1. Record Nr. UNINA9910826608603321 Autore Leddra Michael Titolo Time matters: geology's legacy to scientific thought // Michael Leddra Pubbl/distr/stampa Hoboken, NJ,: Wiley, 2010 **ISBN** 9786613204820 9781444323269 1444323261 9781283204828 1283204827 9781444323252 1444323253 Edizione [1st ed.] Descrizione fisica 1 online resource (xviii, 269 p.): ill., ports 551.7/01 Disciplina Soggetti Geological time Sequence stratigraphy Historical geology Earth (Planet) Age Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Preface. Acknowledgements. Introduction. 1 Geological time. 1.1 Introduction. 1.2 The historical perspective. 1.2.1 The march of the scientists. 1.2.2 The atomic age. 1.3 Geological time and the age of Mother Earth. 2 Dating rocks. 2.1 Introduction. 2.2 The nature of stratigraphy and the principles of relative dating. 2.3 Biostratigraphy. 2.4 Radiometric dating. 2.4.1 Potassium. 2.4.2 Rubidium. 2.4.3 Uranium. 2.4.4 Carbon. 2.4.5 Mass spectrometer. 2.5 Dating by fi ssion tracks. 2.6 Magnetism. 2.6.1 Thermal remnant magnetism. 2.6.2 Depositional remnant magnetism. 2.6.3 Palaeo-magnetism and Polar wandering, 3 The origins of the geological time scale, 3.1 Introduction. 3.2 Jurassic. 3.3 Carboniferous. 3.4 Triassic. 3.5 Tertiary. 3.6

Cambrian. 3.7 Silurian. 3.8 Devonian. 3.9 Permian. 3.10 Mississippian.

3.11 Quaternary. 3.12 Ordovician. 3.13 Cretaceous. 3.14 Pennsylvanian. 3.15 Proterozoic. 3.16 Archean and Hadean. 4

Plutonism versus Neptunism. 4.1 Introduction. 4.2 Neptunism. 4.3 Plutonism. 5 Uniformitarianism versus Catastrophism. 5.1 Introduction. 5.2 Catastrophism. 5.3 Diluvialism. 5.4 Uniformitarianism. 5.5 Mass extinctions. 5.6 Alternating warm and cold conditions. 5.7 Catastrophes and the nature of science. 5.8 Palaeogeography and Earth history. 6 Evolution. 6.1 Introduction. 6.2 Darwin and evolution. 6.3 Punctuated equilibrium and geographic speciation. 6.4 Intermediates what are we looking for? 7 Evolution versus Creationism. 7.1 Introduction. 7.2 Fossils. 7.2.1 The Medieval view. 7.2.2 The 17th- and 18th-century view. 7.2.3 The 19th-century view. 7.2.4 Mantell versus Owen. 7.3 Famous Evolution versus Creation debates. 7.3.1 Huxley versus Wilberforce. 7.3.2 Huxley versus Gladstone. 7.3.3 The abolition of the equal time laws in America. 7.3.4 The nature of life and science, and Evolution versus Creationism. 7.4 Lagerstatten. 8 Continental Drift and Plate Tectonics. 8.1 Introduction. 8.2 Mountain building. 8.3 Isostasy. 8.4 Continental Drift. 8.5 Plate Tectonics. 9 What have we learnt? Bibliography. Index.

Sommario/riassunto

This title covers subjects such as the age of the earth, catastrophism vs uniformitarianism, evolution vs creationism, plutonism vs neptunism, continental drift and plate tectonics. It covers the people involved, their ideas and the scientific and religious power politics involved in the development.