

“Speculation on the Origin of Ocean Basins,” or he would have given his reasons for saying so. The matter appears to me to turn upon the question, whether there was a hardened crust upon the earth at the time of the genesis of the moon, or whether there was not. If there was, I do not see any impossibility in my explanation of the origin of the oceans; and it agrees with several remarkable facts, such as the greater density of the crust beneath the oceans, and this very point of the apparent rent between the Eastern and Western Hemispheres. It is obvious that, if my speculation is correct, we need go no further to account for the origination of these great declivities.

I would respectfully ask geologists interested in this subject to refer to my article in *Nature*, vol. xxv (1882), p. 243, or to chap. xxv of my “Physics of the Earth’s Crust,” second edition, that they may see what my speculation really is before rejecting it.

O. FISHER.

HARLTON, CAMBRIDGE.  
March 7, 1899.

THE EASTERN SLOPE OF THE NORTH ATLANTIC BASIN: IS IT  
A STEEP OR A GRADUAL INCLINE?

[The Editor has received the following note from Rear-Admiral Sir William Wharton, K.C.B., F.R.S., the Hydrographer of the Admiralty; and as it bears directly upon the nature of the so-called ‘escarpment’ of Professor Hull, referred to by Mr. A. J. Jukes-Browne in his recent letters, and also to Mr. Hudleston’s important article, we think it will be perused with great interest by the readers of the GEOLOGICAL MAGAZINE.—EDIT ]

SIR,—In reply to your question as to what is known of the steepness of the slope of the eastern margin of the North Atlantic Basin, and whether there are on it any submarine vertical precipices 7,000 feet or so in height, I can only say, in regard to the latter, that while no man could affirm positively that none may exist, it is certain that there is not a shred of evidence in their favour.

In 1862, in the early days of telegraphy, H.M.S. “Porcupine,” commanded by Captain Hoskyn, was sent especially to investigate this edge of the deep water west of Ireland, with a view to ascertaining whether the slope was such as would prevent the maintenance of a submarine cable laid on it. He searched the edge for a distance of 180 miles, and perhaps the following sentences from his report may be taken to sum up his results so far as your inquiry is concerned :—

“Much pains were taken, by sounding at short intervals, to discover if anything like a precipice existed. Our steepest incline shows a difference of level of 3,060 feet in 2·7 miles, or about 19 feet in 100 feet. On the parallel of 51° 20′ we have a dip of 7,680 feet in a distance of 14 miles. The intermediate soundings give no evidence of a precipice, but a mountain of this height on the land would present an imposing appearance, with perhaps some steep escarpments.”

“On examining the soundings the slope will be found to vary from 6 feet to 19 feet dip in 100 feet horizontal, a dip that cannot possibly injure or strain the cable.”

With regard to the remaining portion of the slope to the southward into the Bay of Biscay, it has never been examined with a view of ascertaining the angle. Though in time a great many soundings have been accumulated, as the charts will show, they are the results of many ships, and you will understand that, as a consequence of the uncertainty of finding the precise position of a ship at sea, when the results of two or more ships are compared, there may be considerable errors. But from what we have, the result is the same, i.e. a gentle slope varying from  $2^{\circ}$  to  $10^{\circ}$  from the horizontal.

I send you some slopes drawn from what information we possess, which include the edge of the deep water from  $46^{\circ}$  N. lat. to  $54^{\circ}$  N. lat., and which speak for themselves. You will see that the angles are as I say. I may further mention that I know of no steep submarine precipices in the oceans in any part of the world, except those round coral islands, and perhaps in a few cases round the edges of submerged banks, doubtless of volcanic origin.

W. J. L. WHARTON.

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OBITUARY.

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WILHELM BARNIM DAMES.

BORN JUNE 9, 1843.

DIED DECEMBER 22, 1898.

By the death of Professor Dames, Germany loses one of its foremost palæontologists, and the University of Berlin one of its most distinguished Professors. Born at Stolp, in Pomerania, in 1843, he studied at Breslau under Ferdinand Roemer, and also at Berlin under Beyrich. He graduated at Breslau in 1868, his thesis on the Devonian rocks of Freiburg, Lower Silesia, being published by the German Geological Society in the same year. The troublous times of the Franco-German War then interrupted his researches, and in September, 1870, he was wounded near Chevilly. After recovery he went to Berlin, in 1871, as assistant in the Geological Museum of the University, and became Custos in 1875. He was appointed Professor Extraordinarius in the University in 1878, and was promoted to an ordinary professorship, on the death of Beyrich, in 1891. He was elected a member of the Prussian Academy of Sciences in 1892.

During the first decade of his scientific researches Professor Dames was occupied chiefly with fossil Invertebrata, and his most important contribution was his description of the Echinoidea of the Jurassic of N.W. Germany, published by the German Geological Society in 1872. In 1881 he began to take special interest in the Vertebrata, publishing a small note on some Selachian teeth (*Rhombodus Binckhorsti*) from the Maastricht Chalk. At this time he was entrusted with a memoir on the famous second specimen of *Archæopteryx*, which was published, in 1884, in vol. ii of the “Palæontologische Abhandlungen”—a valuable serial founded by