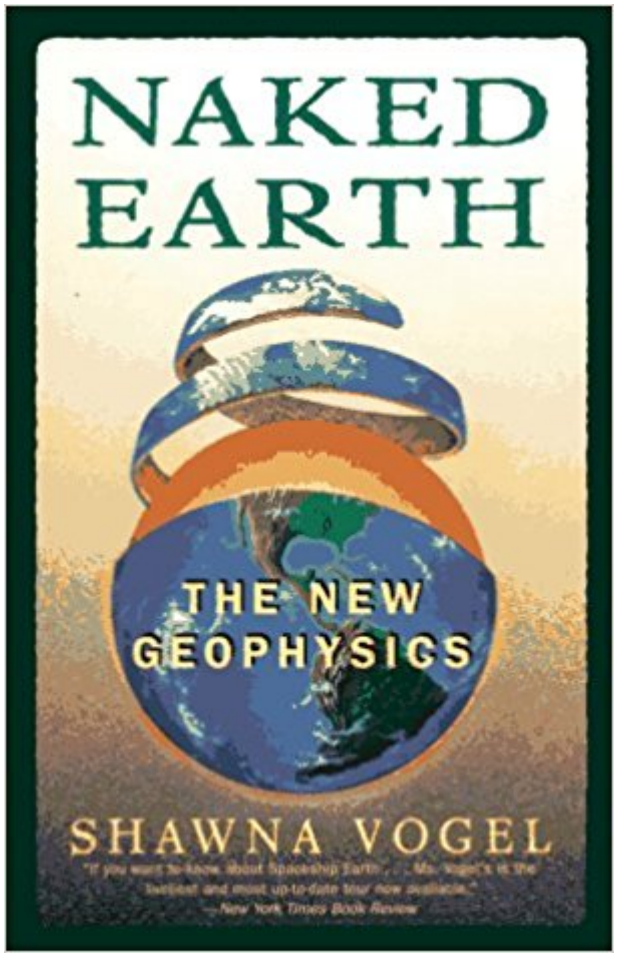
Naked Earth ~ The New Geophysics



Synopsis

From the Earth’s hyer-compressed core to the places where the planet’s energy bursts through its fragile crust, Naked Earth provides readers with new understanding of ancient mysteries and the latest in geophysical hypothesis. "Top-notch science journalism."--Publishers Weekly, satrred review. First serial to Earth.

Book Information

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Customer Reviews

Geophysics is undergoing a "whole-earth revolution," with changes at Earth’s molten core increasingly linked to what is going on at its surface. Vogel, a former editor for Discover, brings a weighty subject vibrantly to life in this exciting report. It is common knowledge that the continents once formed a giant landmass, called Pangaea, 180 million years ago, yet many readers will be unfamiliar with the Supercontinent Cycle?the belief, now shared by many geophysicists, that the Pangaean supercontinent was a recurrent, not a one-time, phenomenon. Furthermore, the existence of Pangaea seems to be stored like a memory in inner Earth’s rocks and may be dictating where enormous floods of magma (molten rock) erupt. These eruptions in turn have been linked to the reversal of Earth’s magnetic poles, a flip-flop that supposedly has occurred 300 times in the last 200 million years. Vogel evokes a dynamic underworld of powerful currents of liquid rock; colliding tectonic plates; fossil volcanoes that have spewed out natural diamonds; and 30-foot-tall mineral chimneys soaring above the Pacific Ocean floor, natural warm-water vents for dispersing heat from Earth’s core. This is top-notch science journalism.

--This text refers to an out of print or unavailable edition of this title.

The earth as portrayed by Vogel is a dynamic and fascinating entity. Beginning with the advent of plate tectonics theory in 1960, Vogel chronicles subsequent advances in geophysics. Her experience in writing about science for Discover magazine is obvious in her use of a minimum of scientific terminology and excellent analogies to illustrate what is now known about the earth and its interior workings. Science becomes an active endeavor when seen through this account of how scientists have learned what they know. Naked Earth would have been strengthened by inclusion of references for the key publications of the scientists mentioned in the text; quotations are attributed to the authors but sources are not provided. Despite this shortcoming, Vogel has done an admirable job of making a highly technical field accessible to most readers. Recommended for most collections.Jeanne Davidson, Oregon State Univ., CorvallisCopyright 1995 Reed Business Information, Inc. --This text refers to an out of print or unavailable edition of this title.

Naked Earth is a comprehensive overview of geophysics, presented in a compact 208 pages. Vogel accomplishes this feat with concise, to-the-point prose. Yet she manages to cover all the major aspects of the field: the historical development of earth science, its major theories, and the personalities and conflicts of its developers. The level of detail given is not exhaustive, but thorough.The interior structure of the Earth was first explored via seismology. Vogel describes how the temperatures and densities of the various strata were mapped with the so-called p-waves and s-waves produced by seismic events (also by nuclear weapons tests). This gave the early geophysicists the current conception of the earth’s division into crust, mantle, and core.She goes on to explain how this led to the notions of tectonic plates, earthquakes, continental drift, sea-floor spreading, magma convection within the mantle, and magma plumes. Her constant emphasis throughout the book concerns the ceaseless interactions between the various components of the earth’s crust, mantle, and core, and the dynamics of the solid earth with its oceans, atmosphere, and magnetosphere. The book concludes with the place of the earth in the solar system, as a target for asteroids and comets.Throughout the book the scientific process is given due attention. Vogel explains how key ideas led to the development of further key ideas mainly by the patient aggregation of geological evidence; she makes the point that nearly nothing known in geophysics came about by some "breakthrough discovery". She also explains how the field’s development was retarded at times because scientists had "crazy ideas" that they were afraid would damage their careers if made known, but which turned out to be entirely correct. I though that was a nice corrective to the common misconception of the genius scientist who figures out the whole thing in a

burst of inspiration.As I said, the coverage is not exhaustive -- if the reader wishes to know in great detail about some particular aspect of geophysics, this book will probably not satisfy that curiosity. But for the casual reader who wishes to educate himself about the main ideas in geophysics and how they were developed, this is one concise book where he can gain a comprehensive overview of the field.

This is a beautiful intro into fascinating geology! It’s written as a set of stories, making it appealing to the young audience, however it describes many complex geological notions and provides an insider view into this science and people in it, into research methods and history. I first took this book from the library but it was such a good read I wanted to have it so I could get back to it always. Highly recommend!

I knew virtually nothing about Geophysics before I read this book. Having just finished the last page just a few minutes ago, I can now say I know the basis for perhaps even an introductory course in Geophysics. From this book I learned that the Earth is a living "heat engine", carefully dispensing heat through "plumes", supercontinental rifting and shifting, volcanic eruptions, hydrothermal venting, and lots more really cool stuff happening below our feet. The Earth may also be considered a "dynamo", creating a magnetic field that reverses quite mysteriously every some million years. Vogel’s comprehensive overview also makes the point that it is often not possible to attribute events or features to a single cause, that not only is the Earth itself a system of amazing interior, exterior and atmospheric exchanges, but it is also part of the larger system of space...! It’s a fun and easy to read, well-informed, well-researched and objective survey of the field of Geophysics today. Journalism at its best. I thank Shawna Vogel for my new understanding of this planet and its mysterious and awesome workings.

As an explanation of geophysics Naked Earth succeeds. Ms. Vogel brings the history, theories, personalities, conflicts and politics of geophysical science in to focus. It allows those unfamiliar with the world of science to observe the give and take, the wars, the collaborations and the pure luck required in the advancement toward the truth. She shows how the merging of traditional geologic principals along with more recent theories and discoveries reveals a violent past and predicts a future of certain geologic and atmospheric upheaval. However, I must add that the last few pages of the final chapter Ms. Vogal reveals herself as a typical contemporary journalist. Ms. Vogel couldn’t resist commenting on that theory that human activity could lead to climatic catastrophe due to global

warming. I was enjoying the book immensely until she threw that one in. I know we've all become desensitized to blatant editorializing from the media, but in a book on geophysics? If you want an enjoyable read on geophysics in general and about some of the latest discoveries, theories and personalities in that field definitely read this book.

It was boring.

Reading Shawna Vogel's Naked Earth reawakened my interest in geophysics - it's a great read, and the best overview I've seen on both the huge changes in the field recently and the arguments that have occurred. My only criticism is that some diagrams would have helped a lot, but Vogel's writing is clear enough to carry the story.