FORUM

J. Th. Verstelle

from Claud Powell

MANY readers of the *Journal* will have learned of the death, at the Hague on the 19 July 1968, of Jacobus Theodor Verstelle. He was aged 68. An authority of international standing on geodesy and hydrography, he was awarded the De Ruyter Medal in 1957 for 'outstanding services in the fields of navigation and survey' and became in 1965 an Officer of the Order of Oranje Nassau. He was elected to Fellowship of this Institute in 1955.

Verstelle—although the most approachable of men, he was known to all but a very few by his surname only—started his surveying career as a Lieutenant in the Royal Netherlands East Indies Navy, in which he had been commissioned in 1919. He was responsible for much of the triangulation in the Dutch New Guinea coastal areas carried out between 1924–35, as well as for hydrographic surveys offshore. Before the war he had taken part in two solar eclipse expeditions in Sumatra and in a Dutch/American oil exploration project in New Guinea, where he also made astronomic and geodetic observations for an early air-survey project by Royal Dutch Shell and Delft University. He later became assistant to Professor Schermerhorn at Delft, specializing in photogrammetry and geodesy.

From 1946 to 1961 he was at the Hydrographic Office in the Hague, where he became head of the Geodetic and Research Section. During and after that time he was adviser to the Ministry of Public Works and to oil companies on a variety of projects including the Delta Plan for dike closure, Europoort (on which he was working at the time of his final illness), and various surveys overseas. His published papers cover a great diversity of topics, ranging from the use of leading-lines for guiding ships in narrow waters to the growth rate of coral reefs. Two of his papers in the *Journal*, and a contribution to the Forum, are on the use of radio fixing systems for ships' speed and manœuvring trials: techniques, now widely used, which he pioneered. The breadth of his knowledge and experience, his modesty and sense of wonder, and his unfailing kindness and good humour, made him many friends in this country, as in Holland and in the survey and navigation fields at large.

Distance-off by Angle of Depression

Captain P. A. Thompson
(*Shell Tankers Ltd.*)

MR. P. H. SAYERS (this *Journal*, 21, 83) proposes a method of finding the observer's distance from a ship, buoy or lighthouse, the height of which is unknown, by measuring the angle between its waterline and the horizon, the angle thus found being reduced for the dip of the sea horizon for the height of eye. Table I, an enlargement of the table which the author has used for some 15 years, gives the same information. It requires no correction for dip.

TABLE I. DISTANCE-OFF BY OBSERVED ANGLE OF DEPRESSION

Ht. eye (ft.)	30	35	40	45	50	55	60	65	70	75	80	85
Dist. n.m.	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
0·05	5 33	6 28	7 26	8 22	9 19	10 15	11 11	12 10	13 03	14 00	14 56	15 52
0·06	4 37	5 24	6 11	6 57	7 44	8 31	9 18	10 05	10 52	11 38	12 25	13 12
0·07	3 57	4 37	5 17	5 57	6 37	7 17	7 57	8 37	9 17	9 57	10 38	11 18
0·08	3 27	4 02	4 37	5 13	5 46	6 21	6 57	7 32	8 07	8 42	9 17	9 51
0·09	3 03	3 34	4 05	4 36	5 07	5 38	6 09	6 40	7 12	7 43	8 14	8 45
0·10	2 44	3 13	3 46	4 08	4 36	5 04	5 32	6 00	6 27	6 54	7 24	7 52
0·11	2 29	2 58	3 20	3 45	4 10	4 46	5 01	5 24	5 52	6 17	6 43	7 08
0·12	2 16	2 39	3 02	3 26	3 49	4 12	4 35	4 58	5 22	5 45	6 08	6 31
0·13	2 05	2 25	2 48	3 09	3 31	3 52	4 13	4 35	4 56	5 18	5 39	6 01
0·14	1 56	2 16	2 36	2 55	3 15	3 35	3 55	4 15	3 35	4 55	5 14	5 34
0·15	1 48	2 06	2 25	2 43	3 02	3 20	3 39	3 57	4 16	4 34	4 57	5 11
0·16	1 41	1 58	2 15	2 33	2 50	3 07	3 25	3 42	3 59	4 17	4 34	4 51
0·17	1 34	1 51	2 07	2 24	2 40	2 56	3 12	3 28	3 45	4 01	4 17	4 34
0·18	1 29	1 45	2 00	2 16	2 30	2 46	3 01	3 16	3 32	3 47	4 03	4 18
0·19	1 24	1 39	1 53	2 08	2 22	2 36	2 51	3 06	3 20	3 35	3 49	4 04
0·20	1 20	1 34	1 47	2 01	2 15	2 28	2 42	2 56	3 10	3 24	3 38	3 51
0·22	1 12	1 25	1 38	1 49	2 02	2 14	2 27	2 39	2 52	3 04	3 17	3 29
0·24	1 05	1 17	1 28	1 39	1 51	2 02	2 14	2 25	2 37	2 48	3 00	3 11
0·26	1 00	1 11	1 21	1 33	1 42	1 52	2 03	2 14	2 24	2 35	2 45	2 56
0·28	0 55	1 05	1 15	1 26	1 34	1 44	1 54	2 03	2 13	2 23	2 33	2 43
0·30	51	1 00	1 09	1 18	1 27	1 37	1 46	1 55	2 04	2 13	2 22	2 31
0·35	43	0 51	0 59	1 06	1 14	1 22	1 29	1 37	1 45	1 53	2 01	2 08
0·40	37	44	51	0 56	1 04	1 11	1 17	1 24	1 31	1 38	1 45	1 51
0·45	32	38	44	50	0 56	1 02	1 08	1 14	1 20	1 26	1 32	1 38
0·50	29	34	39	45	50	0 55	1 01	1 06	1 11	1 17	1 22	1 27
0·60	23	28	32	36	40	45	0 49	0 54	0 58	1 02	1 07	1 11
0·70	19	23	27	30	34	37	41	45	49	0 52	0 56	1 00
0·80	16	19	23	26	29	32	35	38	42	45	48	0 51
0·90	14	17	19	22	25	28	30	33	36	39	42	45
1·00	12	15	17	19	22	24	27	29	32	34	37	40
1·10	10	13	15	17	19	21	24	26	28	31	33	35
1·20	09	11	13	15	17	19	21	23	25	27	30	32
1·30	08	10	12	14	15	17	19	21	23	25	27	29
1·40	07	09	11	12	14	15	17	19	21	23	24	26
1·50		08	10	11	12	14	16	17	19	21	22	24
1·60		07	09	10	11	13	14	16	17	19	20	22
1·70			08	09	10	12	13	14	16	17	19	20
1·80			07	08	10	11	12	13	15	16	17	18
1·90				08	09	10	11	12	14	15	16	17
2·00				07	08	09	10	11	13	14	15	16
2·50					06	06	07	08	09	10	10	11
3·00							05	06	06	07	08	08
3·50								04	05	05	06	06

0·10 mile = 200 yds. 0·01 mile = 20 yds.

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