lenger was making for the Raine Island passage, observations were taken at 5 a.m. of Aldebaran, Sirius, and Canopus, and the latitude was assumed to be 11° 40′ S. or 11° 50′ S. Using these latitudes, the position of the Sumner lines was found to be as shown in Fig. 1, and the position of the vessel to be 11° 44′ S., 145° 4′ E.

(2) On June 13, 1874, observations were taken at 6 a.m. (to fix the position of a deep-sea sounding) of β Orionis, Canopus, and Saturn, the latitude being assumed as 34° 12′ S., the resulting longitude by β Orionis being 151° 56′ E., and its azimuth S. 86° 26′ E., the Sumner line therefore running N. 3° 34′ E. and S. 3° 34′ W. The longitude by Canopus was 151° 50′ 45″ E., and its azimuth S. 39° 18′ E., its Sumner line running N. 50° 42′ E., S. 50° 42′ W.; the longitude by Saturn was 151° 54′ 15″ E., and its azimuth N. 73° W., and the Sumner line by it running N. 17° E., S. 17° W. These lines are shown in Fig. 2, and the position of the sounding was lat. 34° 8′ S., long. 151° 56′ E.

But the Sumner line has another advantage. When only one heavenly body is visible, and, therefore, the exact position of the observer cannot be obtained, if with an assumed latitude the longitude and azimuth be calculated, and the resulting Sumner line be plotted on the chart, if this line runs in the direction of the port, or point of land, towards which the ship is sailing, by steering along the Sumner line the vessel will reach her destination. For instance, if when sailing towards the English Channel an observation of the sun be obtained in the forenoon, when its azimuth, or true bearing, is somewhere between south and east, the Sumner line will be between east and north; and if this line runs towards the Lizard or some other known point, by steering along this Sumner line a good landfall may be obtained.

Obituary.

Dr. F. A. Tarleton.

FRANCIS ALEXANDER TARLETON, who died on June 20, was born in Co. Monaghan in 1841. He was the youngest son of the late Rev. J. R. Tarleton, of the Established Church in Ireland, and received his earlier education from his father. At the age of sixteen he entered Trinity College, Dublin. He was in the same year as the late Sir Robert Ball, whom he defeated at the moderatorship examination in mathematics in 1861, taking also a junior moderatorship in logic and ethics. Elected to fellowship in 1866, and called to the Bar in 1868, he was for a time assistant to the professor of applied chemistry, and professor of natural philosophy from 1890 to 1901, when he was co-opted a senior fellow. From that time until a few days before his death he sat as an efficient member of the board of Trinity College. Dr. Tarleton held several college offices, including those of senior bursar, senior lecturer, and senior dean, the last being a sinecure—for its statutory duties have long since lapsed. As senior bursar he showed his qualities as a first-class financier. He was at one time president of the Royal Irish Academy, and a member of the Board of Irish Intermediate Education.

As professor of natural philosophy, Dr. Tarleton followed the traditions of his distinguished predecessors, Williamson, Townsend, and Jellett, in treating the subject from a strictly mathematical point of view. Although he had a considerable practical acquaintance with experimental science, he flatly ignored the judicial aphorisms of Francis Bacon, and, instead of treating mathematics as the handmaid of physics, he rather inverted the order, and almost succeeded in reducing hydrodynamics, elasticity, magnetism, and electricity to branches of pure mathematics.

The writer attended Dr. Tarleton's moderatorship and fellowship lectures about twenty years ago in hydrodynamics, elasticity, and the electromagnetic theory of light, and was struck with wonder at his extraordinary memory and accuracy. For two and a half hours he would write down long and intricate calculations without the aid of any notes. Sometimes a student at the end of an hour would ask to be allowed to leave in order to attend a lecture in experimental science or history or other subject, and Dr. Tarleton would say with a snarl and a grimace (covering a heart full of humour and humanism): "Waal, if you prefer that *abominable* subject to mathematics, you are welcome to leave, and we're glad to get rid of you."

The last time the writer spoke to him, Dr. Tarleton expressed his intense dislike of Einstein's theory of relativity. He held that the Newtonian and Kantian conceptions of space and time are good enough to explain all possible phenomena, if sufficient mathematical ingenuity is shown, and he placed relativism in the same category as Bolshevism.

Dr. Tarleton wrote the following papers:—"On the Solid of Revolution having a Given Volume which experiences the Least Resistance in Passing Through a Medium," "Chemical Equilibrium," "Deductions from MacCullagh's Lectures on Rotation," "The Foundations of the Science of Number," "Notes on Crystallography," "Geometrical Proofs of Some Properties of Conics," "The Harmonic Determinant," "Laplace's Coefficients," and "A Problem in Vortex Motion." His two books "Dynamics" (written in conjunction with Williamson) and "An Introduction to the Mathematical Theory of Attractions" are first-class text-books of their kind. The latter contains a chapter on Maxwell's electro-magnetic theory of light.

R. A. P. Rogers.