

1998 Ford Expedition Coolant Leak

Offers the explorer's diaries and notes from his Greenland Expedition and his North Pole and transatlantic flights, along with a chronology and the 1926 navigational report *With a New Chapter and Updated Epilogue on Coronavirus* A Financial Times Best Health Book of 2019 and a New York Times Book Review Editors' Choice

"Honigsbaum does a superb job covering a century's worth of pandemics and the fears they invariably unleash." —Howard Markel, MD, PhD, director of the Center for the History of Medicine, University of Michigan How can we understand the COVID-19 pandemic? Ever since the 1918 Spanish influenza pandemic, scientists have dreamed of preventing such catastrophic outbreaks of infectious disease. Yet despite a century of medical progress, viral and bacterial disasters continue to take us by surprise, inciting panic and dominating news cycles. In *The Pandemic Century*, a lively account of scares both infamous and less known, medical historian Mark Honigsbaum combines reportage with the history of science and medical sociology to artfully reconstruct epidemiological mysteries and the ecology of infectious diseases. We meet dedicated disease detectives, obstructive or incompetent public health officials, and brilliant scientists often blinded by their own knowledge of bacteria and viruses—and see how fear of disease often exacerbates racial, religious, and ethnic tensions. Now updated with a new chapter and epilogue.

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As an intricate association between a fungus and one or more green algae or cyanobacteria, lichens are one of the most successful examples of symbiosis. These fascinating organisms survive extreme desiccation and temperatures. They are adapted to a great variety of habitats, from deserts to intertidal zones, from tropical rain forests to the peaks of the Himalayas and to circumpolar ecosystems. Lichens are extremely efficient accumulators of atmospherically deposited pollutants, and are therefore widely used to monitor environmental pollution. Their wide range of secondary products show pharmaceutically interesting fungicidal, antibacterial and antiviral properties. Lichens are extremely difficult to culture. This manual provides well-tested tissue culture protocols, protocols for studying lichen ultrastructure, (eco)physiology, primary and secondary compounds, and for using lichens as bioindicators.

Auto Repair For Dummies, 2nd Edition (9781119543619) was previously published as Auto Repair For Dummies, 2nd Edition (9780764599026). While this version features a new Dummies cover and design, the content is the same as the prior release and should not be considered a new or updated product. The top-selling auto repair guide--400,000 copies sold--now extensively reorganized and updated Forty-eight percent of U.S. households perform at least some automobile maintenance on their own, with women now accounting for one third of this \$34 billion automotive do-it-yourself market. For new or would-be do-it-yourself mechanics, this illustrated how-to guide has long been a must and now it's even better. A complete reorganization now

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puts relevant repair and maintenance information directly after each automotive system overview, making it much easier to find hands-on fix-it instructions. Author Deanna Sclar has updated systems and repair information throughout, eliminating discussions of carburetors and adding coverage of hybrid and alternative fuel vehicles. She's also revised schedules for tune-ups and oil changes, included driving tips that can save on maintenance and repair costs, and added new advice on troubleshooting problems and determining when to call in a professional mechanic. For anyone who wants to save money on car repairs and maintenance, this book is the place to start. Deanna Sclar (Long Beach, CA), an acclaimed auto repair expert and consumer advocate, has contributed to the Los Angeles Times and has been interviewed on the Today show, NBC Nightly News, and other television programs.

A manned mission to Mars is faced with challenges and topics that may not be obvious but of great importance and challenging for such a mission. This is the first book that collects contributions from scholars in various fields, from astronomy and medicine, to theology and philosophy, addressing such topics. The discussion goes beyond medical and technological challenges of such a deep-space mission. The focus is on human nature, human emotions and biases in such a new environment. The primary audience for this book are all researchers interested in the human factor in a space mission including philosophers, social scientists, astronomers, and others. This volume will also be of high interest for a much wider audience like the non-academic world, or for

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students.

* This is the only book that provides the full story of the role of women in space exploration. * Previously unpublished photographs of various aspects of training and participation in spaceflights are included. * Personal interviews with female cosmonauts and astronauts. * Traces the history of female aviation milestones from the early part of the 20th Century to the current space programme.

Fusion research started over half a century ago. Although the task remains unfinished, the end of the road could be in sight if society makes the right decisions. Nuclear Fusion: Half a Century of Magnetic Confinement Fusion Research is a careful, scholarly account of the course of fusion energy research over the past fifty years. The authors outline the different paths followed by fusion research from initial ignorance to present understanding. They explore why a particular scheme would not work and why it was more profitable to concentrate on the mainstream tokamak development. The book features descriptive sections, in-depth explanations of certain physical and technical issues, scientific terms, and an extensive glossary that explains relevant abbreviations and acronyms.

An essential guide to designing, conducting, and analyzing event-related potential (ERP) experiments, completely updated for this edition. The event-related potential (ERP) technique, in which neural responses to specific events are extracted from the EEG, provides a powerful noninvasive tool for exploring the human brain. This volume

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describes practical methods for ERP research along with the underlying theoretical rationale. It offers researchers and students an essential guide to designing, conducting, and analyzing ERP experiments. This second edition has been completely updated, with additional material, new chapters, and more accessible explanations. Freely available supplementary material, including several online-only chapters, offer expanded or advanced treatment of selected topics. The first half of the book presents essential background information, describing the origins of ERPs, the nature of ERP components, and the design of ERP experiments. The second half of the book offers a detailed treatment of the main steps involved in conducting ERP experiments, covering such topics as recording the EEG, filtering the EEG and ERP waveforms, and quantifying amplitudes and latencies. Throughout, the emphasis is on rigorous experimental design and relatively simple analyses. New material in the second edition includes entire chapters devoted to components, artifacts, measuring amplitudes and latencies, and statistical analysis; updated coverage of recording technologies; concrete examples of experimental design; and many more figures. Online chapters cover such topics as overlap, localization, writing and reviewing ERP papers, and setting up and running an ERP lab.

The European Space Agency has a long history of human spaceflight, flying in space with both NASA and the Soviet/Russian space agencies over the years. This book tells the story of the ESA astronauts who have visited the International Space Station over

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its first decade and how they have lived on board, helped construct the space laboratory and performed valuable scientific experiments. ESA has contributed the Columbus science laboratory as well as the Copula, the Leonardo PMM and the ATV supply ship to the station's infrastructure but it is the human endeavor that captures the imagination. From brief visits to six month expeditions, from spacewalking to commanding the Earth's only outpost in space, ESA astronauts have played a vital role in the international project. Extensive use of color photographs from NASA and ESA depicting the experiments carried out, the phases of the ISS construction and the personal stories of the astronauts in space highlights the crucial European work on human spaceflight.

While millions of Ford rear-wheel-drive cars are equipped with the durable and simple C4 and C6 transmissions of the 1960s, early in the 1980s Ford replaced those old designs with the AOD transmission for a new generation of cars. Overdrive gears, once popular before WWII, were now becoming popular again, as manufacturers were under increasing pressure to raise fuel economy to meet ever more demanding EPA standards. A nice byproduct of that was more comfortable cruising speeds, where your engine didn't have to work so hard in addition to getting better fuel economy. In *Ford AOD Transmissions: Rebuilding and Modifying the AOD, AODE and 4R70W*, author George Reid walks you through the process step-by-step, from removing the transmission from the vehicle, to complete disassembly and cleaning, to careful

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reassembly, to proper re-installation and road testing. Performance modifications are also covered, as well as an ID guide for various model numbers, evolutionary design changes, shift kit installation, and torque converter selection. This book is ideal for people who already have one of these transmissions in their car, as well as enthusiasts who would like to swap one of these more modern units into an older chassis to get all the benefits of overdrive. If you plan on researching or working on any one of these overdrive models, this book is a vital addition to your workbench or library.

Since 1991, the popular and highly modifiable Ford 4.6-liter has become a modern-day V-8 phenomenon, powering everything from Ford Mustangs to hand-built hot rods and the 5.4-liter has powered trucks, SUVs, the Shelby GT500, and more. The wildly popular 4.6-liter has created an industry unto itself with a huge supply of aftermarket high-performance parts, machine services, and accessories. Its design delivers exceptional potential, flexibility, and reliability. The 4.6-liter can be built to produce 300 hp up to 2,000 hp, and in turn, it has become a favorite among rebuilders, racers, and high-performance enthusiasts. *4.6-/5.4-Liter Ford Engines: How to Rebuild* expertly guides you through each step of rebuilding a 4.6-liter as well as a 5.4-liter engine, providing essential information and insightful detail. This volume delivers the complete nuts-and-bolts rebuild story, so the enthusiast can professionally rebuild an engine at home and achieve the desired performance goals. In addition, it contains a retrospective of the engine family, essential identification information, and component

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differences between engines made at Romeo and Windsor factories for identifying your engine and selecting the right parts. It also covers how to properly plan a 4.6-/5.4-liter build-up and choose the best equipment for your engine's particular application. As with all Workbench Series books, this book is packed with detailed photos and comprehensive captions, where you are guided step by step through the disassembly, machine work, assembly, start-up, break-in, and tuning procedures for all iterations of the 4.6-/5.4-liter engines, including 2-valve and 3-valve SOHC and the 4-valve DOHC versions. It also includes an easy-to-reference spec chart and suppliers guide so you find the right equipment for your particular build up.

This book provides clear, concise guidance on a range of essential treatment strategies for the provision of reliable endodontic care. Practical clinical procedures are described step by step and key concepts emphasized with the aid of a wealth of high-quality illustrations and photographs. Examples of best practice are documented by means of clinical case examples, and the provision of concise tips and recommendations ensures that the reader will quickly be able to find solutions to any one of the myriad of endodontic challenges with which he or she may be confronted. In addition, the most relevant key literature is reviewed in order to support and reinforce the discussed clinical concepts. The described endodontic treatment strategies are all grounded in a sound scientific evidence base. The book should enable practitioners to manage any endodontic case from first principles and will be of value for both dental practitioners

and endodontic trainees/specialists.

Buying a car is never easy. Besides spending a sizeable amount of money on this investment, your liveliness probably relies on this vehicle. You need to know that your car will get you from point A to point B in a timely and safe manner—so buying a lemon is not something you can afford to do. *Buying A Car For Dummies* is for you if you need to find out how to buy, sell, insure, drive, protect, or rent a vehicle. It doesn't matter how old you are (as long as you can legally drive and have a license), this book can make your experience with cars a smooth ride. *Buying A Car For Dummies* can help you save a truckload of money over the life of your vehicle as you find out all you need to know about new and used car ownership in this entertaining and informative reference guide. This dependable book covers all avenues of buying and owning a car, from negotiating a fair price to finding reliable insurance to saving money on routine servicing. You'll stay in the driver's seat as you discover how to: Calculate how much your current car really costs you Weigh the pros and cons of buying new or used Get the best trade-in, resale, or donation value for your vehicle Pick out a cherry and avoid lemons—expert advice for buying a reliable used car Determine what features and options you really need in a new car Get the straight scoop on financing or leasing your car Find an insurance policy and company you can trust Protect your automotive assets—from steering wheel locks to full-blown security systems With *Buying A Car For Dummies* as your guide, you can park your fears, frustrations, and anxieties as you

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discover how to decide between buying or leasing new wheels, how to negotiate with car dealers, how to foil car thieves and carjackers, how to protect yourself in a breakdown or accident, and how to protect your automotive assets with insurance, warranties, and service contracts. Plus, the book features a list of ten great automotive Web sites for pricing information, ratings, industry news, diagnostic troubleshooting, and more.

Josephson's intriguing study of how technology both helped and hindered this effort asks new and important questions about the crucial issues inextricably linked with the development and diffusion of technology in any sociopolitical system.

Written by a trio of experts, this is the definitive reference on the Apollo spacecraft and lunar modules. It traces the design of the vehicles, their development, and their operation in space. More than 100 photographs and illustrations highlight the text, which begins with NASA's origins and concludes with the triumphant Apollo 11 moon mission.

Established by Congress in 1901, the National Bureau of Standards (NBS), now the National Institute of Standards and Technology (NIST), has a long and distinguished history as the custodian and disseminator of the United States' standards of physical measurement. Having reached its centennial anniversary, the NBS/NIST reflects on and celebrates its first century with this book describing

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some of its seminal contributions to science and technology. Within these pages are 102 vignettes that describe some of the Institute's classic publications. Each vignette relates the context in which the publication appeared, its impact on science, technology, and the general public, and brief details about the lives and work of the authors. The groundbreaking works depicted include: A breakthrough paper on laser-cooling of atoms below the Doppler limit, which led to the award of the 1997 Nobel Prize for Physics to William D. Phillips The official report on the development of the radio proximity fuse, one of the most important new weapons of World War II The 1932 paper reporting the discovery of deuterium in experiments that led to Harold Urey's 1934 Nobel Prize for Chemistry A review of the development of the SEAC, the first digital computer to employ stored programs and the first to process images in digital form The first paper demonstrating that parity is not conserved in nuclear physics, a result that shattered a fundamental concept of theoretical physics and led to a Nobel Prize for T. D. Lee and C. Y. Yang "Observation of Bose-Einstein Condensation in a Dilute Atomic Vapor," a 1995 paper that has already opened vast new areas of research A landmark contribution to the field of protein crystallography by Wlodawer and coworkers on the use of joint x-ray and neutron diffraction to determine the structure of proteins

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Review of previous edition: "Trevor Kletz's book makes an invaluable contribution to the systematic, professional and scientific approach to accident investigation". The Chemical Engineer Fully revised and updated, the third edition of Learning from Accidents provides more information on accident investigation, including coverage of accidents involving liquefied gases, building collapse and other incidents that have occurred because faults were invisible (e.g. underground pipelines). By analysing accidents that have occurred Trevor Kletz shows how we can learn and thus be better able to prevent accidents happening again. Looking at a wide range of incidents, covering the process industries, nuclear industry and transportation, he analyses each accident in a practical and non-theoretical fashion and summarises each with a chain of events showing the prevention and mitigation which could have occurred at every stage. At all times Learning from Accidents, 3rd Edition emphasises cause and prevention rather than human interest or cleaning up the mess. Anyone involved in accident investigation and reporting of whatever sort and all those who work in industry, whether in design, operations or loss prevention will find this book full of invaluable guidance and advice.

As advanced in-space propulsion moves from science fiction to reality, the Variable Specific Impulse Magnetoplasma Rocket, or VASIMR® engine, is a

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leading contender for making 'Mars in a month' a possibility. A paradigm shift in space transportation, this book is an in-depth and compelling story co-written by its inventor. It traces the riveting history of the development of the VASIMR® engine. This landmark technology is grounded in concepts of advanced plasma physics. It cross-pollinates ideas and disciplines to offer a new, practical, and sustainable solution for in-space transportation beyond low Earth orbit in the decades to come. Invented by the co-holder of the world's spaceflight record, astronaut Franklin Chang Díaz, the VASIMR® engine is developed by Ad Astra Rocket Company in its Texas facilities with NASA as part of the NextSTEP VASIMR® partnership. With adequate funding, the first spaceflight of the VASIMR® engine is imminent. Plasma rockets feature exhaust velocities far above those achievable by conventional chemical rockets. The VASIMR® engine is the most advanced high-power plasma propulsion system operating in the world today and it may place long, fast interplanetary journeys within our reach in the near future.

The Bulletin of the Atomic Scientists is the premier public resource on scientific and technological developments that impact global security. Founded by Manhattan Project Scientists, the Bulletin's iconic "Doomsday Clock" stimulates solutions for a safer world.

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This book is a social—ecological system description and feedback analysis of the Lake Tana Basin, the headwater catchment of the Upper Blue Nile River. This basin is an important local, national, and international resource, and concern about its sustainable development is growing at many levels. Lake Tana Basin outflows of water, sediments, nutrients, and contaminants affect water that flows downstream in the Blue Nile across international boundaries into the Nile River; the lake and surrounding land have recently been proposed as a UNESCO Biosphere Reserve; the basin has been designated as a key national economic growth corridor in the Ethiopian Growth and Transformation Plan. In spite of the Lake Tana Basin's importance, there is no comprehensive, integrated, system-wide description of its characteristics and dynamics that can serve as a basis for its sustainable development. This book presents both the social and ecological characteristics of the region and an integrated, system-wide perspective of the feedback links that shape social and ecological change in the basin. Finally, it summarizes key research needs for sustainable development.

Gives students of automotive engineering a basic understanding of the principles involved with designing a vehicle and includes details of engines and transmissions, vehicle aerodynamics and computer modelling.

The epic story also told in the film FORD V. FERRARI: By the early 1960s, the Ford Motor

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Company, built to bring automobile transportation to the masses, was falling behind. Young Henry Ford II, who had taken the reins of his grandfather's company with little business experience to speak of, knew he had to do something to shake things up. Baby boomers were taking to the road in droves, looking for speed not safety, style not comfort. Meanwhile, Enzo Ferrari, whose cars epitomized style, lorded it over the European racing scene. He crafted beautiful sports cars, "science fiction on wheels," but was also called "the Assassin" because so many drivers perished while racing them. *Go Like Hell* tells the remarkable story of how Henry Ford II, with the help of a young visionary named Lee Iacocca and a former racing champion turned engineer, Carroll Shelby, concocted a scheme to reinvent the Ford company. They would enter the high-stakes world of European car racing, where an adventurous few threw safety and sanity to the wind. They would design, build, and race a car that could beat Ferrari at his own game at the most prestigious and brutal race in the world, something no American car had ever done. *Go Like Hell* transports readers to a risk-filled, glorious time in this brilliant portrait of a rivalry between two industrialists, the cars they built, and the "pilots" who would drive them to victory, or doom.

In this edition, NASA provides an overview of the ISS, describe its research facilities and accommodations, and provide key information to conduct your experiments on this unique orbiting laboratory.

With its modern emphasis on the molecular view of physical chemistry, its wealth of contemporary applications, vivid full-color presentation, and dynamic new media tools, the thoroughly revised new edition is again the most modern, most effective full-length textbook available for the physical chemistry classroom. Available in Split Volumes For maximum

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flexibility in your physical chemistry course, this text is now offered as a traditional text or in two volumes. Volume 1: Thermodynamics and Kinetics; ISBN 1-4292-3127-0 Volume 2: Quantum Chemistry, Spectroscopy, and Statistical Thermodynamics; ISBN 1-4292-3126-2

The book on Sustainable Automotive Technologies aims to draw special attention to the research and practice focused on new technologies and approaches capable of meeting the challenges to sustainable mobility. In particular, the book features incremental and radical technical advancements that are able to meet social, economic and environmental targets in both local and global contexts. These include original solutions to the problems of pollution and congestion, vehicle and public safety, sustainable vehicle design and manufacture, new structures and materials, new power-train technologies and vehicle concepts. In addition to vehicle technologies, the book is also concerned with the broader systemic issues such as sustainable supply chain systems, integrated logistics and telematics, and end-of-life vehicle management. It captures selected peer reviewed papers accepted for presentation at the 4th International Conference on Sustainable Automotive Technologies, ICSAT2012, held at the RMIT, Melbourne, Australia.

Nuclear forensics is the science of determining the history of a sample of radioactive material through the study of the material's characteristics. While nuclear forensic analysis has normally been associated with investigations and prosecutions in the context of trafficking of nuclear materials or nuclear terrorism, it has wider applications in various national security contexts, such as nuclear non-proliferation, disarmament, and arms control. The New Nuclear Forensics provides a survey and an analysis of the scientific discipline of nuclear forensic analysis, and the way it is applied to specific issues of international peace and security, from the 1940s to

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the present day. This book describes the various methods used in nuclear forensics, giving first a general introduction to the process followed by details of relevant measurement techniques and procedures. In each case, the advantages and limitations are outlined. It uses a language and methodology that opens the issue of nuclear forensics and its potential applications to a non-specialist readership.

In *How to Rebuild and Modify Ford C4 and C6 Automatic Transmissions*, author George Reid walks readers through the process step-by-step, from removing the transmission, to complete overhaul, to proper re-installation and road testing.

This book offers a clearly written, entertaining and comprehensive source of medical information for both writers and readers of science fiction. Science fiction in print, in movies and on television all too often presents dubious or simply incorrect depictions of human biology and medical issues. This book explores the real science behind such topics as how our bodies adapt to being in space, the real-life feasibility of common plot elements such as suspended animation and medical nanotechnology, and future prospects for improving health, prolonging our lives, and enhancing our bodies through technology. Each chapter focuses on a single important science fiction-related subject, combining concise factual information with examples drawn from science fiction in all media. Chapters conclude with a "Bottom Line" section summarizing the most important points discussed in the chapter and giving science fiction writers practical advice on how to incorporate them into their own creations, including a list of references for further reading. The book will appeal to all readers interested in learning about the latest ideas on a variety of science fiction-related medical topics, and offers an invaluable reference source for writers seeking to increase the realism and readability of their works.

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Henry G. Stratmann, MD, FACC, FACP is a cardiologist with board certifications in internal medicine, cardiology, and nuclear cardiology. Before entering private practice he became Professor of Medicine at St. Louis University School of Medicine and performed clinical medical research. Henry received a BA in chemistry from St. Louis University and his MD at Southern Illinois University School of Medicine. He is currently enrolled at Missouri State University to obtain a BS in physics with a minor in astronomy. His professional publications include being an author or coauthor of many research articles for medical journals, primarily in the field of nuclear cardiology. Henry is also a regular contributor of both stories and science fact articles to Analog Science Fiction and Fact.

By revealing the facts behind the fiction of some of the finest films in the sci-fi genre, "Fantastic Voyages" offers a novel approach to teaching science: using scenes from science fiction films to illustrate fundamental concepts of physics, astronomy, and biology.

If we lived in a liquid world, the concept of a "machine" would make no sense. Liquid life is metaphor and apparatus that discusses the consequences of thinking, working, and living through liquids. It is an irreducible, paradoxical, parallel, planetary-scale material condition, unevenly distributed spatially, but temporally continuous. It is what remains when logical explanations can no longer account for the experiences that we recognize as part of "being alive." Liquid life references a third-millennial understanding of matter that seeks to restore the agency of the liquid soul for an ecological era, which has been banished by reductionist, "brute" materialist discourses and mechanical models of life. Offering an alternative worldview of the living realm through a "new materialist" and "liquid" study of matter, it conjures forth examples of creatures that do not obey mechanistic concepts like predictability, efficiency, and

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rationality. With the advent of molecular science, an increasingly persuasive ontology of liquid technologies can be identified. Through the lens of lifelike dynamic droplets, the agency for these systems exists at the interfaces between different fields of matter/energy that respond to highly local effects, with no need for a central organizing system. Liquid Life seeks an alternative partnership between humanity and the natural world. It provokes a re-invention of the languages of the living realm to open up alternative spaces for exploration: Rolf Hughes' "angelology" of language explores the transformative invocations of prose poetry, and Simone Ferracina's graphical notations help shape our concepts of metabolism, upcycling, and designing with fluids. A conceptual and practical toolset for thinking and designing, Liquid Life reunites us with the irreducible "soul substance" of living things, which will neither be simply "solved," nor go away. Rachel Armstrong is Professor of Experimental Architecture at Newcastle University (UK), and has also been a Rising Waters II Fellow for the Robert Rauschenberg Foundation (April-May 2016), TWOTY futurist in 2015, Fellow of the British Interplanetary Society, and a Senior TED Fellow in 2010. She is also the coordinator of the Living Architecture project, an EU-funded project that establishes the principles for our buildings to share some of the properties of living things, e.g. metabolism, operating at the intersection of architecture, building construction, bio-energy and synthetic biology. She is also the author of *Vibrant Architecture* (De Gruyter, 2015), *Star Ark: A Living, Self-Sustaining Spaceship* (Springer, 2017), and *Soft Living Architecture: An Alternative View of Bio-informed Design Practice* (Bloomsbury, 2018).

Used Car Buying GuideSt. Martin's Press

This book explores the practicality of using the existing subsurface geology on the Moon and

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Mars for protection against radiation, thermal extremes, micrometeorites and dust storms rather than building surface habitats at great expense at least for those first few missions. It encourages NASA to plan a precursor mission using this concept and employ a “Short Stay” Opposition Class mission to Mars as the first mission rather than the “Long Stay” concept requiring a mission that is too long, too dangerous and too costly for man’s first missions to Mars. Included in these pages is a short history on the uses of caves by early humans over great periods of time. It then describes the ongoing efforts to research caves, pits, tunnels, lava tubes, skylights and the associated technologies that pertain to potential lunar and Mars exploration and habitation. It describes evidence for existing caves and lava tubes on both the Moon and Mars. The work of noted scientists, technologists and roboticists are referenced and described. This ongoing work is more extensive than one would think and is directly applicable to longer term habitation and exploration of the Moon and Mars. Emphasis is also given to the operational aspects of working and living in lunar and Martian caves and lava tubes. This specialty buying guide presents easy-to-use historical profiles of some 200 models--cars, trucks, minivans, sport utility vehicles--giving readers a comprehensive view of each model as a used car.

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