

Released upon receipt
but intended for use
March 21, 1930

A Science Service Feature

? WHY THE WEATHER ?

Mailed March 14, 1930

By Charles Fitzhugh Talman,
Authority on Meteorology.

DUST HOLES IN ICE

A well-known experiment of Benjamin Franklin was to lay bits of cloth of various colors upon the snow on a sunny day; he observed that the cloth soon became heated and sank into the snow, the darker-colored pieces sinking more rapidly on account of their greater power of absorbing solar radiation.

The same process explains the origin of the innumerable "dust holes" or "cryoconite holes" that honeycomb the border of the great Greenland ice cap, especially on the western side. These are cylindrical tubes, mostly from 2 to 4 inches in diameter, running vertically down into the ice to a depth of about a foot and a half. In summer they are usually full of water, at the bottom of which lies a layer of fine gray powder.

These holes were first observed in 1870 by Nordenskjöld, who named the dust at the bottom of the holes "cryoconite" and believed it to be of cosmic origin; i.e., a meteoritic material. This belief was based partly on the fact that the dust contains iron, cobalt and nickel, which are found in meteorites, and partly on the fairly even distribution of the holes over the surface of the ice as far inland as the explorer penetrated.

However, Nansen and other subsequent explorers who journeyed farther inland found that at greater distances from the coast the holes were entirely lacking. The dust forming them is now believed to be rocky material carried by the winds from the ice-free coast and from the "nunataks" or peaks that project from the ice cap.

(All rights reserved by Science Service, Inc.)

SCIENCE SERVICE,
21st and B Sts.,
Washington, D.C.