Record Nr. UNINA9910779289003321 Autore Frankel Henry R. <1944-> **Titolo** The continental drift controversy. Volume 2 Paleomagnetism and confirmation of drift / / Henry R. Frankel [[electronic resource]] Cambridge:,: Cambridge University Press,, 2012 Pubbl/distr/stampa **ISBN** 1-139-36563-0 1-107-22589-2 1-280-64734-5 9786613633392 1-139-37816-3 1-139-37530-X 0-511-84316-X 1-139-37673-X 1-139-37959-3 1-139-37131-2 Descrizione fisica 1 online resource (xviii, 525 pages) : digital, PDF file(s) Disciplina 551.1/36 Soggetti Continental drift - Research - History - 20th century Academic disputations - History - 20th century Inglese Lingua di pubblicazione **Formato** Materiale a stampa Livello bibliografico Monografia Title from publisher's bibliographic system (viewed on 05 Oct 2015). Note generali Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Cover: THE CONTINENTAL DRIFT CONTROVERSY: Volume II: Paleomagnetism and Confirmation of Drift; Dedication; Title; Copyright; Contents; Foreword; Introduction; Acknowledgments; Abbreviations; Note; 1: Geomagnetism and paleomagnetism: 1946-1952; 1.1 Breaking the impasse: the three main paleomagnetic groups; 1.2 Blackett and Runcorn begin their years together at the University of Manchester (1946-1949); 1.3 Blackett's fundamental or distributed theory of the origin of the geomagnetic field and Runcorn's introduction to it 1.4 Elsasser develops a self-exciting dynamo in Earth's core as the source of the geomagnetic field1.5 Runcorn and colleagues carry out

the mine experiment and discriminate between fundamental and core

theories; 1.6 Blackett and Runcorn become interested in

paleomagnetism; Runcorn accepts a position at the University of Cambridge; 1.7 Work at the Carnegie Institution in Washington and the case for a geomagnetic field without gross changes; 1.8 Graham develops field tests of stability; 1.9 Graham and others at the Carnegie Institution abandon the fold test

- 1.10 Graham opts for self-reversals rather than field reversals1.11 Igneous baked contact test of stability; 1.12 Hospers arrives in Cambridge, 1949: his early education and commencement of Iceland surveys; 1.13 Hospers' first results from Iceland, 1950-1951, and genesis of Fisher's statistics; 1.14 Consistency or dispersion as a test of paleomagnetic stability; 1.15 Runcorn arrives in Cambridge, 1950, decides to work on paleomagnetism, and hires Ted (E.) Irving, 1951;
- 1.16 Irving's early education and undergraduate years 1.17 Irving and Runcorn's first work, July through December 1951: only red beds give coherent results 1.18 Irving devises a paleomagnetism test of continental drift, autumn 1951; 1.19 Realization in 1943 by Sahni that paleomagnetism could be used to test continental drift; 1.20 Irving initiates his test of motion of India; 1.21 Why Runcorn and Irving did not immediately redirect all their work to test continental drift: 1.22 Reaction of Blackett and Runcorn to Irving's work; 1.23 Summary; Notes 2: British paleomagnetists begin shifting their research toward testing mobilism: summer 1951 to fall 19532.1 Outline; 2.2 Blackett initiates and Clegg leads the paleomagnetic group at Manchester; 2.3 Clegg builds a new magnetometer at Manchester; 2.4 The Manchester group expands and focuses on the Triassic redbeds; 2.5 Irving investigates the origin of magnetization of the Torridonian and begins magnetostratigraphic survey; 2.6 Irving completes magnetostratigraphic survey of the Torridonian; 2.7 Fisher defends
- 2.8 Hospers returns to Iceland, builds an ""igneous"" magnetometer, and develops his case for reversals of the geomagnetic field

Resolution of the sixty-year debate over continental drift, culminating in the triumph of plate tectonics, changed the very fabric of Earth science. This four-volume treatise on the continental drift controversy is the first complete history of the origin, debate and gradual acceptance of this revolutionary theory. Based on extensive interviews, archival papers and original works, Frankel weaves together the lives and work of the scientists involved, producing an accessible narrative for scientists and non-scientists alike. This second volume provides the first extensive account of the growing paleomagnetic case for continental drift in the 1950s and the development of Apparent Polar Wander Paths that showed how the continents had changed their positions relative to one another - more or less as Wegener had proposed. Paleomagnetism offered the first physical measure that continental drift had occurred and helped determine the changing latitudes of the continents through geologic time.

Sommario/riassunto

mobilism