Nares Strait and the drift of Greenland: a conflict in plate tectonics

edited by

P. R. Dawes & J. W. Kerr

MEDDELELSER OM GRØNLAND, GEOSCIENCE 8 · 1982

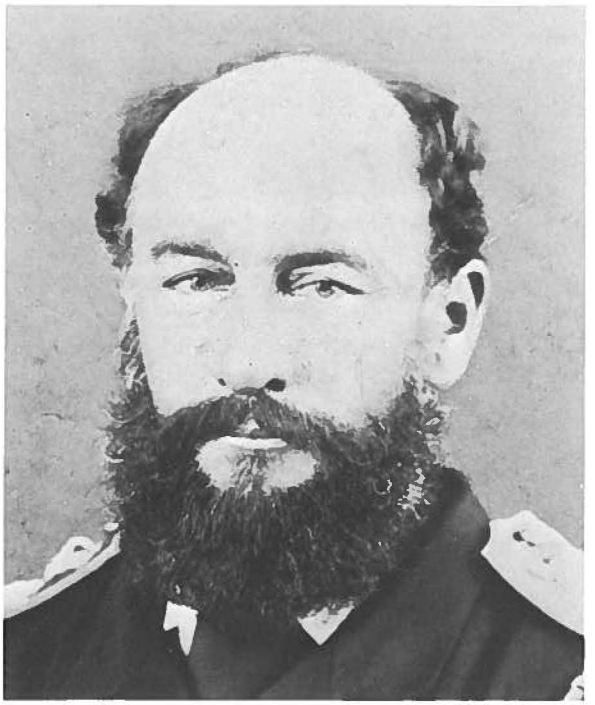
Frontispiece 1

The Kennedy Channel, the central part of Nares Strait. View is approximately north from Washington Land, Greenland, towards Judge Daly Promontory, Ellesmere Island, Canada. Hans Ø, at the territorial boundary between Canada and Greenland, is to the right of the large island (Franklin Ø). Greenland: Silurian limestones, carbonate buildups and shales of the Arctic Platform; Ellesmere Island: folded and faulted strata of the Ellesmere–Greenland fold belt. Photograph 545 H–N, no. 11803, July 1953; copyright Geodætisk Institut, Denmark.

Frontispiece 2

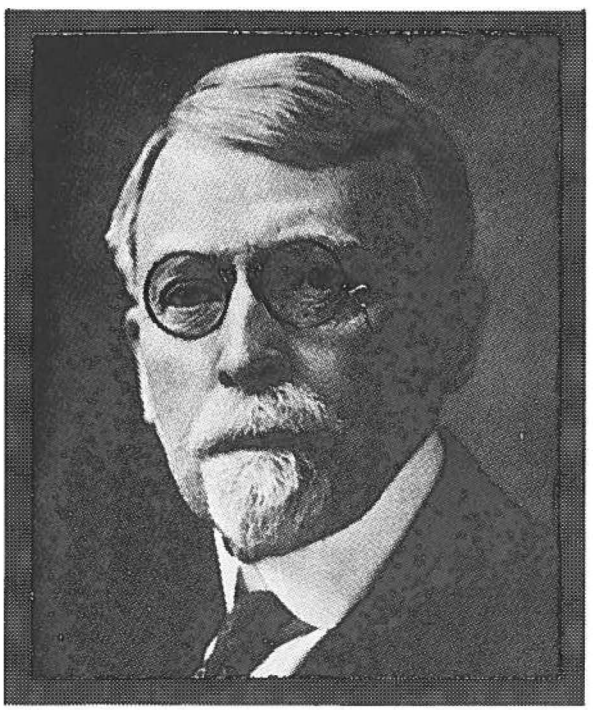
Personalities of Nares Strait. Admiral Sir George Strong Nares commanded the first successful return navigation of the narrow Strait in 1875–6 in H. M. Ships *Alert* and *Discovery;* Captain Henry Wemyss Feilden was the first to compile a geological map of the Strait from own observations (published in 1878); Frank Bursley Taylor initially drew attention to Nares Strait as an important strike-slip lineament separating the continent of North America from Greenland; and Alfred Lothar Wegener, who through his widely publicised writings on continental drift, focused attention on Nares Strait as a horizontal large-scale dislocation along which Greenland had drifted past Ellesmere Island, such that in geological discussion, Nares Strait has become synonomous with the 'Wegener Fault'.

Copenhagen 1982-10-06
ISSN 0106-1046
ISBN 87-17-02969-4
Printed in Denmark by
AiO Print as, Odense, Denmark



Sir George S. Nares
1831–1915

Henry W. Feilden
1838–1921



Frank B. Taylor
1860–1937

Alfred L. Wegener
1880–1930

List of Contributors

R. L. Christie
Geological Survey of Canada

J. D. Collinson
University of Keele, U.K.

P. R. Dawes
Geological Survey of Greenland, Denmark

C. D. S. de Vries
Deceased

K. Ellitsgaard-Rasmussen
Geological Survey of Greenland, Denmark

J. England
University of Alberta, Canada

R. K. H. Falconer
Geological Survey of Canada

D. A. Forsyth
Earth Physics Branch, Canada

T. Frisch
Geological Survey of Canada

J. G. Fyles
Geological Survey of Canada

A. C. Grant
Geological Survey of Canada

A. K. Higgins
Geological Survey of Greenland, Denmark

J. M. Hurst
Geological Survey of Greenland, Denmark

H. F. Jepsen
Geological Survey of Greenland, Denmark

G. L. Johnson
Office of Naval Research, U.S.A.

C. E. Keen
Geological Survey of Canada

J. W. Kerr
Geological Survey of Canada

L. C. Kovacs
Naval Research Laboratory, U.S.A.

R. A. Langel
National Aeronautics and Space Administration, U.S.A.

N. J. McMillan
Canterra Energy Ltd., Canada

U. Mayr
Geological Survey of Canada

A. W. Menzies
Esso Resources Canada Ltd.

D. Monahan
Canadian Hydrographic Service

P. H. Newman
Dalhousie University, Canada

J. S. Peel
Geological Survey of Greenland, Denmark

J. W. Peirce
Petro-Canada Exploration Inc.

L. W. Sobczak
Earth Physics Branch, Canada

N. J. Soper
University of Sheffield, U.K.

S. P. Srivastava
Geological Survey of Canada

F. Surlyk
Geological Survey of Greenland, Denmark

L. Thorning
Geological Survey of Greenland, Denmark

R. J. Wetmiller
Earth Physics Branch, Canada

J. T. Wilson
Ontario Science Centre, Canada

Contents

STRUCTURE

GEOPHYSICS