...	...	0.88	25.	31.	...	...
12	32	−58	864	0.75	4.0	1.9	...	...	0.86	6.9	3.5	...	...
13	40	−58	656	0.85	5.6	2.2	...	...	0.87	6.7	5.9	...	...
14	48	−57	802	0.83	120.	1.6	...	...	0.85	3.2	2.1	...	...
15	56	−56	437	0.81	22.	1.7	...	...	0.68	1.0	38.	...	...
16	2 04	−55	414	0.80	10.	...	...	...	0.975	22.	180.	5	3
17	12	−54	746	0.83	125.	1.7	...	...	0.60	5.2	...	...	...
18	20	−52	358	0.89	60.	2.7	...	...	0.67	1.3	4.6	...	...
19	28	−51	1214	0.80	11.	1.8	...	...	0.68	...	28.	...	...
20	36	−50	916	0.96	6.9	70.	...	...	0.85	2.2	3.9	...	...
21	44	−48	981	0.89	5.5	17.	...	...	0.55	3.3	1.3	...	...
22	52	−47	316	0	...	...	...	...	0.86	7.1	2.3	...	...
23	3 00	−46	410	0	...	...	...	...	0.93	1.0	140.	38	10
24	08	−44	620	0.76	9.4	...	...	...	0.96	18.	58.	...	...
25	16	−43	247	0.72	3.0	2.2	...	...	0	...	1.6	...	...
26	24	−41	1111	0.55	1.8	4.4	...	...	0.57	2 1	...	...	...
27	32	−40	967	0.994	7.1	420.	37	11	0.95	80.	4.6	...	...
28	40	−38	310	0.89	5.0	7.7	...	...	0	1.0	1.9	...	...
29	48	−36	163	...	...	...	...	...	...	...	...	...	...
30	56	−35	242	0.48	3.5	...	...	...	0.57	3.8	...	...	...
31	4 04	−33	273	0.76	10.	...	...	...	0.52	1.9	2.5	...	...
32	12	−32	400	0	...	...	...	...	0.57	2.1	...	...	...
33	20	−30	408	0.82	2.5	17.	...	...	0.95	6.1	8.0	...	...
34	28	−28	581	0.89	5.6	6.3	...	...	0.86	1.4	8.8	...	...
35	36	−27	900	0.93	9.7	60.	...	...	0.95	4.6	13.	...	...
36	44	−25	2122	1.000	860.	2000.	28	6; 6	0.57	3.4	1.1	...	...
37	52	−23	592	0	1.7	...	...	...	0.94	3.4	19.	...	...
38	5 00	−21	1133	0.979	6.1	2.0	...	...	1.000	5.8	560.	31	8; 6
39	08	−20	490	0.77	2.4	1.4	...	...	0.975	8.8	5.0	...	...
40	16	−18	3301	1.000	10.	8×10^5	29	14	1.000	9500.	22.	34	8
41	24	−16	1167	0.996	6.1	17.	7	3	0.88	5.9	1.3	...	...
42	32	−14	1195	1.000	41.	110.	5	3	1.000	290.	140.	40	11

Table I. Continued.

Chart	α	B	N	Low density branch					High density branch				
				P_1	W_1	G_1	90% reality limit		P_2	W_2	G_2	90% reality limit	
							m	Groups				m	Groups
43	$5^h 40^m$	-13^0	669	1.000*	2×10^7	6×10^5	40	18	1.000*	770.	10^{11}	34	25
44	48	−11	1293	1.000	10^4	32.	27	4; 4; 4	1.000*	10^{19}	2×10^6	32	10; 10
45	56	− 9	712	0.997	125.	2.2	...	...	0.998	24.	24.	29	7
46	6 04	− 7	4867	1.000*	10^{84}	10^9	39	15; 14	1.000*	10^{21}	9100.	20	5; 4; 4
47	12	− 6	1696	1.000	6×10^4	49.	16	5	1.000	2×10^8	94.	15	5
48	20	− 4	1705	1.000*	6×10^6	105.	33	4; 4; 4; 4	1.000*	2×10^8	450.	33	10
49	28	− 2	1284	0.998	35.	5.1	27	3; 3; 3; 3	0.964	7.7	5.0	...	...
50	36	0	2687	1.000*	3×10^8	12.	29	6; 5	1.000*	7×10^5	10^9	32	19
51	44	+ 1	3159	1.000*	7500.	70.	39	10	1.000*	2×10^8	1200.	33	11
52	52	+ 3	3670	1.000*	2×10^6	300.	33	10	1.000	7×10^4	4.6	...	...
53	7 00	+ 5	6588	1.000*	10^{32}	10^8	14	5; 5	1.000*	10^{15}	10^{16}	34	27
54	08	+ 7	3202	1.000	8×10^4	61.	11	3; 3	1.000	1700.	8.3	...	...
55	16	+ 8	1896	1.000*	300.	2×10^5	37	16	1.000*	810.	10^6	34	16
56a	24	+10	1682	0.996	4.5	23.	18	5	1.000	8.1	5100.	30	11
56b	24	+10	2034	1.000*	2600.	170.	39	11	1.000*	150.	6600.	38	14
57	32	+12	8161	1.000*	10^{97}	10^{20}	39	32	1.000*	10^{18}	2×10^4	39	15
58	40	+14	5223	1.000	7×10^6	2.2	...	...	1.000*	10^{11}	2×10^5	36	16
59	48	+15	4023	1.000	73.	82.	19	6	0.88	5.1	1.2	...	...
60	56	+17	1393	0.996	17.	6.5	23	3; 3; 2; 2; 2; 2; 2	1.000*	77.	6×10^6	40	20
61	8 04	19	1314	0.988	11.	4.8	7	2; 2	1.000	910.	54.	10	4
62	12	+21	1247	1.000*	360.	1400.	34	8; 7	1.000*	260.	3×10^9	36	12; 11
63	20	+22	3582	1.000*	790.	130.	24	7	1.000	220.	19.	38	9
64	28	+24	933	0	...	...	...	...	0.86	1.0	33.	...	...
65	36	+26	946	0.48	3.9	...	...	...	0.980	830.	...	...	...
66	44	+28	913	0	...	...	...	...	0.65	4.5	...	...	...
67	52	+29	416	0	...	...	...	...	0.86	1.1	12.	...	...
68	9 00	+31	543	0.46	1.1	2.1	...	...	0.52	1.2	3.2	...	...
69	08	+33	524	0.89	12.	5.3	...	...	0.73	8.8	...	...	...
70	16	+34	785	0.46	1.0	2.1	...	...	0.52	1.1	3.7	...	...
71	24	+36	2182	0.90	6.3	8.1	...	...	0.90	2.9	5.1	...	...
72	32	+38	358	0.90	22.	5.9	...	...	0	1.2	1.6	...	...
73	40	+39	579	0.75	5.6	1.9	...	...	0.94	53.	4.0	...	...
74	48	+41	1416	0.997	17.	520.	36	11	0.92	4.1	4.6	...	...
75	56	+42	1375	0.48	2.8	1.3	...	...	0.96	11.	16.	...	...
76	10 04	+44	311	0.89	4.0	7.7	...	...	0.96	9.4	160.	...	...
77	12	+46	587	0.89	33.	3.8	...	...	0.87	5.0	11.	...	...
78	20	+47	494	0.980	13.	580.	15	6	0.88	21.	4.0	...	...
79	28	+48	474	0.29	3.5	...	...	...	0.55	2.1	1.6	...	...
80	36	+50	316	0.90	10.	14.	...	...	0	1.0	...	...	...
81	44	+51	263	0.85	5.0	2.4	...	...	0	1.6	1.7	...	...
82	52	+53	443	0.29	3.5	...	...	...	0.60	5.7	1.6	...	...
83	11 00	+54	268	0.81	17.	...	...	...	0.85	2.6	5.0	...	...

Table I. Continued.

Chart	α	B	N	Low density branch					High density branch				
				P_1	W_1	G_1	90% reality limit		P_2	W_2	G_2	90% reality limit	
							m	Groups				m	Groups
84	11^h08^m	+55°	279	0.86	6.0	5.0	...	...	0.68	1.2	17.	...	...
85	16	+56	327	0.86	4.0	7.1	...	...	0.66	1.2	2.5	...	...
86	24	+57	555	0.89	22.	2.3	...	...	0.62	10.	...	...	...
87	32	+58	273	0.80	8.0	1.4	...	...	0	1.9	...	...	...
88	40	+59	350	0.80	12.0	...	...	...	0.66	1.3	2.9	...	...
89	48	+60	653	0.91	9.4	17.	...	...	0.65	55.	...	...	...
90	56	+61	913	0.86	5.5	4.0	...	...	0.88	81.	2.3	...	...
91	12 04	+62	415	0	...	...	...	...	0.60	4.7	...	...	...
92	12	+62	286	0	...	...	...	...	0.85	2.5	5.6	...	...
93	20	+63	361	0.29	3.0	1.1	...	...	0.87	4.0	22.	...	...
94	28	+63	846	0.75	4.0	1.9	...	...	0.87	12.	5.9	...	...
95	36	+63	528	0.40	1.9	2.5	...	...	0.66	1.3	2.5	...	...
96	44	+63	338	0.89	5.0	24.	...	...	0.87	13.	2.3	...	...
97	52	+63	196	...	...	...	...	...	...	...	...	...	...
98a	13 00	+63	294	0	...	...	..	...	0.87	12.	3.5	...	...
98b	00	+63	262	0.64	3.5	15.	..	...	0.67	1.0	11.	...	...
99	08	+62	439	0.75	5.0	...	...	...	0.66	1.0	2.8	...	...
100	16	+62	451	0.88	10.	3.5	...	...	0	1.2	...	...	...
101	24	+61	240	0	...	...	...	...	0	...	...	...	...
102	32	+60	349	0.57	3.0	2.9	...	...	0	1.7	...	...	...
103	40	+59	241	0.50	...	11.	...	...	0	...	...	...	...
104	48	+58	314	0.86	6.0	5.0	...	...	0.87	6.9	8.5	...	...
105	56	+57	297	0	...	...	...	...	0.66	1.7	3.3	...	...
106	14 04	+56	235	0.85	300.	...	...	...	0.87	5.3	13.	..	...
107	12	+55	1039	0.80	13.	1.7	...	...	0.85	3.2	3.1	...	...
108	20	+54	207	0.83	120.	...	...	...	0.60	6.8	...	...	...
109	28	+53	310	0.75	4.0	1.8	...	...	0.66	1.1	2.5	...	...
110	36	+51	323	0	...	...	...	...	0	1.1	...	...	...
111	44	+50	390	0.93	12.	44.	...	...	0.67	...	7.3	...	...
112	52	+48	642	0.45	1.9	5.6	...	...	0.55	2.6	1.6	...	...
113	15 00	+47	408	0.80	10.	1.4	...	...	0.55	2.2	...	...	...
114	08	+46	780	0	1.2	1.9	...	...	0.85	3.1	4.0	...	...
115	16	+44	367	0	1.0	...	...	...	0.79	2.3	3.5	...	...
116	24	+42	302	0.75	4.0	1.3	...	...	0.75	17.	1.2	...	...
117	32	+41	432	0.89	4.0	4.0	...	...	0.94	3.3	10.	...	...
118	40	+39	346	0.48	2.0	...	...	...	0	1.7	...	...	...
119	48	+38	354	0.86	4.0	2.3	...	...	0.90	3.3	7.7	...	...
120	56	+36	509	0.75	4.4	1.9	...	...	0.95	5.0	14.	...	...
121	16 04	+34	447	0.91	60.	5.6	...	...	0.94	10.	5.9	...	...
122	12	+33	558	0.987	3.3	270.	32	9	0.79	2.1	2.0	...	...
123	20	+31	409	0	...	...	...	...	0	...	...	...	...
124	28	+29	538	0.76	12.	1.0	...	...	0.986	290.	13.	...	...
125	36	+28	634	0.60	1.9	8.0	...	...	0.52	1.5	3.3	...	...

Table I. Continued.

Chart	α	B	N	Low density branch					High density branch				
				P_1	W_1	G_1	90% reality limit		P_2	W_2	G_2	90% reality limit	
							m	Groups				m	Groups
126	$16^h 44^m$	+26°	624	0.46	1.7	2.8	...	...	0.86	1.8	9.7	...	...
127	52	+24	1446	0.991	5000.	7.0	...	...	1.000	530.	8×10^5	37	10; 8; 7
128a	17 00	+22	792	1.000	8×10^4	31.	22	3; 3	1.000*	10^{11}	2×10^5	29	11; 7
128b	00	+22	348	0.999	80.	22.	22	5; 4	0.77	3.3	1.3	...	...
129	08	+21	2703	1.000*	10^{15}	210.	25	6; 5	1.000*	8×10^6	5×10^4	40	16
130	16	+19	2138	1.000*	10^{15}	10^6	38	18	1.000*	10^{11}	3×10^7	39	19
131	24	+17	2021	1.000*	9×10^4	2800.	32	11	1.000*	2×10^4	10^5	26	12
132	32	+15	2378	1.000	10^4	5.7	31	6	1.000*	10^4	400.	30	9
133	40	+14	822	0.90	1.4	7.1	26	5; 4	0.77	2.1	...	...	...
134	48	+12	901	1.000	58.	400.	26	8	1.000*	4.9	10^{12}	34	23
135	56	+10	899	0.998	58.	12.	28	6	1.000*	10^4	10^{10}	35	21
136	18 04	+ 8	649	0.968	3.3	2.2	...	...	0.91	12.	1.3	...	...
137	12	+ 7	1410	1.000*	10^9	24.	29	7	1.000*	2×10^8	2×10^5	34	9; 8
138	20	+ 5	1086	1.000*	2×10^6	3500.	40	14	1.000*	10^4	2×10^7	31	17
139	28	+ 3	768	0.979	4.2	3.2	...	...	1.000*	190.	1700.	14	6; 4
140	36	+ 1	897	0.998	19.	16.	40	9	1.000	2.2	510.	31	7; 6
141	44	0	997	0.977	3.5	4.0	15	3	0.993	3.2	54.	31	8
142	52	− 2	1547	1.000*	10^7	22.	24	5; 3; 3; 3	1.000*	10^{38}	4×10^7	40	21
143	19 00	− 4	4639	1.000*	10^{122}	5×10^7	33	11; 9	1.000*	10^{68}	5×10^7	36	14; 8
144	08	− 6	3972	1.000*	10^{19}	7×10^5	34	16	1.000*	10^{46}	2×10^5	34	13; 8
145	16	− 7	4672	1.000*	10^{54}	10^{11}	37	24	1.000*	10^{134}	10^{11}	36	23
146	24	− 9	4090	1.000*	10^{11}	2×10^5	19	10	1.000*	10^{27}	8×10^7	34	17; 9
147	32	−11	2497	1.000*	8×10^4	260.	34	10	1.000	71.	30.	37	9
148	40	−13	4619	1.000*	10^{43}	10^{11}	38	24	1.000*	10^{11}	8×10^5	37	14; 8; 7
149	48	−14	3894	0.996	19.	6.7	30	5; 4; 4	1.000*	10^6	910.	10	5
150	56	−16	4288	1.000*	9500.	4700.	34	7; 7	1.000*	2×10^7	2×10^4	39	11; 7; 7
151	20 04	−18	2961	1.000	260.	26.	6	3	1.000	420.	160.	18	6
152	12	−20	6988	1.000*	10^{52}	7×10^7	39	15; 9; 8	1.000*	10^{13}	2×10^4	38	15
153	20	−21	3705	1.000*	2100.	10^4	40	15	1.000*	1900.	2×10^6	35	17
154	28	−23	3181	0.968	70.	65.	...	...	0.95	5.2	60.	...	...
155	36	−25	4964	0.86	6.7	2.6	...	...	0.96	19.	27.	...	...
156	44	−27	3603	0.998	90.	10^4	31	7; 7	0.65	4.0	...	...	...
157	52	−28	2533	0.996	2100.	83.	...	...	1.000	3×10^5	810.	36	11
158	21 00	−30	2111	0.994	260.	160.	37	10	0.985	150.	7500.	35	13
159	08	−32	512	0	1.9	1.6	...	...	0.96	5.2	2200.	38	8; 8
160	16	−33	1338	0.994	3.5	3900.	24	9	0.76	1.2	4.5	...	...
161	24	−35	672	0.86	6.7	2.8	...	...	0.86	1.2	19.	...	...
162	32	−36	557	0.46	...	2.4	...	...	0.76	1.7	6.0	...	...
163	40	−38	898	0.92	26.	29.	...	...	0.92	5.9	7.1	...	...
164	48	−40	819	0.76	8.8	...	...	...	0.83	4.4	3.6	...	...
165	56	−41	1436	0.48	2.3	1.6	...	...	0.96	16.	13.	...	...
166	22 04	−43	923	0	1.4	1.7	...	...	0.94	3.2	16.	...	...
167	12	−44	460	0	...	...	...	...	0.57	2.8	...	...	...

Table I. Continued.

Chart	α	B	N	Low density branch					High density branch				
				P_1	W_1	G_1	90% reality limit		P_2	W_2	G_2	90% reality limit	
							m	Groups				m	Groups
168	22^h20^m	−46°	624	0	...	...	...	...	0.85	3.6	8.0	...	...
169	28	−47	1375	0.976	180.	82.	...	...	0.88	79.	12.	...	...
170	36	−48	271	0.57	3.5	2.7	...	...	0.972	7.1	220.	35	10
171	44	−50	277	0.88	8.0	2.9	...	...	0.88	20.	2.5	...	...
172	52	−51	538	0.91	22.	22.	...	...	0.85	2.9	6.5	...	...
173	23 00	−52	426	0	...	...	...	...	0.968	2.6	130.	19	6
174	08	−54	700	0	...	...	...	...	0.85	2.4	4.4	...	...
175	16	−55	432	0.61	2.0	5.0	...	...	0.64	20.	1.0	...	...
176	24	−56	1393	0	...	...	...	...	0.86	5.6	2.6	...	...
177	32	−57	731	0.81	17.	...	...	...	0	1.0	...	...	...
178	40	−58	859	0.40	1.6	2.8	...	...	0.55	3.1	...	...	...
179	48	−58	537	0	...	...	...	...	0	...	...	...	...
180	56	−59	275	0	...	...	...	...	0.60	1.3	8.0	...	...

Table II.

Distribution of W_1, G_1 in the Algiers Zone, Galactic Latitude $\pm 45^0$ to $\pm 63^0$.

G_1 ↓	W_1 →												fS (S = 38)	q_1
	< 1	1—2	2—4	4—8	8—16	16—32	32—64	64—128	128—256	256—512	> 512	All, n_0		
Not comp.	14	0	0	0	0	1	0	1	0	1	0	17	...	...
< 1	0	2	2	2	2	1	0	0	0	0	0	9	14.0	0
1—2	0	2	2	3	4	1	0	2	0	0	0	14	9.1	0
2—4	0	2	4	3	2	1	2	0	0	0	0	14	6.6	0.40
4—8	0	1	1	4	0	0	0	1	0	0	0	7	3.9	0.45
8—16	1	0	0	0	1	0	0	0	0	0	0	2	2.2	0.50
16—32	0	0	0	2	1	1	0	0	0	0	0	4	1.1	0.55
32—64	0	0	0	0	1	0	0	0	0	0	0	1	0.6	0.65
64—128	0	0	0	1	0	0	0	0	1	0	0	2	0.30	0.85
128—256	0	0	0	0	1	0	0	0	0	0	0	1	0.15	0.85
256—512	0	0	0	0	0	0	0	0	0	0	0	0	0.08	...
> 512	0	0	0	0	1	0	0	0	0	0	0	1	0.08	0.90
All, n_0	15	7	9	15	13	5	2	4	1	1	0	72	...	...
fS (S = 37)	13.6	8.9	6.4	3.8	2.1	1.1	0.6	0.30	0.15	0.08	0.08	...	...	...
p_1	0	0	0.29	0.75	0.80	0.81	0.82	0.83	0.84	0.85	...	...	...	...

Table III.

Distribution of W_2, G_2 in the Algiers Zone, Galactic Latitude $\pm 45^0$ to $\pm 63^0$.

G_2 ↓	W_2 →													
	< 1	1—2	2—4	4—8	8—16	16—32	32—64	64—128	128—256	256—512	> 512	All, n_0	fS (S = 35)	q_2
Not comp.	3	1	2	0	0	0	0	0	0	0	0	6	...	...
< 1	1	5	0	3	1	0	1	0	0	0	0	11	12.9	0
1—2	0	4	3	1	0	1	1	0	0	0	0	10	8.4	0
2—4	0	7	2	4	2	2	0	1	0	0	0	18	6.1	0.66
4—8	1	1	6	1	1	1	0	0	0	0	0	11	3.6	0.67
8—16	0	1	1	3	0	0	0	1	0	0	0	6	2.0	0.67
16—32	1	1	0	1	0	1	0	0	0	0	0	4	1.0	0.68
32—64	0	1	0	0	0	0	0	0	0	0	0	1	0.6	0.68
64—128	0	1	0	0	0	0	0	0	0	0	0	1	0.29	0.75
128—256	0	1	1	1	0	1	0	0	0	0	0	4	0.15	0.93
256—512	0	0	0	0	0	0	0	0	0	0	0	0	0.07	...
> 512	0	0	0	0	0	0	0	0	0	0	0	0	0.07	...
All, n_0	6	23	15	14	4	6	2	2	0	0	0	72	...	...
fS (S = 48)	17.7	11 5	8.3	4.9	2.7	1.4	0.7	0.38	0.19	0.10	0.10	...	...	...
p_2	0	0	0.55	0.60	0.62	0.64	0.65	0.65	...	...	...	...	...	...

Table IV.

Distribution of W_1, G_1 in the Algiers Zone, Galactic Latitude $\pm 23^0$ to $\pm 44^0$.

G_1 ↓	W_1 →													
	< 1	1—2	2—4	4—8	8—16	16—32	32—64	64—128	128—256	256 - 512	> 512	All, n_0	fS (S = 25)	q_1
Not comp.	5	0	1	0	1	0	0	0	0	0	0	7	...	...
< 1	1	2	2	0	2	0	0	0	0	0	0	7	9.2	0
1—2	0	2	2	3	1	0	0	0	0	0	0	8	6.0	0
2—4	1	3	1	3	0	0	0	0	0	0	0	8	4.3	0.46
4—8	0	1	0	4	1	1	1	0	0	0	1	9	2.5	0.55
8—16	0	1	0	1	0	0	0	0	0	0	0	2	1.4	0.60
16—32	0	0	1	0	0	1	0	0	0	0	0	2	0.75	0.65
32—64	0	0	0	0	1	0	0	0	0	0	0	1	0.38	0.70
64—128	0	0	0	0	0	0	0	1	0	0	1	2	0.20	0.80
128—256	0	0	0	0	0	0	0	0	0	1	0	1	0.10	0.90
256—512	0	0	1	1	0	0	0	0	0	0	0	2	0.05	0.975
> 512	0	0	1	0	0	1	0	1	0	0	1	4	0.05	0.988
All, n_0	7	9	9	12	6	3	1	2	0	1	3	53	...	...
fS (S = 27)	9.9	6.5	4.7	2.8	1.5	0.8	0.4	0.22	0.11	0.11	0.06	...	...	...
p_1	0	0	0.48	0.75	0.76	0.77	0.80	0.84	...	0.94	0.980	...	...	...

Table V.

Distribution of W_2, G_2 in the Algiers Zone, Galactic Latitude $\pm 23^0$ to $\pm 44^0$.

G_2 ↓	W_2 →													
	< 1	1—2	2—4	4—8	8—16	16—32	32—64	64—128	128—256	256—512	> 512	All, n_0	fS (S = 22)	q_2
Not comp.	1	0	0	0	0	0	0	0	0	0	0	1	...	...
< 1	0	1	3	3	1	0	0	0	0	0	1	9	8.1	0
1—2	1	1	1	0	0	1	0	0	0	0	0	4	5.3	0
2—4	0	5	2	1	0	0	0	0	0	0	0	8	3.8	0.52
4—8	0	2	2	2	1	0	1	1	0	0	0	9	2.2	0.76
8—16	0	3	1	3	0	1	0	0	0	1	0	9	1.3	0.86
16—32	0	1	2	0	1	1	0	0	0	0	0	5	0.66	0.86
32—64	0	1	0	1	0	1	0	0	0	0	0	3	0.33	0.86
64—128	0	0	0	0	0	0	0	0	0	0	0	0	0.17	...
128—256	0	0	0	0	1	0	0	0	0	0	0	1	0.09	0.86
256—512	0	0	0	0	0	0	0	0	0	0	0	0	0.04	...
> 512	0	0	0	1	0	0	0	0	1	0	2	4	0.04	0.990
All, n_0	2	14	11	11	4	4	1	1	1	1	3	53	...	...
fS (S = 27)	9.9	6.5	4.7	2.8	1.5	0.8	0.4	0.22	0.11	0.06	0.06	...	...	...
p_2	0	0	0.57	0.65	0.73	0.75	0.77	0.79	0.85	0.90	0.980	...	...	...

Table VI.

Distribution of W_1, G_1 in the Algiers Zone, Galactic Latitude $\pm 0^0$ to $\pm 22^0$.

G_1 ↓	W_1 →													
	< 1	1—2	2—4	4—8	8—16	16—32	32—64	64—128	128—256	256—512	> 512	All, n_0	fS (S = 4)	q_1
Not comp.	0	0	0	0	0	0	0	0	0	0	0	0	...	...
< 1	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0
1—2	0	0	1	0	0	0	0	0	0	0	0	1	0.9	0
2—4	0	0	1	2	0	0	0	1	0	0	1	5	0.7	0.86
4—8	0	1	1	0	1	2	1	0	0	0	1	7	0.4	0.90
8—16	0	0	0	0	0	0	1	0	0	0	1	2	0.23	0.93
16—32	0	0	0	1	0	1	0	0	0	1	3	6	0.12	0.96
32—64	0	0	0	0	0	0	0	0	0	0	3	3	0.06	0.980
64—128	0	0	0	0	0	0	1	1	0	0	2	4	0.03	0.992
128—256	0	0	0	0	0	0	0	0	0	0	3	3	0.015	0.995
256—512	0	0	0	0	0	0	1	0	0	0	2	3	0.008	0.997
> 512	0	0	0	0	1	0	0	0	0	2	15	18	0.008	0.9996
All, n_0	0	1	3	3	2	3	4	2	0	3	31	52	...	...
fS (S = 4)	1.5	0.9	0.7	0.4	0.23	0.12	0.06	0.03	0.015	0.008	0.008	...	...	...
p_1	0	0	0.77	0.85	0.88	0.96	0.978	0.980	...	0.997	0.9997	...	...	...

In D_1 and D_2 some rich charts of the Paris zone were treated in a manner different from the rest, by dividing them into quadrants and counting by smaller squares. In the Algiers zone this procedure was not followed; each chart was counted as a whole, by squares of $10' \times 10'$.

Tables II to VII represent the simultaneous distribution of the two weights, W and G, in the Algiers zone, together with the concluded probabilities of reality; these tables are analogous to Tables IV to IX of D_2.

Table VII.

Distribution of W_2, G_2 in the Algiers Zone, Galactic Latitude $\pm 0^0$ to $\pm 22^0$.

G_2 ↓	W_2 → <1	1—2	2—4	4—8	8—16	16—32	32—64	64—128	128—256	256—512	>512	All, n_0	fS (S = 4)	q_2
Not comp.	0	0	0	0	0	0	0	0	0	0	0	0	...	...
<1	0	0	1	0	0	0	0	0	0	0	0	1	1.5	0
1—2	0	0	0	2	1	0	0	0	0	0	0	3	0.9	0
2—4	0	0	0	0	0	0	0	0	0	0	0	0	0.7	...
4—8	0	0	0	1	1	0	0	0	0	0	1	3	0.4	0.72
8—16	0	0	0	0	0	0	0	0	0	0	1	1	0.23	0.77
16—32	0	0	0	0	0	1	0	1	1	0	1	4	0.12	0.970
32—64	0	0	1	0	0	0	0	0	0	0	1	2	0.06	0.970
64—128	0	0	0	0	0	0	0	0	0	0	1	1	0.03	0.970
128—256	0	0	0	0	0	0	0	0	0	2	0	2	0.015	0.992
256—512	0	0	0	0	0	0	0	0	0	0	2	2	0.008	0.996
>512	0	0	1	2	0	0	0	1	2	1	26	33	0.008	0.9998
All, n_0	0	0	3	5	2	1	0	2	3	3	33	52	...	...
fS (S = 4)	1.5	0.9	0.7	0.4	0.23	0.12	0.06	0.03	0.015	0.008	0.008	...	...	...
p_2	0	0	0.77	0.88	0.91	0.93	...	0.985	0.995	0.997	0.9998	...	...	...

Table VIII gives the average values of the different criteria of reality of the irregularities in stellar distribution, separately for different galactic zones.

Table VIII.

Average Probabilities of Reality, Algiers Zone $+1^0$.

	Galactic Latitude		
	$\pm 0^0 \ldots \pm 22^0$	$\pm 23^0 \ldots \pm 44^0$	$\pm 45^0 \ldots \pm 63^0$
Total number, T . .	52	53	72
Average p_1 . .	0.92	0.49	0.49
" q_1 . .	0.92	0.46	0.31
" P_1 . .	**0.99**	**0.64**	**0.57**
" p_2 . .	0.92	0.49	0.33
" q_2 . .	0.92	0·58	0.47
" P_2 . .	**0.98**	**0.76**	**0.61**

Comparing these data with similar values for the Paris $+24^0$ zone (D_2, Table X), we find that the Algiers zone reveals more irregularity in high galactic latitudes than the Paris zone. Of the Algiers charts with galactic latitude from $\pm 45^0$ to $\pm 63^0$ 57 per cent are affected by detectable irregularities on the low density branch, and 61 per cent are affected on the high density branch. In the Paris zone the corresponding figures were 2 and 27 per cent respectively for galactic latitudes from $\pm 45^0$ to $\pm 87^0$. The difference may be partly due to a lower average galactic latitude in the corresponding part of the Algiers zone, as compared with the Paris zone. The average values of p_1, q_1, and P_1 in the Algiers zone for $B = \pm 45^0 \ldots \pm 63^0$ are rather high and may be regarded as an indication of the possible existence of absorbing clouds in high galactic latitudes; the following charts of the Algiers zone $+1^0$ may be specially recommended for further study from this standpoint (cf. Table IX):

Chart №	6	10	20	21	78	80	89	111	169	172
Right ascens.	0^h44^m	1^h16^m	2^h36^m	2^h44^m	10^h20^m	10^h36^m	11^h48^m	14^h44^m	22^h28^m	22^h52^m
Gal. latidude	-61^0	-60^0	-50^0	-48^0	$+47^0$	$+50^0$	$+60^0$	$+50^0$	-47^0	-51^0

Chart № 73 of the Paris zone, $\delta = +24^0$, $\alpha = 9^h\,36^m$, $B = +48^0$, should be added to the list. If noticeable obscuring clouds in high galactic latitudes do exist, we may hope to find them on several of the above named charts. For galactic latitudes below 45^0 the distribution and average values of the different characteristics of irregularity in the Algiers zone are very similar to what was found for the Paris zone.

Summary.

The Algiers Carte-du-Ciel zone $+1^0$ reveals a much greater irregularity of stellar distribution in galactic latitudes above $\pm 45^0$, as compared with the Paris zone $+24^0$; the irregularities are of a character which suggest the possibility of existence of obscuring clouds in high galactic latitudes; a list of charts for further study of this subject is given.

The irregularities of stellar distribution in the lower galactic latitudes of the Algiers zone are of similar character and amount as those of the Paris zone.

The high galactic latitude regions, referring to a smaller depth in space, are more subject to accidental influences of a few cosmic clouds, or star groups; for a thorough study of these regions more observational material is required. The general behaviour of irregularities of stellar distribution in galactic latitudes below $\pm 45^0$ appears to be well determined, at least for a limiting magnitude 14.5 and a field of two degrees square, from the study of the two Carte-du-Ciel zones already published.

Irregularities in the distribution of stars appear to be the general rule in the sky; agreement with the law of chance is more or less unusual except in the galactic polar caps.

Table IX gives samples of the actual counts.

For economic reasons the complete counts cannot be published at present. The manuscript of the counts is kept at the Tartu Observatory. The sample charts of Table IX are those in high galactic latitudes with suspected obscuration.

Tartu, October 13th, 1934.

Errata in D_2.

On page 4, line 15 from above, *for* filty *read* fifty.

On page 13, first column of Table II, last two lines, *for* 49 and 30 *read* 39 and 40.

On page 21, second line from below, *for* cepon *read* upon.

On page 23, Table IV, and page 24, Tables VI and VII *for* Not. comp. *read* Not comp.

Table IX.

Samples of Counts of Stars made by Miss Lydia Pitka on the Algiers *Carte-du-Ciel* Zone +1°.

The orientation of the charts is such as appearing to the naked eye.

The rectangular coordinates reckoned from the centre of the chart are given in units of 10′.

The large square contains the results of the counts for a given chart, the numbers printed inside giving the numbers of stars counted within each square of 10′ × 10′. The figures printed in heavy type refer to groups of low density which contributed to the largest group weight (G_1 of Table I); the figures printed in italics refer to groups of high density which gave the largest group weight (G_2 of Table I)[1]).

The rectangle to the right hand side of each chart contains data referring to the distribution of densities: r, the density; $n(r)$, *obs.*, the observed frequency of r; $n(r)$, *theor.*, the theoretical frequency of r.

Coordinates of the centre and total number of stars for each chart are given in Table I.

---

1) These groups are thus outlined here on a definite principle; we remind that in the Paris zone + 24°, Table I, the groups are chosen by impression rather than by definite criteria.

№ 6.

														$+\delta$
	2	3	1	**0**	**0**	**0**	**0**	2	1	4	0	3	2	+6
	2	2	4	3	1	**0**	**0**	2	5	2	2	1	0	+5
	2	0	1	4	0	4	2	1	7	3	4	2	2	+4
	0	1	0	1	5	2	0	2	3	1	5	4	1	+3
	2	4	2	5	2	1	1	1	0	1	2	2	1	+2
	2	3	1	1	0	2	0	3	4	2	2	2	0	+1
	3	0	3	4	2	3	2	0	1	0	*5*	4	0	0
	0	0	5	1	2	3	1	2	0	*5*	*5*	2	0	−1
	5	1	1	0	3	7	0	3	5	2	1	4	4	−2
	2	5	3	2	1	4	2	4	2	0	5	3	0	−3
	3	0	2	2	4	2	2	3	5	1	1	2	1	−4
	3	1	2	3	3	1	0	1	5	1	5	4	1	−5
$+\alpha$	1	1	2	0	6	3	1	4	0	1	3	4	1	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	33	21.2
1	37	45.0
2	41	46.1
3	22	31.4
4	18	16.5
5	15	6.4
6	1	2.3
$\geqslant 7$	2	0.7

№ 10.

														$+\delta$
	5	4	7	8	8	14	9	3	10	7	8	4	7	+6
	3	5	3	3	3	3	5	7	6	3	5	2	11	+5
	6	3	7	8	8	*11*	6	8	10	6	6	6	7	+4
	2	5	*10*	6	*9*	*10*	6	8	10	8	7	9	9	+3
	3	4	*11*	4	4	*9*	6	12	9	6	8	7	11	+2
	8	8	*9*	*10*	*14*	*12*	6	4	7	9	11	1	9	+1
	9	8	4	7	6	3	6	4	3	4	6	4	4	0
	11	7	5	7	3	2	7	4	6	9	8	10	8	−1
	3	9	2	9	4	1	5	6	3	6	9	10	5	−2
	7	12	7	6	5	11	10	5	6	8	8	4	4	−3
	5	7	9	10	8	6	5	3	**2**	6	6	2	4	−4
	5	3	4	5	6	6	8	**2**	**2**	**1**	7	4	7	−5
$+\alpha$	3	5	4	7	4	10	6	**0**	7	4	8	8	1	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	1	0.3
1	4	1.9
2	8	6.0
3	17	12.9
4	21	20.0
5	15	25.6
6	25	27.1
7	20	24.3
8	20	19.4
9	15	13.7
10	11	8.7
11	7	5.0
12	3	2.6
13	0	1.3
$\geqslant 14$	2	0.8

№ 20.

														$+\delta$
	2	**3**	**1**	4	1	10	6	4	6	7	9	3	7	+6
	3	**2**	5	5	8	2	*11*	*10*	3	7	4	8	3	+5
	3	**2**	**3**	5	8	6	*9*	*8*	*11*	*8*	6	8	7	+4
	2	5	**3**	7	5	4	3	6	5	1	3	11	1	+3
	4	5	4	5	5	10	12	6	6	3	7	6	3	+2
	4	4	4	5	6	8	3	3	8	8	6	9	5	+1
	5	5	6	5	8	6	6	7	4	7	8	5	5	0
	9	4	4	6	7	5	6	5	1	7	3	5	3	−1
	4	7	4	11	3	6	7	4	7	10	4	5	12	−2
	4	4	7	10	7	3	7	5	7	4	5	4	5	−3
	6	9	5	1	6	4	8	6	3	3	7	2	1	−4
	2	4	6	10	3	8	4	3	5	4	1	1	6	−5
$+\alpha$	9	4	7	5	4	8	6	4	6	4	4	3	3	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	0	0.8
1	9	3.9
2	7	10.7
3	24	19.6
4	29	26.5
5	26	29.1
6	23	26.5
7	19	20.7
8	14	14.0
9	6	8.4
10	6	4.6
11	4	2.3
12	2	1.0
⩾13	0	0.6

№ 21.

														$+\delta$
	2	**3**	**3**	**1**	9	4	6	8	2	5	4	**2**	**2**	+6
	5	4	**3**	*9*	2	4	9	6	7	7	7	**1**	**3**	+5
	8	10	7	*13*	8	9	3	5	3	12	**3**	**3**	**3**	+4
	4	4	7	*9*	8	5	8	4	7	8	11	11	4	+3
	7	*9*	*13*	7	5	6	3	6	4	9	7	5	4	+2
	5	*9*	8	7	9	5	3	5	6	4	7	9	3	+1
	7	6	8	8	1	5	8	6	3	5	9	6	3	0
	4	8	10	6	4	6	10	8	8	5	4	10	6	−1
	1	8	6	5	7	6	0	8	5	4	13	4	4	−2
	2	2	10	6	*10*	*10*	*10*	5	8	2	5	7	7	−3
	6	4	4	3	5	8	4	6	6	6	6	6	6	−4
	1	8	5	8	6	5	9	9	6	7	**3**	**2**	**3**	−5
$+\alpha$	2	4	7	6	9	5	6	3	2	5	**1**	**3**	7	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$(n)r$ obs.	$(n)r$ theor.
0	1	0.6
1	6	3.0
2	11	8.6
3	19	16.6
4	21	24.0
5	21	27.9
6	25	27.2
7	18	22.5
8	19	16.3
9	14	10.5
10	8	6.1
11	2	3.3
12	1	1.6
⩾13	3	0.9

№ 78.

														$+\delta$
	0	2	0	3	2	1	3	4	8	3	3	3	3	+6
	3	0	2	1	4	4	4	8	1	4	1	1	4	+5
	0	5	2	4	3	7	3	5	4	5	3	4	2	+4
	0	0	0	2	2	4	3	2	3	3	2	2	1	+3
	1	0	3	3	3	6	6	2	2	6	3	1	4	+2
	2	0	5	8	1	1	2	2	2	3	4	1	4	+1
	4	4	2	2	3	3	4	0	6	9	3	4	1	0
	3	3	2	6	2	4	4	3	8	3	4	3	5	−1
	2	1	5	3	6	1	2	5	1	0	1	5	1	−2
	2	2	4	5	1	6	7	4	1	2	3	2	3	−3
	3	3	3	2	3	4	2	7	2	4	4	4	4	−4
	2	2	2	3	4	5	4	3	3	4	3	0	0	−5
$+\alpha$	3	1	5	2	2	2	1	3	4	0	1	2	0	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	15	9.3
1	22	26.8
2	36	39.1
3	39	37.8
4	31	27.4
5	11	16.1
6	7	7.8
7	3	3.1
8	4	1.1
⩾9	1	0.3

№ 80.

														$+\delta$
	2	3	0	0	0	2	0	0	2	1	3	3	1	+6
	0	3	3	4	0	2	0	1	3	2	4	0	0	+5
	2	0	3	1	4	2	3	4	2	0	2	1	0	+4
	3	3	2	4	1	2	3	1	3	1	3	3	0	+3
	6	1	3	1	3	3	1	2	2	1	1	4	2	+2
	0	2	2	1	3	0	1	2	1	5	4	3	3	+1
	4	2	4	4	0	3	4	2	2	1	3	5	2	0
	0	2	1	1	4	2	1	3	2	4	1	1	1	−1
	1	0	1	3	1	2	1	3	1	0	2	4	1	−2
	2	1	2	0	2	2	3	0	0	4	2	0	1	−3
	1	1	2	3	3	1	4	0	3	1	1	4	4	−4
	2	3	1	2	0	2	3	0	2	5	3	1	2	−5
$+\alpha$	0	2	2	0	0	3	2	1	0	0	0	2	3	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	33	26.0
1	39	49.2
2	41	45.8
3	34	28.4
4	18	13.0
5	3	4.9
6	1	1.6
⩾7	0	0.5

№ 89.

														$+\delta$
	1	4	6	5	8	1	6	1	2	2	2	3	**0**	+6
	0	2	5	9	3	2	4	3	4	1	3	**1**	**1**	+5
	4	6	4	5	3	3	3	3	4	4	5	4	**1**	+4
	3	4	4	10	6	4	3	3	1	3	9	3	**0**	+3
	6	4	4	6	1	2	4	2	7	3	2	2	2	+2
	5	6	5	3	6	5	2	5	5	0	2	4	5	+1
	2	3	2	1	2	0	3	5	5	3	5	5	1	0
	3	1	4	3	2	3	3	5	4	5	3	3	3	−1
	11	3	10	5	4	6	5	1	8	4	3	2	0	−2
	6	3	5	4	8	5	1	4	6	3	5	0	2	−3
	5	3	4	3	4	5	2	9	2	4	4	5	4	−4
	10	4	2	4	8	6	6	6	5	3	3	2	5	−5
$+\alpha$	3	4	1	5	3	8	3	9	7	5	5	3	7	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	7	3.6
1	15	13.9
2	22	26.8
3	37	34.2
4	29	33.0
5	29	25.6
6	14	16.0
7	3	8.9
8	5	4.3
9	4	1.8
10	3	0.7
⩾11	1	0.4

№ 111.

														$+\delta$
	2	2	2	2	*4*	*4*	2	*7*	*6*	*4*	2	1	1	+6
	2	3	2	2	*4*	2	3	*4*	3	3	4	1	2	+5
	1	3	3	*4*	*5*	3	1	3	2	1	3	3	2	+4
	3	3	1	2	2	1	1	3	4	4	2	3	1	+3
	4	3	2	6	1	1	2	1	1	2	3	0	2	+2
	5	3	2	1	1	1	1	3	0	0	1	3	3	+1
	3	4	1	5	3	0	2	2	2	0	1	2	2	0
	5	2	**0**	**0**	**0**	2	0	0	5	0	3	2	2	−1
	5	**0**	**0**	4	**0**	5	3	0	1	5	2	3	0	−2
	7	*4*	3	1	1	4	3	3	0	0	4	2	1	−3
	2	3	3	*4*	*4*	1	0	3	3	3	1	1	1	−4
	4	0	2	*6*	*5*	3	3	1	2	4	0	3	2	−5
$+\alpha$	4	2	0	2	1	2	4	1	0	5	1	2	3	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	23	16.5
1	33	38.8
2	40	45.1
3	37	34.6
4	21	20.0
5	10	9.1
6	3	3.4
7	2	1.2
⩾8	0	0.4

№ 169.

														$+\delta$
	3	6	5	10	7	13	17	12	9	4	8	6	5	+6
	4	5	6	14	11	7	10	8	7	4	10	7	2	+5
	8	8	9	12	16	13	7	6	15	6	8	7	5	+4
	9	7	9	10	10	8	12	8	11	10	7	1	10	+3
	9	13	6	11	10	9	10	10	12	10	14	9	8	+2
	11	12	7	16	11	9	10	10	10	7	7	5	8	+1
	5	5	15	5	5	9	*14*	*19*	*15*	*14*	5	2	2	0
	6	12	9	11	9	12	8	10	7	9	7	12	8	−1
	4	5	7	10	10	19	9	7	12	7	6	12	6	−2
	7	9	3	6	11	8	6	11	7	12	6	6	**4**	−3
	3	6	11	5	9	4	13	13	4	4	10	5	**1**	−4
	6	**2**	6	10	11	13	7	6	7	7	5	**3**	**0**	−5
$+\alpha$	**3**	**4**	**3**	**4**	6	8	15	7	6	2	4	8	**3**	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	1	0.2
1	2	0.5
2	5	1.7
3	7	4.4
4	11	9.1
5	14	14.8
6	19	19.9
7	22	23.2
8	14	23.8
9	15	21.3
10	19	17.5
11	10	12.9
12	11	8.8
13	6	5.6
14	4	3.2
15	4	1.7
16	2	0.8
17	1	0.4
18	0	0.2
⩾19	2	0.1

№ 172.

														$+\delta$
	1	1	4	1	1	2	2	**1**	**1**	**1**	**0**	**1**	7	+6
	3	3	3	1	5	3	6	**1**	4	**1**	3	2	5	+5
	3	5	3	2	8	5	3	**0**	5	**1**	2	3	4	+4
	5	2	1	3	2	7	3	3	4	3	3	3	4	+3
	4	2	2	2	1	4	3	5	2	1	5	7	9	+2
	4	3	1	5	1	3	2	0	1	3	4	3	4	+1
	3	0	4	*6*	*6*	5	5	2	2	1	6	1	5	0
	3	0	3	*6*	*6*	3	5	1	2	1	6	1	5	−1
	4	1	3	2	3	3	1	4	4	5	1	6	2	−2
	4	6	4	2	2	5	1	4	4	5	2	3	2	−3
	0	3	6	4	5	1	5	1	3	1	4	4	2	−4
	4	2	3	2	3	7	2	5	11	2	0	2	4	−5
$+\alpha$	0	2	3	2	5	*6*	*7*	1	4	*6*	*6*	*8*	0	−6
	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	

r	$n(r)$ obs.	$n(r)$ theor.
0	9	7.0
1	31	22.0
2	29	35.1
3	33	37.8
4	24	30.2
5	21	19.1
6	13	10.2
7	5	4.7
8	2	1.8
9	1	0.6
10	0	0.2
⩾11	1	0.1