been recorded and that below the upper brown peat was a wetter, soupier peat. The forest-covered mat had risen a foot and a half from the previous year. Up to this time evidence pointed to the normal development that is to be expected in the filling in of northern bog lakes in their conversion to land. With the breaking loose of the mat and the insertion of what might be called an unconformity, the tree-covered mat has now shown fluctuations from year to year, the measurements being made with the same instruments within 5 feet of the same place each year and at about the same time late in July. These figures, as expressed in Table 1, have shown a rise of the tree-covered mat as much as 2.2 feet above the datum established in 1922 and although accompanied by lower stages have so far never reached the low level known before 1928.

TABLE 1

DEPTH FROM SURFACE OF SPHAGNUM TO SAND BOTTOM AT THE SAME PLACE ON THE MAT AT MUD LAKE BOG

| Year | Feet | Year | Feet |
|---|---|---|---|
| 1922 | 10.5 | 1931 | 11.0 |
| 1923 | 10.5 | 1932 | 11.0 |
| 1924 | 10.5 | 1933 | 11.7 |
| 1925 | 10.5 | 1934 | 11.5 |
| 1926 | 10.5 | 1935 | 11.8 |
| 1927 | 10.5 | 1936 | 11.25 |
| 1928 | 11.5 | 1937 | 11.5 |
| 1929 | 12.0 | 1938 | 12.7 |
| 1930 | 11.5 | 1939 | 12.3 |

If pollen percentage profiles are made in fluctuating parts of such bogs comparable measurement of depth is another problem to consider.

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## HURRICANE INTELLIGENCE

A VERY unusual phenomenon in the field of mental testing was observed at the Massachusetts State College, Amherst, Mass., during the hurricane of September 21, 1938. In accordance with previous scheduling, a mental test was administered to the freshman class during the major part of the storm. In spite of very poor illumination (due to failure of electricity), falling trees and the characteristic weirdness both of sound and vision which prevailed, the freshmen showed a 20 per cent. superiority over the previous ten-year average. Other tests administered to the same freshmen show this class to be about average. This marked superiority under what would appear to be very adverse conditions has attracted much attention. Coincidence and chance do not appear to adequately explain these results. When all conceivable factors are considered, it appears plausible that the unusual amount of ozone in the air during the hurricane served as a mental stimulant to the freshmen. Authority for asserting the presence of relatively large quantities of ozone during the hurricane is expressed in a note in SCIENCE of November 24, 1939, by Dr. C. A. Peters.

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## LUNAR RAINBOWS IN HONOLULU

I DO not know if readers of SCIENCE want to hear any more about rainbows in Honolulu, but I spent my boyhood there and can still remember the glorious sight of the lunar rainbows. I remember once seeing a double one. I think the reason why one sees such brilliant rainbows, especially on Oahu, is that several times a day a squall of rain is likely to originate in the cloud cap over the Koolau range and to travel southward down one of the valleys. While the mountain range that runs from east to west throughout the island is covered with a black cloud, a few miles out at sea the sun is shining brilliantly. There are no clouds there. Obviously, the conditions are ideal for the frequent formation of unusually beautiful rainbows.

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# SCIENTIFIC BOOKS

## ANOTHER INVENTOR OF THE CALCULUS?

*James Gregory, Tercentenary Memorial Volume.* Edited by HERBERT WESTERN TURNBULL, F.R.S. vii + 524 pp. London, 1939.

THE subtitle to this handsome memorial explains that the volume contains Gregory's "correspondence with John Collins and his hitherto unpublished mathematical manuscripts, together with his addresses and essays, communicated to the Royal Society of Edinburgh, July 4, 1938." James Gregory (1638–1675) is probably the most justly celebrated of nineteen notable members of a famous Scotch family whose ability persisted through several generations, in mathematics and in medicine. The nauseous, gritty mess known as "Gregory's mixture" or "Gregory's powder," was perpetrated by one of the medical Gregorys; and for all the reviewer knows to the contrary, it may still be inflicted on helpless bairns.

The hero of the present memorial was a mathematician. His short life fell in one of the major epochs of mathematical history; and had he been nearer the center of things, James Gregory might have left a far greater name than he has. Before beginning his bleak professorship at the University of St. Andrews in 1668, Gregory had profited by four years on the Continent, mostly in Italy, where he seems to have absorbed