A DYKE SWARM IN EAST GREENLAND.

SIR,—In connection with the important dyke swarm recorded by Messrs. L. A. Wager and W. A. Deer in the January number of the GEOLOGICAL MAGAZINE, it is striking to find the attendant phenomena so closely repeating those described by the writer for the meridional Lebombo monocline of the Eastern Transvaal.[1] There a basic swarm cuts, though not exactly at right angles, a thick group of lavas dipping seawards, and seemingly represents the feeder system to the upper effusions. The dykes become more numerous as the dip of the flows increases, and were introduced during the outpouring and downbending of the volcanics under considerable east-west tension.

The evidence cited by Wager and Deer incidentally constitutes strong support for the drifting of Greenland away from Scandinavia during the Tertiary with extensive downwarping, fracturing, and intrusion along the margin of the block.

It is unnecessary, however, to assume a deep-seated migration of sial towards the continent, as proposed by the authors, since the acceptance of the "paramorphic principle", developed elsewhere by the writer,[2] will readily explain both the super-elevation of the interior of Greenland and the sinking of the adjacent ocean floor. Their instructive paper provides, as a matter of fact, no small measure of support for that particular hypothesis of mineral transformation of a paramorphic nature in the sub-crust through loading and unloading of the earth's surface.

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P.O. Box 4565,
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14th February, 1938.

FLUORSPAR AND BARYTES IN THE NORTHERN PENNINES.

SIR,—A point of some general interest was raised by Mr. Arthur Russell in a discussion at a meeting of the Mineralogical Society on 11th March. In commenting on my published statement[3] that fluorspar in the Northern Pennine mineral field crystallized before barytes at the seventeen localities where those two minerals are found together, Mr. Russell stated that he has in his collection specimens from the Scordale mine, Westmorland (one of the localities in question), which show the opposite order of deposition. I was surprised at the time of my investigation of the Northern Pennine area not to be able to find any unambiguous evidence of fluorspar later than

[1] *Trans. Roy. Soc. S. Afr.*, xviii, 1929, 189.
[2] *Our Wandering Continents*, Edinburgh, 1937, x, xi.
[3] Dunham, K. C. "Genesis of the North Pennine Ore Deposits," *Quart. Jour. Geol. Soc.*, 90, 1934, 709.