

LONGITUDE Y H.O. 208 AND THE  
ECLIPSE

Carrie, You better keep this on your files as no telling  
what will happen to it here these uncertain days.  
The Bays may like to have it some day in case they too  
would follow in Richard's foot-steps.

By



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*Richard W. Mindte*

# LONGITUDE BY H.O. 208 AND THE ECLIPSE

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**E**N ROUTE to Chefoo, China, on June 19, 1936, an interesting possibility for a longitude sight developed. After 17 or 18 days of generally overcast and foggy weather, the sky very obligingly cleared up on the afternoon of the 19th and conditions became ideal for taking sights. A noon latitude had been established and the sky had cleared just before the sun was on the prime vertical, so a fairly reliable dead reckoning was determined for the sights to follow.

The writer, radio officer of the vessel and amateur navigator, with the co-operation of the first and second officers took sextant altitudes of the sun and the moon at the instant when the sun appeared to be in its fullest eclipse (as the vessel was not quite in the path of the total eclipse it was rather difficult to determine offhand

the exact moment that the sun was in this condition). This difficulty was partially overcome by having another observer observe the side limbs or tips of the sun's crescent form and mark when they touched the horizon together, or as near that time as could be determined. The accuracy of this observation would of course depend upon the angle that the moon crossed the sun; however, the angle was quite acute at this point and the error would be small.

One observer observed the moon's lower limb, another observer and the writer observed the sun's lower limb, and the resulting sights were obtained and worked by the writer. To followers of the discussions pro and con on "The Fallacy of the Time Sight," let it here be noted that one mate would not even attempt to work out the moon sight. The other mate

At 1708 June 19, 1936, in D. R. latitude 35°-35' N.; 154°-00' E. observed the sun's and moon's lower limbs as follows:

		SUN			
GCT.....	06-50-09			H <sub>s</sub> .....	23-35-00
GHA.....	282-16.1			Cor.....	7-48
Assumed Long.....	153-43.9			H <sub>o</sub> .....	23-42-48
t.....	436-00.0			H <sub>o</sub> .....	23-58-40
t.....	76 W.			a.....	15'-52'' away
L.....	34 N.	A.....	22616	C.....	95 Z'.....24.0
d.....	23-25.8 N.	B.....	16491	D.....	28 Z''.....53.0
b.....	19-43.9 N.	A + B.....	39107	C + D.....	123 Z.....N 77.0 W.
d ± b.....	43-09.7				
MOON H.P. 59.0					
GCT.....	06-50-09			H <sub>s</sub> .....	23-39-00
GHA.....	281-19.6			Cor.....	01-02-12
Assumed Long.....	153-40.4			H <sub>o</sub> .....	24-41-12
t.....	435-00.0			H <sub>o</sub> .....	24-59-30
t.....	75 W.			a.....	18'-18'' away
L.....	34 N.	A.....	22261	C.....	97 Z'.....25.6
d.....	23-52.4 N.	B.....	15153	D.....	2 Z''.....51.5
b.....	20-59.6 N.	A + B.....	37414	C + D.....	99 Z.....N 77.1 W.
d ± b.....	44-52.0				

1708 position 33°-35' N. 153°-56.5' E.

The resulting lines of position, when plotted on the plotting sheet, were identical.



worked it out with the time-sight method once, found a discrepancy of 8 minutes in longitude between it and the sun sight, and gave up in disgust, declaring the moon was too complicated to work. By using the hour-angle method the moon sights are no more difficult than any other sights. It has been my experience though to find the same attitude toward the moon sights throughout the Merchant Marine service.

As already stated, the writer is but an amateur navigator and hasn't had enough experience to make any definite statements as to the relative merits of the old and modern methods of navigation. Hav-

ing learned the modern methods before the older ones, a prejudice may have been formed against the latter. However, when sights can be worked out and plotted on the chart so quickly, accurately, and with such ease with H.O. 208 and H.O. 211, it is hard to understand why these methods are not more popular in the Merchant Marine service.

It is regretted that there was no preliminary information available concerning the taking of sights during an eclipse. Had there been, better preparations could have been made and perhaps some interesting results obtained.



*EVEN when making his first appearance,\* he (Bonaparte) is already in full possession of the means to victory, as he will be at the full burst of his glory. . . . He draws simple but powerful deductions from the political and geographical situation, from which emerges clearly the final object. He threatens the capitals, separates his enemies to beat them in detail, searches for the joints, avoids frontal attacks. He outflanks the wings and threatens the line of communications. The battle is but one part of a vast combination. Immense results are obtained with mediocre means. The campaigns combine the greatest accuracy in calculation, correctness in movements and profound knowledge of men and things.*

*Such a plan, where all is foreseen and all provided for in the utmost detail, where imagination is joined to the most positive doctrines of military science and the happiest psychological deductions, did not germinate spontaneously in the General's mind. It did not present itself to him, complete in all its parts, as through a divine revelation. For three years he had pondered deeply at it, bent over maps, crossing the mountains and valleys, reading and re-reading, in the very theatres, the accounts and early quotations of armies, which in numerous attempts have left their bloody imprint on this region predestined to be the theatre of warlike struggles. He had studied assiduously all that had been written of the country, its past, its history, its resources. He had thought deeply, objectively, comparing, weighing and judging. Above all he had meditated on what his predecessors had done.—BOUVIER, Bonaparte.*

\* Bouvier is referring to the campaign in 1796.

Richard.

Carrie returned this to me years ago,

Saved it thinking she might ask for it

at a latter date. - I placed the little flag years ago. -  
Anna.

Perhaps one of the Bays would like to keep this in  
their files. -