

Obelisks In Ancient Egypt Springer

This book combines concepts from the history of religions with Byzantine studies in its assessments of kings, symbols, and cities in a diachronic and cross-cultural analysis. The work attests, firstly, that the symbolic art and architecture of ancient cities—commissioned by their monarchs expressing their relationship with their gods—show us that religiosity was inherent to such enterprises. It also demonstrates that what transpired from the first cities in history to Byzantine Christendom is the gradual replacement of the pagan ruler cult—which was inherent to city-building in antiquity—with the ruler becoming subordinate to Christ; exemplified by representations of the latter as the ‘Master of All’ (Pantokrator). Beginning in Mesopotamia, the book continues with an analysis of city-building by rulers in Egypt, Greece, and Rome, before addressing Judaism (specifically, the city of Jerusalem) and Christianity as shifting the emphasis away from pagan-gods and rulers to monotheistic perceptions of God as elevated above worldly kings. It concludes with an assessment of Christian Rome and Constantinople as typifying the evolution from the ancient and classical world to Christendom.

Remarkably readable, thoroughly documented, and well illustrated, this fascinating book by an eminent science historian covers problems of mathematics, astronomy, physics, and biology.

An introductory engineering textbook by an award-winning MIT professor that covers the history of dynamics and the dynamical analyses of mechanical, electrical, and electromechanical systems. This introductory textbook offers a distinctive blend of the modern and the historical, seeking to encourage an appreciation for the history of dynamics while also presenting a framework for future learning. The text presents engineering mechanics as a unified field, emphasizing dynamics but integrating topics from other disciplines, including design and the humanities. The book begins with a history of mechanics, suitable for an undergraduate overview. Subsequent chapters cover such topics as three-dimensional kinematics; the direct approach, also known as vectorial mechanics or the momentum approach; the indirect approach, also called lagrangian dynamics or variational dynamics; an expansion of the momentum and lagrangian formulations to extended bodies; lumped-parameter electrical and electromagnetic devices; and equations of motion for one-dimensional continuum models. The book is noteworthy in covering both lagrangian dynamics and vibration analysis. The principles covered are relatively few and easy to articulate; the examples are rich and broad. Summary tables, often in the form of flowcharts, appear throughout. End-of-chapter problems begin at an elementary level and become increasingly difficult. Appendixes provide theoretical and mathematical support for the main text.

Broad, nontechnical survey of history's major technological advances: birth of Greek science, Industrial Revolution, electricity and applied science, 20th-century automation, much more. 181 illustrations.

"Excellent." ? Isis.

Decoding Astronomy in Art and Architecture

Imperialist Representations of Egyptian Women

Archaeoastronomy

A Cultural Theory of International Relations

8th International Workshop of the Initiative for the Evaluation of XML Retrieval, INEX 2009, Brisbane, Australia, December 7-9, 2009, Revised and Selected Papers

Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs, and Paintings: The Theban necropolis (2nd ed., rev. and augm. 1970-1973, c1960-1964) (2 v.)

This Springer Handbook of Metrology and Testing presents the principles of Metrology – the science of measurement – and the methods and techniques of Testing – determining the characteristics of a given product – as they apply to chemical and microstructural analysis, and to the measurement and testing of materials properties and performance, including modelling and simulation. The principal motivation for this Handbook stems from the increasing demands of technology for measurement results that can be used globally. Measurements within a local laboratory or manufacturing facility must be able to be reproduced accurately anywhere in the world. The book integrates knowledge from basic sciences and engineering disciplines, compiled by experts from internationally known metrology and testing institutions, and academe, as well as from industry, and conformity-assessment and accreditation bodies. The Commission of the European Union has expressed this as there is no science without measurements, no quality without testing, and no global markets without standards.

Reveals the methods Egyptians used to build their stone constructions. We marvel at the structures they built, not knowing exactly how it was done. The authors state that their explanation of the Great Pyramids construction is not the final answer and that many mysteries still remain, yet do a fascinating job in detailing how the huge stones were dressed and laid out. Many mysteries are cleared up in this book, which includes over 250 sketches and pictures that back up the authors claims. They reveal how hard work, ingenuity, and an advanced knowledge of mathematics and physics account for some of the amazing architectural feats performed in early Egypt. Yet when a mystery remains, the

authors openly admit it. Any serious researcher on ancient Egypt should not be without this book.

This collection of fifteen original essays and one original poem explores the theme of "place" in the life, works, and afterlife of Edgar A. Poe (1809-1849). Poe and Place argues that "place" is an important critical category through which to understand this classic American author in new and interesting ways. The geographical "places" examined include the cities in which Poe lived and worked, specific locales included in his fictional works, imaginary places featured in his writings, physical and imaginary places and spaces from which he departed and those to which he sought to return, places he claimed to have gone, and places that have embraced him as their own. The geo-critical and geo-spatial perspectives in the collection offer fresh readings of Poe and provide readers new vantage points from which to approach Poe's life, literary works, aesthetic concerns, and cultural afterlife.

A modern, comprehensive compilation of more than 7,000 entries covering themes, concepts, and discoveries in archaeology written in nontechnical language and tailored to meet the needs of professionals, students and general readers. The main subject areas include artifacts; branches of archaeology, chronology; culture; features; flora and fauna; geography; geology; language; people; related fields; sites; structures; techniques and methods; terms and theories; and tools.

Stones and Quarries in Ancient Egypt

Gold and Gold Mining in Ancient Egypt and Nubia

A Daily Life Encyclopedia

The Building Craft

Structural Analysis of Historical Constructions

Father of Egyptian Greatness

Pharaoh Seti I ruled Egypt for only 11 years (1290-1279 BC), but his reign marked a revival of Egyptian military and economic power, as well as cultural and religious life. Seti was born the son of a military officer in northern Egypt, far from the halls of power in Memphis and Thebes. However, when the last king of the 18th Dynasty, Horemheb, died without an heir, Seti's father was named king. He ruled for only two years before dying of old age, leaving Seti in charge of an ailing superpower. Seti set about rebuilding Egypt after a century of dynastic struggles and religious unrest. He reasserted Egypt's might with a series of campaigns across the Levant, Libya and Nubia. He despatched expeditions to mine for copper, gold, and quarry for stone in the deserts, laying the foundations for one of the most ambitious building projects of any Egyptian Pharaoh and his actions allowed his son, Ramesses the Great to rule in relative peace and stability for 69 years, building on the legacy of his father.

The clash of faith and science in Napoleonic France The Dendera zodiac—an ancient bas-relief temple ceiling adorned with mysterious symbols of the stars and planets—was first discovered by the French during Napoleon's campaign in Egypt, and quickly provoked a controversy between scientists and theologians. Brought to Paris in 1821 and ultimately installed in the Louvre, where it can still be seen today, the zodiac appeared to depict the nighttime sky from a time predating the Biblical creation, and therefore cast doubt on religious truth. The Zodiac of Paris tells the story of this incredible archeological find and its unlikely role in the fierce disputes over science and faith in Napoleonic and Restoration France. The book unfolds against the turbulence of the French Revolution, Napoleon's breathtaking rise and fall, and the restoration of the Bourbons to the throne. Drawing on newspapers, journals, diaries, pamphlets, and other documentary evidence, Jed Buchwald and Diane Greco Josefowicz show how scientists and intellectuals seized upon the zodiac to discredit Christianity, and how this drew furious responses from conservatives and sparked debates about the merits of scientific calculation as a source of knowledge about the past. The ideological battles would rage until the thoroughly antireligious Jean-François Champollion unlocked the secrets of Egyptian hieroglyphs—and of the zodiac itself. Champollion would prove the religious reactionaries right, but for all the wrong reasons. The Zodiac of Paris brings Napoleonic and Restoration France vividly to life, revealing the lengths to which scientists, intellectuals, theologians, and conservatives went to use the ancient past for modern purposes.

This book discusses the theory of quantum effects used in metrology, and presents the author's research findings in the field of quantum electronics. It also describes the quantum measurement standards used in various branches of metrology, such as those relating to electrical quantities, mass, length, time and frequency. The first comprehensive survey of quantum metrology problems, it introduces a new approach to metrology, placing a greater emphasis on its connection with physics, which is of importance for developing new technologies, nanotechnology in particular. Presenting practical applications of the effects used in quantum metrology for the construction of quantum standards and sensitive electronic components, the book is useful for a broad range of physicists and metrologists. It also promotes a better understanding and approval of the new system in both industry and academia. This second edition includes two new chapters focusing on the revised SI system and satellite positioning systems. Practical realization (mise en pratique) the base units (metre, kilogram, second, ampere, kelvin, candela, and mole), new defined in the revised SI, is presented in details. Another new chapter describes satellite positioning systems and their possible applications. In satellite positioning systems, like GPS, GLONASS, BeiDou and Galileo, quantum devices - atomic clocks - serve wide population of users. This absorbing reference covers everyday life in ancient Egypt, spanning a period of more than 5,000 years—from the Stone Age to the advent of Christianity. • Supports the national standards for world

history curricula • Discusses the everyday lives of average people of all levels and classes • Includes entries on architecture, tomb painting, gods and goddesses, animal mummification, sculpture, and beer and wine • Offers topical sections organized thematically to promote more in-depth study of subjects

Focused Retrieval and Evaluation

An Interdisciplinary Approach

Introduction to Quantum Metrology

Reading the Sphinx

The Zodiac of Paris

A History of Science: Ancient science through the Golden Age of Greece

This book provides the first complete, easy to read, up-to-date account of the fascinating discipline of archaeoastronomy, in which the relationship between ancient constructions and the sky is studied in order to gain a better understanding of the ideas of the architects of the past and of their religious and symbolic worlds. The book is divided into three sections, the first of which explores the past relations between astronomy and people, power, the afterworld, architecture, and landscape. The fundamentals of archaeoastronomy are then addressed in detail, with coverage of the celestial coordinates; the apparent motion of the Sun, Moon, stars, and planets; observation of celestial bodies at the horizon; the use of astronomical software in archaeoastronomy; and current methods for making and analyzing measurements. The final section reviews what archaeoastronomy can now tell us about the nature and purpose of such sites and structures as Stonehenge, the Pyramids of Giza, Chichen Itza, the Campus Martius, and the Valley of the Temples of Agrigento. In addition, a set of exercises is provided that can be performed using non-commercial free software, e.g., Google Earth or Stellarium, and will equip readers to conduct their own research. Readers will find the book an ideal introduction to what has become a wide-ranging multidisciplinary science.

With 51 full-page illustrations, this book describes the effort to transport the obelisk of Thutmosis III from Alexandria to New York City's Central Park.

"The Mechanics of Mechanical Watches and Clocks" presents historical views and mathematical models of mechanical watches and clocks. Although now over six hundred years old, mechanical watches and clocks are still popular luxury items that fascinate many people around the world. However few have examined the theory of how they work as presented in this book. The illustrations and computer animations are unique and have never been published before. It will be of significant interest to researchers in mechanical engineering, watchmakers and clockmakers, as well as people who have an engineering background and are interested in mechanical watches and clocks. It will also inspire people in other fields of science and technology, such as mechanical engineering and electronics engineering, to advance their designs. Professor Ruxu Du works at the Chinese University of Hong Kong, China. Assistant Professor Longhan Xie works at the South China University of Technology, China.

A team of specialists addresses a foundational concept as central to early modern thinking as to our own: that the past is always an important part of the present.

Fundamentals of Applied Dynamics

The Soils of Egypt

From the Ancient Near East to Christian Byzantium

The World of Ancient Egypt: A Daily Life Encyclopedia [2 volumes]

Memorial Architecture, National Identity, and the Egyptian Revival

This edited volume brings together findings and case studies on fundamental and applied aspects of structural engineering, applied to buildings, bridges and infrastructures in general. It focuses on the application of advanced experimental and numerical techniques and new technologies to the built environment. This volume is part of the proceedings of the 1st GeoMEast International Congress and Exhibition on Sustainable Civil Infrastructures, Egypt 2017.

This volume contains the proceedings of the 11th International Conference on Structural Analysis of Historical Constructions (SAHC) that was held in Cusco, Peru in 2018. It disseminates recent advances in the areas related to the structural analysis of historical and archaeological constructions. The challenges faced in this field show that accuracy and robustness of results rely heavily on an interdisciplinary approach, where different areas of expertise from managers, practitioners, and scientists work together. Bearing this in mind, SAHC 2018 stimulated discussion on the new knowledge developed in the different disciplines involved in analysis, conservation, retrofit, and management of existing constructions. This book is organized according to the following topics: assessment and intervention of archaeological heritage, history of construction and building technology, advances in inspection and NDT, innovations in field and laboratory testing applied to historical construction and heritage, new technologies and techniques, risk and vulnerability assessments of heritage for multiple types of hazards, repair, strengthening, and retrofit of historical structures, numerical modeling and structural analysis, structural health monitoring, durability and sustainability, management and conservation strategies for heritage structures, and interdisciplinary projects and case studies. This volume holds particular interest for all the community interested in the challenging task of preserving existing constructions, enable great opportunities, and also uncover new challenges in the field of structural analysis of historical and archeological constructions.

This book reviews the distribution of soils across Egypt, their history, genesis, pollution and management. The conservation of Egyptian soils, soils and their connections to human activities, as well as some future soil issues are also highlighted. It is well known that soil is the main source for food, feed, fuel and fiber production. Accordingly, the study of soils is not only a crucial issue but also an urgent task for all nations worldwide. Due to their important roles in agroecosystems as well as many aspects of our lives, soils have direct and indirect functions in the agricultural, industrial and medicinal sectors. Therefore, understanding the physical, chemical and biological properties of soils, as well as soil security, have now become emerging issues. Climate change has a very dangerous dimension in Egypt concerning the rising sea level. Many coastal

zones are already threatened by this sea level rise, and may ultimately disappear. At the same time, water shortages and soil pollution represent the main challenges for the Egyptian nation. Generally speaking, the environmental challenges that Egypt now faces include improving and sustaining soil health, soil carbon sequestration, wastewater treatment, and avoiding the overuse of fertilizers and pesticides. Therefore, this book examines in detail the soils of Egypt from various perspectives including their genesis, history, classification, pollution and degradation, soil security, soil fertility and land uses.

Reading the Sphinx unearths buried conflicts in religion, myth, and the memory of Egypt in the West, illuminating issues of identity, inheritance, gender, and sexuality through cultural productions ranging from Herodotus to Freud.

Engineering in History

Visualizing the Past in Italian Renaissance Art

Egyptian Obelisks

Brightest Diamond in the Night Sky

Ancient Science Through the Golden Age of Greece

A History of World Egyptology

An original theory of politics and international relations based on ancient Greek ideas of human motivation.

This book tells two stories. The first and most obvious is why the star known as Sirius has been regarded as an important fixture of the night sky by many civilizations and cultures since the beginnings of history. A second, but related, narrative is the prominent part that Sirius has played in how we came to achieve our current scientific understanding of the nature and fate of the stars. This is the first book to integrate the cultural history of Sirius with modern astrophysics in a way which provides a realistic view of how science progresses over time.

An important study not only of the geological structure of Egypt and the mineral composition of its rocks, but also of ancient Egyptian stone quarries. Illustrated with almost 500 photographs and diagrams, microscopic sections and electronic scans, as well as colour photographs of all the types of stone discussed, the detailed descriptions of the quarries and numerous examples of quarrying and masonry techniques make this book an indispensable tool for the provenancing of museum exhibits. Originally published in German in 1993, this edition has been updated to take account of new research, and a new chapter on the building stones of the western oases has been added. Archaeologists, Egyptologists and travellers to Egypt will find a wealth of fascinating information on ancient quarry sites, working methods and transport in ancient Egypt, as well as an introduction to the geology of the Nile valley and the surrounding desert regions.

For centuries, our ancestors carefully observed the movements of the heavens and wove that astronomical knowledge into their city planning, architecture, mythology, paintings, sculpture, and poetry. This book uncovers the hidden messages and advanced science encoded within these sacred spaces, showing how the rhythmic motions of the night sky played a central role across many different cultures. Our astronomical tour transports readers through time and space, from prehistoric megaliths to Renaissance paintings, Greco-Roman temples to Inca architecture. Along the way, you will investigate unexpected findings at Lascaux, Delphi, Petra, Angkor Wat, Borobudur, and many more archaeological sites both famous and little known. Through these vivid examples, you will come to appreciate the masterful ways that astronomical knowledge was incorporated into each society's religion and mythology, then translated into their physical surroundings. The latest archaeoastronomical studies and discoveries are recounted through a poetic and nontechnical narrative, revealing how many longstanding beliefs about our ancestors are being overturned. Through this celestial journey, readers of all backgrounds will learn the basics about this exciting field and share in the wonders of cultural astronomy.

Pharaoh Seti I

Ancient Egyptian Masonry

Proceedings of the 1st GeoMEast International Congress and Exhibition, Egypt 2017 on Sustainable Civil Infrastructures

Poe and Place

The Revised SI System and Quantum Standards

Global Magic

Focusing on British women writers' knowledge of ancient Egypt, Youngkin shows the oftentimes limited but pervasive representations of ancient Egyptian women in their written and visual works. Images of Hathor, Isis, and Cleopatra influenced how British writers such as George Eliot and Edith Cooper came to represent female emancipation.

The ancient Egyptians were the first geographical planners to develop a system establishing an image of heaven on earth. This book looks into how the Pyramid Field depicts The Constellation of Horus, the deity who bore the meaning of power and invincibility and who guarded the Pharaoh.

A History of Egyptology is a ground-breaking reference work that traces the study of ancient Egypt. Spanning 150 years and global in purview, it enlarges our understanding of how and why people have looked, and continue to look, into humankind's distant past through the lens of the enduring allure of ancient Egypt. Written by an international team of scholars, the volume investigates how territories around the world have engaged with and have been inspired by Egyptology, and how that engagement has evolved over time. Each chapter presents a specific territory from an institutional and national perspective, while examining a range of transnational links as well. The volume thus touches on multiple strands of scholarship, embracing not only Egyptology, but also social history, the history of science and reception studies. It will appeal to amateurs and professionals alike.

Her articles have appeared in the Journal of the Civil War Era and Markers: The Annual Journal of the Association for Gravestone Studies.

Encyclopedic Dictionary of Archaeology

The Mechanics of Mechanical Watches and Clocks

The Stars of Galileo Galilei and the Universal Knowledge of Athanasius Kircher

Facing the Challenges in Structural Engineering

Kings, Symbols, and Cities

Contributions in Librarianship and Information Science

This book presents a systematic design methodology for decoding the interior structure of the Antikythera mechanism, an astronomical device from ancient Greece. The historical background, surviving evidence and reconstructions of the mechanism are introduced, and the historical development of astronomical achievements and various astronomical instruments are investigated. Pursuing an approach based on the conceptual design

of modern mechanisms and bearing in mind the standards of science and technology at the time, all feasible designs of the six lost/incomplete/unclear subsystems are synthesized as illustrated examples, and 48 feasible designs of the complete interior structure are presented. This approach provides not only a logical tool for applying modern mechanical engineering knowledge to the reconstruction of the Antikythera mechanism, but also an innovative research direction for identifying the original structures of the mechanism in the future. In short, the book offers valuable new insights for all readers who are interested in the Antikythera mechanism. Modern thought on economics and technology is no less magical than the world views of non-modern peoples. This book reveals how our ideas about growth and progress ignore how money and machines throughout history have been used to exploit less affluent parts of world society. The argument critically explores a middle ground between Marxist political ecology and Actor-Network Theory.

Provides description and analysis of Egyptian building practices.

Fascination with ancient Egypt is a recurring theme in Western culture, and here Brian Curran uncovers its deep roots in the Italian Renaissance, which embraced not only classical art and literature but also a variety of other cultures that modern readers don't tend to associate with early modern Italy. Patrons, artists, and spectators of the period were particularly drawn, Curran shows, to Egyptian antiquity and its artifacts, many of which found their way to Italy in Roman times and exerted an influence every bit as powerful as that of their more familiar Greek and Roman counterparts. Curran vividly recreates this first wave of European Egyptomania with insightful interpretations of the period's artistic and literary works. In doing so, he paints a colorful picture of a time in which early moderns made the first efforts to decipher Egyptian hieroglyphs, and popes and princes erected pyramids and other Egyptianate marvels to commemorate their own authority. Demonstrating that the emergence of ancient Egypt as a distinct category of historical knowledge was one of Renaissance humanism's great accomplishments, Curran's peerless study will be required reading for Renaissance scholars and anyone interested in the treasures and legacy of ancient Egypt.

Characteristically American

Geoarchaeology of the Ancient Gold Mining Sites in the Egyptian and Sudanese Eastern Deserts

Decoding the Mechanisms of Antikythera Astronomical Device

Ancient Egypt in Nineteenth-Century Literary Culture

The Egyptian Renaissance

The Ancient World on the Victorian and Edwardian Stage

Here, at last, is the massively updated and augmented second edition of this landmark encyclopedia. It contains approximately 1000 entries dealing in depth with the history of the scientific, technological and medical accomplishments of cultures outside of the United States and Europe. The entries consist of fully updated articles together with hundreds of entirely new topics. This unique reference work includes intercultural articles on broad topics such as mathematics and astronomy as well as thoughtful philosophical articles on concepts and ideas related to the study of non-Western Science, such as rationality, objectivity, and method. You'll also find material on religion and science, East and West, and magic and science.

The first study of the depictions of the Ancient World on the Victorian and Edwardian stage, this book analyzes plays set in and dramatising the histories of Greece, Rome, Egypt, Babylon and the Holy Land. In doing so, it seeks to locate theatre within the wider culture, tracing its links and interaction with other cultural forms.

In this fascinating book, the author traces the careers, ideas, discoveries, and inventions of two renowned scientists, Athanasius Kircher and Galileo Galilei, one a Jesuit, the other a sincere man of faith whose relations with the Jesuits deteriorated badly. The Author documents Kircher's often intuitive work in many areas, including translating the hieroglyphs, developing sundials, and inventing the magic lantern, and explains how Kircher was a forerunner of Darwin in suggesting that animal species evolve. Galileo's work on scales, telescopes, and sun spots is mapped and discussed, and care is taken to place his discoveries within their cultural environment. While Galileo is without doubt the "winner" in the comparison with Kircher, the latter achieved extraordinary insights by unconventional means. For all Galileo's fine work, the author believes that scientists do need to regain the power of dreaming, vindicating Kirchner's view.

The book presents the historical evolution of gold mining activities in the Egyptian and Nubian Desert (Sudan) from about 4000 BC until the Early Islamic Period (~800-1350 AD), subdivided into the main classical epochs including the Early Dynastic - Old and Middle Kingdoms - New Kingdom (including Kushitic) - Ptolemaic - Roman and Early Islamic. It is illustrated with many informative colour images, maps and drawings. An up to date comprehensive geological introduction gives a general overview on the gold production zones in the Eastern Desert of Egypt and northern (Nubian) Sudan, including the various formation processes of the gold bearing quartz veins mined in these ancient periods. The more than 250 gold production sites presented, are described both, from their archaeological (as far as surface inventory is concerned) and geological environmental conditions, resulting in an evolution scheme of prospection and mining methods within the main periods of mining activities. The book offers for the first time a complete catalogue of the many gold production sites in Egypt and Nubia under geological and archaeological aspects. It provides information about the importance of gold for the Pharaohs and the spectacular gold rush in Early Arab times.

Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures

The Planisphere and the Lost Cradle

Introduction to the Science of Stars and Stones

How an Improbable Controversy over an Ancient Egyptian Artifact Provoked a Modern Debate between

Religion and Science

Ancient Egyptian Construction and Architecture

British Women Writers and the Reception of Ancient Egypt, 1840-1910

This book constitutes the thoroughly refereed post-workshop proceedings of the 8th International Workshop of the Initiative for the Evaluation of XML Retrieval, INEX 2009, held in Brisbane, Australia, in December 2009. The aim of the INEX 2009 workshop was to bring together researchers in the field of XML IR who participated in the INEX 2009 campaign. During the past year, participating organizations contributed to the building of large-scale XML test collections by creating topics, performing retrieval runs and providing relevance assessments. The workshop concluded the results of this effort, summarized and addressed issues encountered, and devised a work plan for the future evaluation of XML retrieval systems. The 42 full papers presented together with 3 invited papers were carefully reviewed and selected from 49 submissions. They have been divided into sections according to the eight tracks of the workshop, investigating various aspects of XML retrieval, from book search to entity
The World of Ancient Egypt: A Daily Life Encyclopedia [2 volumes]A Daily Life EncyclopediaABC-CLIO
Sirius

Technologies of Appropriation from Ancient Rome to Wall Street

Springer Handbook of Metrology and Testing

The Afterlife of Ancient Egypt in Early Modern Italy

Essays in Honor of Brian A. Curran

Egypt: Image of Heaven