S Of Drift Continental Modern Wegener Alfred Theory Became

#Alfred Wegener #Continental Drift Theory #Plate Tectonics #Geology History #Earth Science

Alfred Wegener's revolutionary theory of continental drift fundamentally changed our understanding of Earth's dynamics. Initially met with skepticism, his concept of moving continents became the modern foundation for plate tectonics, explaining the distribution of continents and geological phenomena across the globe.

Alfred Wegener

A biography of the man who created the theory of continental drift.

The Origin of Continents and Oceans

In 1915 Alfred Wegener's seminal work describing the continental drift was first published in German. Wegener explained various phenomena of historical geology, geomorphy, paleontology, paleoclimatology, and similar areas in terms of continental drift. This edition includes new data to support his theories, helping to refute the opponents of his controversial views. 64 illustrations.

Alfred Wegener

The book should be of interest not only to earth scientists, students of polar travel and exploration, and historians but to all readers who are fascinated by the great minds of science.--Henry R. Frankel, University of Missouri-Kansas City, author of The Continental Drift Controversy "Science & Education"

The Rejection of Continental Drift

Why did American geologists reject the notion of continental drift, first posed in 1915? And why did British scientists view the theory as a pleasing confirmation? This text, based on archival resources, provides answers to these questions.

Continental Drift: the Evolution of a Concept

Traces the changing theories about continental drift due to the advances in seismology and experimental studies of the behavior of rocks under high pressure. Continental stability was the prevailing scientific view until the late 1960s, when geologists throughout the world became convinced that crustal plates, both continental and oceanic, have moved over many degrees of latitude and longitude since the Cretaceous period.

Theory of Continental Drift

This book describes the expansion of the land-based paleomagnetic case for drifting continents and recounts the golden age of marine geoscience.

The Continental Drift Controversy

In the early 1960s, the emergence of the theory of plate tectonics started a revolution in the earth sciences. Since then, scientists have verified and refined this theory, and now have a much better understanding of how our planet has been shaped by plate-tectonic processes. We now know that, directly or indirectly, plate tectonics influences nearly all geologic processes, past and present. Indeed, the notion that the entire Earth's surface is continually shifting has profoundly changed the way we view our world.

Theory of Continental Drift; a Symposium on the Origin and Movement of Land Masses, Both Inter-continental and Intra-continental, as Proposed by Alfred Wegener

Developments in Geotectonics, 10: The Expanding Earth focuses on the principles, methodologies, transformations, and approaches involved in the expanding earth concept. The book first elaborates on the development of the expanding earth concept, necessity for expansion, and the subduction myth. Discussions focus on higher velocity under Benioff zone, seismic attenuation, blue schists and paired metamorphic belts, dispersion of polygons, arctic paradox, and kinematic contrast. The manuscript then ponders on the scale of tectonic phenomena, non-uniformitarianism, tectonic profiles, and paleomagnetism. Concerns cover global paleomagnetism, general summary of the tectonic profile, implosions, fluid pressures, pure shear, crustal extension, simple shear with horizontal axis, geological examples of scale fields, and length-time fields of deformation. The publication explores the cause of expansion, modes of crustal extension, and rotation and asymmetry of the earth, including dynamic asymmetry, precessions, nutations, librations, and wobbles at fixed obliquity, variation of rate of rotation, and categories of submarine ridges. The text is a dependable source of data for researchers wanting to study the concept of expanding earth.

Theory of Continental Drift. A Symposium on the Origin and Movement of Land Masses, Etc

An old truism holds that a scientific discovery has three stages: first, people deny it is true; then they deny it is important; finally, they credit the wrong person. Alfred Wegener's "discovery" of continental drift went through each stage with unusual drama. In 1915, when he published his theory that the world's continents had once come together in a single landmass before splitting apart and drifting to their current positions, the world's geologists denied and scorned it. The scientific establishment's rejection of continental drift and plate tectonic theory is a story told often and well. Yet, there is an untold side to Wegener's life: he and his famous father-in-law, Wladimir Köppen (a climatologist whose classification of climates is still in use), became fascinated with climates of the geologic past. In the early 20th century Wegener made four expeditions to the then-uncharted Greenland icecap to gather data about climate variations (Greenland ice-core sampling continues to this day). Ending in Ice is about Wegener's explorations of Greenland, blending the science of ice ages and Wegener's continental drift measurements with the story of Wegener's fatal expedition trying to bring desperately needed food and fuel to workers at the central Greenland ice station of Eismitte in 1930. Arctic exploration books with tragic endings have become all too common, but this book combines Wegener's fatal adventures in Greenland with the relevant science--now more important than ever as global climate change becomes movie-worthy ("The Day After Tomorrow").

This Dynamic Earth

Presents an introduction to volcanoes and earthquakes, explaining how the movement of the Earth's interior plates cause their formation and describing the volcanoes which currently exist around the world as well as some of the famous earthquakes of the nineteenth through twenty-first cenuturies.

The Expanding Earth

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 third volume describes the expansion of the land-based paleomagnetic case for drifting continents and recounts the golden age of marine geology and geophysics. Fuelled by the Cold War, US and British workers led the way in making discoveries and forming new hypotheses, especially about the origin of oceanic ridges. When first proposed, seafloor spreading was just one of several competing hypotheses about the evolution of ocean basins.

Ending in Ice

A historical account of the triumph of the global theory of plate tectonics and its implications for the "modern revolution in geology" of the 1960s and 1970s after fifty years of controversy and competition.

Plate Tectonics, Volcanoes, and Earthquakes

Secure your financial future before the next big bubble bursts Aftershock provides a definitive look at the economic climate still ahead in 2015—and beyond—and details the steps you can take now to secure your financial future. Written by the authors who accurately predicted the financial crisis of 2008 and 2009, this book serves as both a warning and a game plan for investors looking to avoid catastrophic loss. This updated fourth edition has been expanded with new actionable insights about protection and profits in an increasingly confusing investment environment, and includes the latest data, updated charts and tables, and brand new coverage of monetary stimulus. With a look back at the domino fall of the conjoined real estate, stock, and private debt bubbles that triggered the last major crisis, this book paints a vivid picture of what to expect the next time the world's economy pops. You'll learn how to protect your assets before and during the coming fall, and how to capitalize on the opportunities everyone else is missing. The housing bubble has popped, toppling banks and sending shockwaves of stock market misery around the world. It may seem like the worst is over. It's not. This book shows you what's still to come, and how to ride the crest instead of being sucked under. Learn when, why, and how the global bubble will burst Understand the repercussions that will reach into your accounts Get up to date on the data, with expert analysis and insight Start protecting yourself now with a few smart investment moves The stock market, real estate, consumer spending, private debt, dollar, and government debt bubbles will burst, driving up unemployment, devaluing the dollar, and causing deep global recession. Aftershock helps you fortify your assets before the wave so you can enjoy clear skies after the storm.

The Floors of the Oceans: I. The North Atlantic

Fifty years ago, Tuzo Wilson published his paper asking `Did the Atlantic close and then re-open?'. This led to the `Wilson Cycle' concept in which the repeated opening and closing of ocean basins along old orogenic belts is a key process in the assembly and breakup of supercontinents. The Wilson Cycle underlies much of what we know about the geological evolution of the Earth and its lithosphere, and will no doubt continue to be developed as we gain more understanding of the physical processes that control mantle convection, plate tectonics, and as more data become available from currently less accessible regions. This volume includes both thematic and review papers covering various aspects of the Wilson Cycle concept. Thematic sections include: (1) the Classic Wilson v. Supercontinent Cycles, (2) Mantle Dynamics in the Wilson Cycle, (3) Tectonic Inheritance in the Lithosphere, (4) Revisiting Tuzo's question on the Atlantic, (5) Opening and Closing of Oceans, and (6) Cratonic Basins and their place in the Wilson Cycle.

Theory of Continental Drift: a Symposium on the Origin and Movement of Land Masses Both Inter-continental and Intra-continental

ON THE ORIGIN OF CONTINENTS AND OCEANS is a completely new and somewhat controversial way of looking at and understanding modern scientific evidence about the origin of Earth's continents and oceans. Since the 1960s this evidence has traditionally been gathered in support of Plate Tectonic studies and as such, until now, has rarely been looked at other than from a conventional Plate Tectonic perspective. This conventional perspective insists that the origin of the continents and oceans is a random, non-predictable, and sometimes catastrophic process-a process that is understood by very few and remains unchallenged by most. In this book, the same modern scientific evidence as used in Plate Tectonic studies is used to recreate and discuss the entire 4,000 million years of Earth's recorded geological history. This discussion commences with an ancient primordial Earth comprising an assemblage of the most ancient Archaean continental crusts. Discussion then continues through the various supercontinental stages until breakup of the ancient Pangaea supercontinent occurred to form the modern continents during the late-Permian Period, as well as opening of each of the modern oceans. The location of each ancient magnetic pole is shown to remain diametrically opposed throughout this entire time, as it is today, and these poles are precisely located on all constructed models of the ancient Earth. Each established pole and equator is shown to coincide precisely with observed ancient climate zones and ancient geographical evidence. Similarly, plant and animal species evolution, extinction, and migration is shown to be intimately related to progressive continental break-up, sea-level changes, and opening of the modern oceans, in particular during the past 250 million years. By adopting this new scientific perspective it is shown that global extinctions are not related to random catastrophic events-events we are led to believe predict a gloomy end to civilisation as we know it-but, more importantly, these events are shown to coincide with non-catastrophic, wholesale continental breakup as well as climate and sea-level changes that occur naturally over many millions of years. In contrast to what we are currently led to believe in conventional tectonic studies, this new perspective is telling a completely different story about the origin of Earth's continents and oceans; one that shows a very simple, predictable, easily understood, and holistic process involving a progressively changing Earth surface area and surface curvature through time. By simply changing our misguided assumptions about the physical characteristics of the ancient Earth, the new perspective presented here represents a paradigm shift in the way we are able to understand and challenge our conventional views on the origin of the continents and oceans.

The Continental Drift Controversy: Volume 3, Introduction of Seafloor Spreading

A fascinating historical account of the emergence and development of the new interdisciplinary field of deep carbon science.

Drifting continents and shifting theories

This is the English translation (and German facsimile) of Wladimir Köppen and Alfred Wegener (1924): The Climates of the Geological Past (Die Klimate der geologischen Vorzeit), a landmark text of early paleoclimatological research, actually a textbook of paleoclimatology. Wegener is best known for his theory of continental drift (The Origin of the Continents and Oceans, 1915). Less widely known, but equally important, are the studies he conducted on the climates of the past (with his colleague and father-in-law, Wladimir Köppen), which they jointly published (this book). Only one edition of the book was published, but unfortunately, all - save a few private copies - were destroyed during the second World War, rendering the book essentially unavailable. This English translation makes Köppen and Wegener's landmark text accessible to the international climate research community. It also includes the Supplements and Corrections by -Wladimir Köppen to this book, published in 1940, shortly before his death and a decade after Alfred Wegener's untimely death on Greenland. The translation (and the facsimile) have both been enhanced by subject indices, which the original book was lacking. The discussion of the course and causal relationship of climates and climate change in the geological past are of principal scientific interest. Important elements of the discussions herein stem from the close collaboration with Milutin Milankovitch (who contributed entire sections of text, but is not named as an author). Building on the principles of the Milankovitch frequencies allowed Köppen and Wegener for the first time, early in the last century to establish a precise time scale of Late Cenozoic glacial-inter-glacia l cycles. More recently, the orbital parameters originally calculated by Milankovitch were refined usin g time series data from deep-sea sediments and ice cores. Furthermore, Milankovitch's cycles may b e extrapolated into the future to predict climate change. This very book, in which Köppen and Wegene r roll out their theory, is therefore an important publication which has early on shaped our understandin g of how climate has evolved and continuously evolves in the course of time. This translation afford s non-German-speaking scientists and laypersons alike access to the full and compelling arguments o

f climate change, carefully and readably laid out and argued. It is a must-read for anybody interested i n climate change, be it from a historic or present point of vie

Drifting Continents and Shifting Theories

The study of the Earth’s origin, its composition, the processes that changed and shaped it over time and the fossils preserved in rocks, have occupied enquiring minds from ancient times. The contributions in this volume trace the history of ideas and the research of scholars in a wide range of geological disciplines that have paved the way to our present-day understanding and knowledge of the physical nature of our planet and the diversity of life that inhabited it. To mark the 50th anniversary of the founding of the International Commission on the History of Geology (INHIGEO), the book features contributions that give insights into its establishment and progress. In other sections authors reflect on the value of studying the history of the geosciences and provide accounts of early investigations in fields as diverse as tectonics, volcanology, geomorphology, vertebrate palaeontology and petroleum geology. Other papers discuss the establishment of geological surveys, the contribution of women to geology and biographical sketches of noted scholars in various fields of geoscience.

Manual of Geology

Ancient Supercontinents and the Paleogeography of Earth offers a systematic examination of Precambrian cratons and supercontinents. Through detailed maps of drift histories and paleogeography of each continent, this book examines topics related to Earth’s tectonic evolution prior to Pangea, including plate kinematics, orogenic development, and paleoenvironments. Additionally, this book discusses the methodologies used, principally paleomagnetism and tectonostratigraphy, and addresses geophysical topics of mantle dynamics and geodynamo evolution over billions of years. Structured clearly with consistent coverage for Precambrian cratons, this book combines state-of-the-art paleomagnetic and geochronologic data to reconstruct the paleogeography of the Earth in the context of major climatic events such as global glaciations. It is an ideal, up-to-date reference for geoscientists and geographers looking for answers to questions surrounding the tectonic evolution of Earth. Provides robust paleogeographies of Precambrian cratons based on high-quality paleomagnetic and geochronologic data and critically tested by global geological datasets Includes links to updated databases for the Precambrian such as PALEOMAGIA and the Global Paleomagnetic Database (GPMDB) Presents full-color maps of the drift histories of each continent as well as their paleogeographies Discusses key questions regarding continental drift, the supercontinent cycle, and the geomagnetic dipole hypothesis and analyzes palaeography in the context of Earth’s holistic evolution

Aftershock

This is the second edition of the author's account of celebrated controversies in geology that embrace many of the most important ideas that have emerged since the birth of the subject. Two new chapters have been added. One reviews the emergence of stratigraphy in the nineteenth century, focusing on two major debates concerning the Cambrian-Silurian and Devonian. The second new chapter deals with the mass extinctions controversy, which has not yet been resolved. The existing chapters have been revised in the light of recent publications. The book will be of interest to professional geologists, geology students, and amateur geologists as well as to geographers and historians of science.

Fifty Years of the Wilson Cycle Concept in Plate Tectonics

Volcanoes and Earthquakes, is one book in the Britannica Illustrated Science Library Series that is correlated to the science curriculum in grades 5-8. The Britannica Illustrated Science Library is a visually compelling set that covers earth science, life science, and physical science in 16 volumes. Created for ages 10 and up, each volume provides an overview on a subject and thoroughly explains it through detailed and powerful graphics-more than 1,000 per volume-that turn complex subjects into information that students can grasp. Each volume contains a glossary with full definitions for vocabulary help and an index.

On the Origin of Continents and Oceans

This work has been selected by scholars as being culturally important, and is part of the knowledge base of civilization as we know it. This work is in the "public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as

no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

From Crust to Core

This book provides an overview of the history of plate tectonics, including in-context definitions of the key terms. It explains how the forerunners of the theory and how scientists working at the key academic institutions competed and collaborated until the theory coalesced.

Klimate der geologischen Vorzeit

This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

History of Geoscience

This book tells the story of the Earth itself, explaining the interplay of its gradual geologi- levolution, presented as a generally slow and safe process, with the sudden manifestations of natural hazards, which involve disasters that affect the environment and lead to huge material damage and human losses. The natural forces at play, whether they are violent explosions ofvolcanic eruptions or almost imperceptible deformations of subsurface rock strata, nally- sulting in devastating earthquakes, all control the existence and destiny of a certain part of the global population. The development of man’s existence down through history has depended upon his understanding of the world in which he lives, and upon his ability to turn to his own best use the materials that were there for the taking. However, he has had not only to furnish himself with food, water, building materials, and energy to protect himself against occasional natural adversities. Protecting himself from them meant comprehending their causes, and the essential core of his understanding was in recording and depicting them. This book is written for anyone interested in the Earth in general, and in natural disasters in particular, presenting a unique collection of historical illustrations of volcanic eruptions and earthquake events and their repercussions. The book represents a golden mean between sci- ti c and popular works.

Theory of Continental Drift. a Symposium on the Origin and Movement of Land Masses Both Inter-Continental and Intra-Continental, As Proposed by Alfred Wegener, [& Others].

Text To Accompany The Physiographic Diagram Of The North Atlantic. The Geological Society Of America Special Paper, No. 65.

Ancient Supercontinents and the Paleogeography of Earth

Well over a century after Darwin gave biology its unifying theory of evolution, the earth sciences experienced a similar revolution and the theory of plate tectonics took hold. Plate tectonics posed the idea that the earth's crust is divided into a number of large, thin plates always in motion relative to one another. In The Behavior of the Earth, world-renowned earth scientist Claude Allègre sets forth the exciting events in this contemporary revolution from its first stirrings in the nineteenth-century and Alfred Wegener's original model of continental drift (1912) through the development of its full potential in modern plate-tectonic theory. Few scientific theories have been so all-encompassing, and none has surpassed plate tectonics in explaining such a wide variety of geological phenomena, from the origins of mountain building to the formation of the ocean floor. As it integrated our knowledge of the earth's surface with the investigation of its interior, plate tectonics fused two previously autonomous strains of scientific inquiry. Continental mobility changed for all time our view of the earth from a static globe to an evolving, living planet, and allowed us to see that changes in the earth's surface are but exterior manifestations of a dynamic interplay of forces within the crust and the mantle.Allègre casts

his lucid exposition of this scientific theory within the historical context of its struggle for acceptance. As he introduces us to the huge cast of personalities and researchers who contributed to the theory, he illuminates the complex role that the scientific community plays in the proliferation and acceptance of new ideas. Allègre is as insightful in discussing the human motivation for scientific endeavor as he is skillful in presenting the science that results from this effort. Richly illustrated and including a glossary, this book offers the reader rare access both to the central theory of plate tectonics and to the constellation of problems and possibilities that preoccupy earth scientists today.

Global Wrench Tectonics

Milliken’s Blue Planet series covers Earth Science for grades 9 to 12 in five concise yet thorough volumes: Earth, Water, Atmosphere, Space, and Energy. Each book includes 12 full–color transparencies (print books) or PowerPoint slides (eBooks) to enhance classroom demonstrations, plus 60 reproducible pages. Earth focuses on the Earth-centered part of the Earth system. It covers important aspects of the system, including Earth's composition, rocks and minerals, layers of the planet, plate tectonics, tectonic expressions, and geochemical changes on Earth. Gravitation and magnetism are covered. Also included in this book are changes over time on planet Earth, including the geological ages.

Great Geological Controversies

'So honest and pure as to count as a true rapture' JOAN DIDION 'A poetic masterpiece' JOHNNY DEPP 'Our St John of the Cross, a mystic full of compassion' EDMUND WHITE 'A roadmap to my life', from the National Book Award-winning author of Just Kids: an unforgettable odyssey of a legendary artist, told through the prism of cafés and haunts she has worked in around the world REVISED EDITION WITH FIVE THOUSAND WORDS OF BONUS MATERIAL AND NEW PHOTOGRAPHS M Train begins in the tiny Greenwich Village café where Smith goes every morning for black coffee, ruminates on the world as it is and the world as it was, and writes in her notebook. Through prose that shifts fluidly between dreams and reality, past and present, and across a landscape of creative aspirations and inspirations, we travel to Frida Kahlo's Casa Azul in Mexico; to a meeting of an Arctic explorer's society in Berlin; to a ramshackle seaside bungalow in New York's Far Rockaway that Smith acquires just before Hurricane Sandy hits; and to the graves of Genet, Plath, Rimbaud and Mishima. Woven throughout are reflections on the writer's craft and on artistic creation. Here, too, are singular memories of Smith's life in Michigan and the irremediable loss of her husband, Fred Sonic Smith. Braiding despair with hope and consolation, illustrated with her signature Polaroids, M Train is a meditation on travel, detective shows, literature and coffee. It is a powerful, deeply moving book by one of the most remarkable artists at work today.

Volcanoes and Earthquakes

Approximately 200 years of the history of the development of the study of geology.

Continental Drift

The Face of the Earth: (Das Antlitz Der Erde)