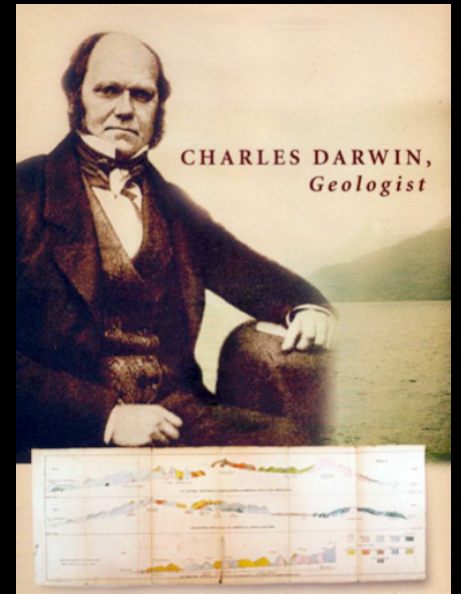


February 12, 2009, 5:30 PM
The Bridgeworks (Corner of 4th and New streets)
RSVP to John Nyby (ign2@lehigh.edu or 610-758-3625)

2009 Sigma Xi Lecture Series

“Charles Darwin, Geologist and The Origin of Darwin’s Boulders” Professor Ed Evenson



Most people consider Darwin a “Biologist” and associate him almost entirely with the theory of evolution. In reality Darwin was first, if not foremost, a “Geologist”.

Darwin published extensively on geologic subjects and was especially interested in the origin of “erratic boulders”. In the course of our geologic mapping in Tierra del Fuego we discovered two boulder trains of huge erratic boulders. The “Bahia San Sebastian Boulder Train” (“Darwin’s Boulders”) is located on the Atlantic coast just south of Bahia San Sebastian and consists of approximately 500 large, angular boulders. Except for these two boulder trains, the area is devoid of boulders.

Darwin (1841, p.419), in his classic paper, “On the distribution of the Erratic Boulders and on the Contemporaneous Unstratified Deposits of South America” describes the boulders in the San Sebastian area as “...many gigantic boulders...one of these, shaped somewhat like a barn, was forty-seven feet in circumference and projected five feet above the sand beach. There were many others half this size, and they all must have traveled at least ninety miles from their parent rock.” In 1841, Darwin was aware of the ability of glaciers to transport debris but was obviously still enamored with the currently popular concept of ice rafting and, for numerous reasons, argued, “that the boulders were transported by floating ice.”

In contrast, I will argue that the boulders, in both boulder trains, originated as large rock falls, or landslides, onto the surface of glaciers and subsequently transported, supraglacially, to their present positions by glacial flow. The strain associated with over 300 km of ice flow accounts for the narrow, elongate boulder distributions.

Darwin was right, and wrong. The boulders are on the surface of the till and they came from far away - but not by ice rafting.

Professor Ed Evenson is a glacial geologist who works extensively - and almost exclusively - at high latitudes and high elevations. His recent research has taken him to the latitudes of Alaska, Iceland, Patagonia and Tierra del Fuego and to high elevations in the mountains of Wyoming, Argentina, Chile and Argentina. Evenson is interested in the past “footprints” of glaciers - where were they and when? He also studies modern glacial processes - especially how glaciers acquire and transport debris. Ed’s first love is the adventure of field work in remote areas.

The Public is cordially invited,
Join us for dinner at the Bridgeworks afterwards