The Evolution Of Useful Things How Everyday Artifacts From Forks And Pins To Paper Clips Zippers Came Be As They Are Henry Petroski

A look at the origin of everyday household items examines the Phillips-head screwdriver, paper clips, Post-its, fast-food "clamshell" containers, and other items. Reprint. 30,000 first printing. With an eye to the entire range of human evolutionary history, a study of human development examines cross-cultural and universal characteristics of growth from infancy to adolescence. Henry Petroski traces the origins of the pencil back to ancient Greece and Rome, writes factually and charmingly about its development over the centuries and around the world, and shows what the pencil can teach us about engineering and technology today.

Evil is coming. A dark malevolence the likes of which this world has never seen, and it comes straight from the depths of Hell. Darkness meant to destroy. A prophecy I am fated to fulfill but will most likely not survive. Through it all, Carrick Byrne has stood strong by my side. Something has deeply changed between me and the man I once despised, and all it took was a kiss of provocation for both of us to feel it. I know deep in my soul we're being guided by destiny, but I don't know if I can trust it. Carrick is holding something back, and I fear the consequences could be deadly once his truth is revealed. We're not ready, but calamity waits for no woman. I have discovered a power within myself I must learn to master. A new connection in the Underworld has been revealed to me, one that I hope is friend but is just as likely foe. We are in a race against time as we try to figure out how to stop the end of the world from occurring. The battle is coming, and I can only hope we're prepared for what happens next. The Evolution of Fae and Gods is book three of the Chronicles of the Stone Veil series and is best enjoyed if read in series order.

"Physical infrastructure in the United States is crumbling. The American Society of Civil Engineers has, in its latest report, given American roads and bridges a grade of D and C+, respectively, and has described roughly sixty-five thousand bridges in the United States as 'structurally deficient.' This crisis--and one need look no further than the I-35W bridge collapse in Minnesota to see that it is indeed a crisis--shows little sign of abating short of a massive change in attitude amongst politicians and the American public. In The Road Taken, acclaimed historian Henry Petroski explores our core infrastructure from historical and contemporary perspectives and explains how essential their maintenance is to America's economic health. Recounting the long history behind America's highway system, Petroski reveals the genesis of our interstate numbering system (even roads go east-west, odd go north-south), the inspiration behind the center line that has divided roads for decades, and the creation of such taken-for-granted objects as guardrails, stop signs, and traffic lights--all crucial parts of our national and local infrastructure. His history of the rebuilding of the San Francisco-Oakland Bay Bridge reveals the complex and challenging interplay between government and industry inherent in the conception, funding, design, and building of major infrastructure projects, while his forensic analysis of the street he lives on--its potholes, gutters, and curbs--will engage homeowners everywhere. A compelling our aging infrastructure will in large part determine our future national prosperity"-- Change the way you look at office supplies forever with this wonderfully enlightening and quirky exploration of the fascinating backstories of everyday objects, such as the humble and perfectly designed paper clip and the utilitarian, irreplaceable pencil. How many of humanity's brightest ideas started out on a scrap of paper or in the margins of a notebook? In a delightfully witty and fresh voice, James Ward—cofounder of the Bor

Provides a definitive account of the building of the Channel Tunnel that links England and France under the English Channel, detailing the engineering accomplishments, financial intrigues, and construction that created a triumph of human technological ingenuity. 15,000 first printing.

How did the table fork acquire a fourth tine? What advantage does the Phillips-head screw have over its single-grooved predecessor? Why does the paper clip look the way it does? What makes Scotch tape Scotch? In this delightful book Henry, Petroski takes a microscopic look at artifacts that most of us count on but rarely contemplate, including such icons of the everyday as pins, Post-its, and fast-food "clamshell" containers. At the same time, he offers a convincing new theory of technological innovation as a response to the perceived failures of existing products—suggesting that irritation, and not necessity, is the mother of invention.

A famed political scientist's classic argument for a more cooperative world We assume that, in a world ruled by natural selection, selfishness pays. So why cooperate? In The Evolution of Cooperation, political scientist Robert Axelrod seeks to answer this question. In 1980, he organized the famed Computer Prisoners Dilemma Tournament, which sought to find the optimal strategy for survival in a particular game. Over and over, the simplest strategy, a cooperative program called Tit for Tat, shut out the competition. In other words, cooperation, not unfettered competition, turns out to be our best chance for survival. A vital book for leaders and decision makers, The Evolution of Cooperation reveals how cooperative principles help us think better about everything from military strategy, to political elections, to family dynamics.

Useful Objects examines the cultural history of nineteenth-century American museums through the eyes of writers, visitors, and collectors. Throughout this period, museums gradually transformed from encyclopedic cabinets to more specialized public institutions. These changes prompted wider debates about how museums determine what objects to select, preserve, and display-and who gets to decide. Drawing on a wide range of archival materials and accounts infiction, guidebooks, and periodicals, Useful Objects shows how the challenges facing nineteenth-century museums continue to resonate in debates about their role in American culture today.

Highlighted by two hundred full-color photographs, a celebration of American crafts and decorative arts and the artists who create them showcases masterpieces of furniture, wood, ceramics, glass, fiber, jewelry, metal, and basketry from the past two centuries, along with a look at how craft has shaped American history, arts, vitality, and identity. 25,000 first printing.

A FINALIST FOR THE PULITZER PRIZE NAMED A BEST BOOK OF THE YEAR BY THE NEW YORK TIMES BOOK REVIEW, SMITHSONIAN, AND WALL STREET

JOURNAL A major reimagining of how evolutionary forces work, revealing how mating preferences—what Darwin termed "the taste for the beautiful"—create the extraordinary range of ornament in the animal world. In the great halls of science, dogma holds that Darwin's theory of natural selection explains every branch on the tree of life: which species thrive, which wither away to extinction, and what features each evolves. But can adaptation by natural selection really account for everything we see in nature? Yale University ornithologist Richard Prum—reviving Darwin's own views—thinks not. Deep in tropical jungles around the world are birds with a dizzying array of appearances and mating displays: Club-winged Manakins who sing with their wings, Great Argus Pheasants who dazzle prospective mates with a four-foot-wide cone of feathers covered in golden 3D spheres, Red-capped Manakins who moonwalk. In thirty years of fieldwork, Prum has seen numerous display traits that seem disconnected from, if not outright contrary to, selection for individual survival. To explain this, he dusts off Darwin's long-neglected theory of sexual selection in which the act of choosing a mate for purely aesthetic reasons—for the mere pleasure of it—is an independent engine of evolutionary change. Mate choice can drive ornamental traits from the constraints of adaptive evolution, allowing them to grow ever more elaborate. It also sets the stakes for sexual conflict, in which the sexual autonomy of the female evolves in response to male sexual control. Most crucially, this framework provides important insights into the evolution of human sexuality, particularly the ways in which female preferences have changed male bodies, and even maleness itself, through evolutionary time. The Evolution of Beauty presents a unique scientific vision for how nature's splendor contributes to a more complete understanding of evolution and of ourselves.

From bestselling writer David Graeber—"a master of opening up thought and stimulating debate" (Slate)—a powerful argument against the rise of meaningless, unfulfilling jobs...and their consequences. Does your job make a meaningful contribution to the world? In the spring of 2013, David Graeber asked this question in a playful, provocative essay titled "On the Phenomenon of Bullshit Jobs." It went viral. After one million online views in seventeen different languages, people all over the world are still debating the answer. There are hordes of people—HR consultants, communication coordinators, telemarketing researchers, corporate lawyers—whose jobs are useless, and, tragically, they know it. These people are caught in bullshit jobs. Graeber explores one of society's most vexing and deeply felt concerns, indicting among other villains a particular strain of finance capitalism that betrays ideals shared by thinkers ranging from Keynes to Lincoln. "Clever and charismatic" (The New Yorker), Bullshit Jobs gives individuals, corporations, and societies permission to undergo a shift in values, placing creative and caring work at the center of our culture. This book is for everyone who wants to turn their vocation back into an avocation and "a thought-provoking examination of our working lives" (Financial Times).

The New York Times bestselling author of The Rational Optimist and Genome returns with a fascinating argument for evolution that definitively dispels a dangerous, widespread myth: that we can command and control our world. Human society evolves. Change in technology, language, morality, and society is incremental, inexorable, gradual, and spontaneous. It follows a narrative, going from one stage to the next; it creeps rather than jumps; it has its own spontaneous momentum rather than being driven from outside; it has no goal or end in mind; and it largely happens by trial and error—a version of natural selection. Much of the human world is the result of human action but not of human design: it emerges from the interactions of millions, not from the plans of a few. Drawing on fascinating evidence from science, economics, history, politics, and philosophy, Matt Ridley demolishes conventional assumptions that the great events and trends of our day are dictated by those on high, whether in government, business, academia, or organized religion. On the contrary, our most important achievements develop from the bottom up. Just as skeins of geese form Vs in the sky without meaning to and ter-mites build mud cathedrals without architects, so brains take shape without brain-makers, learning happens without teaching, and morality changes for no reason other than the prevailing fashion. Although we neglect, defy, and ignore them, bottom-up trends shape the world. The Industrial Revolution, cell phones, the rise of Asia, and the Internet were never planned; they happened. Languages emerged and evolved by a form of natural selection, as did common law. Torture, racism, slavery, and pedophilia—all once widely regarded as acceptable—are now seen as immoral despite the decline of religion in recent decades. In this wide-ranging and erudite book, Ridley brilliantly makes the case for evolution, rather than design, as the force that has shaped much of our culture, our technology, our minds, and that even now is shaping our future

Anyone wondering what sort of experience prepares one for a future as an engineer may be surprised to learn that it includes delivering newspapers. But as Henry Petroski recounts his youth in 1950s Queens, New York–a borough of handball games and inexplicably numbered streets–he winningly shows how his after-school job amounted to a prep course in practical engineering. Petroksi's paper was The Long Island Press, whose headlines ran to COP SAVES OLD WOMAN FROM THUG and DiMAG SAYS BUMS CAN'T WIN SERIES. Folding it into a tube suitable for throwing was an exercise in post-Euclidean geometry. Maintaining a Schwinn revealed volumes about mechanics. Reading Paperboy, we also learn about the hazing rituals of its namesakes, the aesthetics of kitchen appliances, and the delicate art of penny-pitching. With gratifying reflections on these and other lessons of a bygone era–lessons about diligence, labor, and community-mindedness–Paperboy is a piece of Americana to cherish and reread. "Though ours is an age of high technology, the essence of what engineering is and what engineers do is not common knowledge. Even the most elementary of principles upon which great bridges, jumbo jets, or super computers are built are alien concepts to many. This is so in part because engineering as a human endeavor is not yet integrated into our culture and intellectual tradition. And while educators are currently wrestling with the problem of introducing technology into conventional academic curricula, thus better preparing today's students for life in a world increasingly technological, there is as yet no consensus as to how technological literacy can best be achieved. " I believe, and I

argue in this essay, that the ideas of engineering are in fact in our bones and part of our human nature and experience. Furthermore, I believe that an understanding and an appreciation of engineers and engineering can be gotten without an engineering or technical education. Thus I hope that the technologically uninitiated will come to read what I have written as an introduction to technology. Indeed, this book is my answer to the questions 'What is engineering?' and 'What do engineers do?'" - Henry Petroski, To Engineer is Human

Sex is as fascinating to scientists as it is to the rest of us. A vast pool of knowledge, therefore, has been gleaned from research into the nature of sex, from the contentious problem of why the wasteful reproductive process exists at all, to how individuals choose their mates and what traits they find attractive. This fascinating book explores those findings, and their implications for the sexual behaviour of our own species. It uses the Red Queen from 'Alice in Wonderland' – who has to run at full speed to stay where she is – as a metaphor for a whole range of sexual behaviours. The book was shortlisted for the 1994 Rhone-Poulenc Prize for Science Books. 'Animals and plants evolved sex to fend off parasitic infection. Now look where it has got us. Men want BMWs, power and money in order to pair-bond with women who are blonde, youthful and narrow-waisted ... a brilliant examination of the scientific debates on the hows and whys of sex and evolution' Independent.

Master techniques for using pattern in wide range of design applications including architectural, textiles, print, more. Wealth of technical information. Over 270 design illustrations. A concise introduction to the evolution of communication media, past, present, and future, this book is unique in that it treats both mass media-radio, television, and print-and interpersonal media-telephony, computer communication, and new technologies. The first part of The Evolution of Media describes the history and development of media technology. The second and third parts of the book develop a taxonomy for media and compare their technological requirements, applications, and other significant elements. The fourth part presents a simple methodology to help predict the success of new media products and services, using sample analyses to illustrate the process. The Evolution of Media is a useful supplement for foundational courses in mass communication and communication history, as well as a primer for anyone interested in understanding the big picture of communication media.

The groundbreaking, provocative book that uses evolutionary psychology to explain human mating and the mysteries of love. If we all want love, why is there so much conflict in our most cherished relationships? To answer this question we must look into our evolutionary past, argues prominent psychologist David M. Buss. Based one of the largest studies of human mating ever undertaken, encompassing more than 10,000 people of all ages from thirty-seven cultures worldwide, The Evolution of Desire is the first work to present a unified theory of human mating behavior. Drawing on a wide range of examples of mating behavior -- from lovebugs to elephant seals, from the Yanomamö tribe of Venezuela to online dating apps -- Buss reveals what women want, what men want, and why their desires radically differ. Love has a central place in human sexual psychology, but conflict, competition, and manipulation also pervade human mating -- something we must confront in order to control our own mating destiny. Updated to reflect the very latest scientific research on human mating, this definitive edition of this classic work of evolutionary psychology explains the powerful forces that shape our most intimate desires. Why has the durable paper shopping bag been largely replaced by its flimsy plastic counterpart? What circuitous chain of improvements led to such innovations as the automobile cup holder and the swiveling vegetable peeler? With the same relentless curiosity and lucid, witty prose he brought to his earlier books, Henry Petroski looks at some of our most familiar objects and reveals that they are, in fact, works in progress. For there can never be an end to the quest for the perfect design. To illustrate his thesis, Petroski tells the story of the paper drinking cup, which owes its popularity to the discovery that water glasses could carry germs. He pays tribute to the little plastic tripod that keeps pizza from sticking to the box and analyzes the numerical layouts of telephones and handheld calculators. Small Things Con

Exploring the role of engineers in transforming and shaping the modern world, the author of The Evolution of Useful Things elucidates the principles of engineering as he looks at such achievements as the English Channel tunnel, the Panama Canal, and the Hoover Dam. Reprint. 15,000 first printing.

Today many school students are shielded from one of the most important concepts in modern science: evolution. In engaging and conversational style, Teaching About Evolution and the Nature of Science provides a well-structured framework for understanding and teaching evolution. Written for teachers, parents, and community officials as well as scientists and educators, this book describes how evolution reveals both the great diversity and similarity among the Earth's organisms; it explores how scientists approach the question of evolution; and it illustrates the nature of science as a way of knowing about the natural world. In addition, the book provides answers to frequently asked questions to help readers understand many of the issues and misconceptions about evolution. The book includes sample activities for teaching about evolution and the nature of science. For example, the book includes activities that investigate fossil footprints and population growth that teachers of science can use to introduce principles of evolution. Background information, materials, and step-by-step presentations are provided for each activity. In addition, this volume: Presents the evidence for evolution, including how evolution can be observed today. Explains the nature of science through a variety of examples. Describes how science differs from other human endeavors and why evolution is one of the best avenues for helping students understand this distinction. Answers frequently asked questions about evolution. Teaching About Evolution and the Nature of Science builds on the 1996 National Science Education Standards released by the National Research Council--and offers detailed guidance on how to evaluate and choose instructional materials that support the standards. Comprehensive and practical, this book brings one of today's educational challenges into focus in a balanced and reasoned discussion. It will be of special interest to teachers of science, school administrators, and interested members of the community.

Henry Petroski's previous bestsellers have delighted readers with intriguing stories about the engineering marvels around us, from the lowly pencil to the soaring suspension bridge. In this book, Petroski delves deeper into the mystery of invention, to explore what everyday artifacts and sophisticated networks can reveal about the way engineers solve problems. Engineering entails more than knowing the way things work. What do economics and ecology, aesthetics and ethics, have to do with the shape of a paper clip, the tab of a beverage can, the cabin design of a turbojet, or the course of a river? How do the idiosyncrasies of individual engineers, companies, and communities leave their mark on projects from Velcro® to fax machines to waterworks?Invention by Design offers an insider's look at these political and cultural dimensions of design and development, production and construction. Readers unfamiliar with engineering will find Petroski's enthusiasm contagious, whether the topic is the genesis of the Ziploc baggie or the averted collapse of Manhattan's sleekest skyscraper. And those who inhabit the world of engineering will discover insights to challenge their customary perspective, whether their work involves failure analysis, systems design, or public relations. Written with the flair that readers have come to expect from his books, Invention by Design reaffirms Petroski as the master explicator of the principles and processes that turn thoughts into the many things that define our made world.

An anniversary edition of an influential book that introduced a groundbreaking approach to the study of science, technology, and society. This pioneering book, first published in 1987, launched the new field of social studies of technology. It introduced a method of inquiry—social construction of technology, or SCOT—that became a key part of the wider discipline of science and technology studies. The book helped the MIT Press shape its STS list and inspired the Inside Technology series. The thirteen essays in the book tell stories about such varied technologies as thirteenth-century galleys, eighteenth-century cooking stoves, and twentieth-century missile systems. Taken together, they affirm the fruitfulness of an approach to the study of technology that gives equal weight to technical, social, economic, and political questions, and they demonstrate the illuminating effects of the integration of empirics and theory. The approaches in this volume—collectively called SCOT (after the volume's title) have since broadened their scope, and twenty-five years after the publication of this book, it is difficult to think of a technology that nas not been studied from a SCOT perspective and impossible to think of a technology that cannot be studied that way.

Case histories of engineering success and failure are presented to enrich understanding of the design process.

An exploration of the extreme weapons we see in the animal world—teeth, horns and claws—draws parallels to the way humans develop and employ our own weapons. This book charts the evolution of metaphysics since Descartes and provides a compelling case for why metaphysics matters.

Argues that failures in structural engineering are not necessarily due to the physical design of the structures, but instead a misunderstanding of how cultural and socioeconomic constraints would affect the structures.

This book tells the history of the many analogies that have been made between the evolution of organisms and the human production of artefacts, especially buildings. It examines the effects of these analogies on architectural and design theory and considers how recent biological thinking has relevance for design. Architects and designers have looked to biology for inspiration since the early 19th century. They have sought not just to imitate the forms of plants and animals, but to find methods in design analogous to the processes of growth and evolution in nature. This new revised edition of this classic work adds an extended Afterword covering recent developments such as the introduction of computer methods in design in the 1980s and '90s, which have made possible a new kind of 'biomorphic' architecture through 'genetic algorithms' and other programming techniques.

From the first answering machine ("the electronic brain") and the Hoover vacuum cleaner to the SS Independence and the Bell telephone, the creations of Henry S. Dreyfuss have shaped the cultural landscape of the 20th century. Written in a robust, fresh style, this book offers an inviting mix of professional advice, case studies, and design history along with historical black-and-white photos and the author's whimsical drawings. In addition, the author's uncompromising commitment to public service, ethics, and design responsibility makes this masterful guide a timely read for today's designers.

An enchanting biography of the most resonant—and most necessary—chemical element on Earth. Carbon is everywhere: in the paper of this book and the blood of our bodies. It's with us from beginning to end, present in our baby clothes and coffin alike. We live on a carbon planet, and we are carbon life. No other element is so central to our well-being; yet, when missing or misaligned, carbon atoms can also bring about disease and even death. At once ubiquitous and mysterious, carbon holds the answers to some of humanity's biggest questions. Where did Earth come from? What will ultimately become of it—and of us? With poetic storytelling, earth scientist Robert M. Hazen explores the universe to discover the past, present, and future of life's most essential element. We're not only "made of star stuff," as Carl Sagan famously observed, but "Big Bang stuff," too. Hazen reveals that carbon's grand symphony began with a frenzied prelude shortly after the dawn of creation, bringing new attention to the tiny number of Big Bang–created carbon atoms that often get overlooked. In minutes, violently colliding protons and neutrons improbably formed the first carbon atoms, which can still be found within our bodies. His book then unfolds in four movements, building momentum as he explores carbon as the element of Earth, Air, Fire, and Water. He visits the famed volcanic crater Solfatara di Pozzuoli near Naples, where venting carbon dioxide and other noxious fumes condense into beautiful crystals. He climbs the cliffs of the Scottish Highlands and delves deep into the precious-metal mines of Namibia, journeying toward Earth's mysterious core in search of undocumented carbon structures. Hazen often asks us to pause and consider

carbon's role in climate change and what we can do about it, for our lives and this element are inextricably intertwined. With prose that sparkles like a diamond, Symphony in C tells the story of carbon, in which we all have a part.

"Elevator Systems of the Eiffel Tower, 1889" by Robert M. Vogel. Published by Good Press. Good Press publishes a wide range of titles that encompasses every genre. From well-known classics & literary fiction and non-fiction to forgotten?or yet undiscovered gems?of world literature, we issue the books that need to be read. Each Good Press edition has been meticulously edited and formatted to boost readability for all e-readers and devices. Our goal is to produce eBooks that are user-friendly and accessible to everyone in a high-quality digital format. From the author of the highly praised The Pencil and The Evolution of Useful Things comes another captivating history of the seemingly mundane: the book and its storage. Most of us take for granted that our books are vertical on our shelves with the spines facing out, but Henry Petroski, inveterately curious engineer, didn't. As a result, readers are guided along the astonishing evolution from papyrus scrolls boxed at Alexandria to upright books shelved at the Library of Congress. Unimpeachably researched, enviably written, and charmed with anecdotes from Seneca to Samuel Pepys to a nineteenth-century bibliophile who had to climb over his books to get into bed. The Book on the Bookshelf is indispensable for anyone who loves books. Examines many of the failed designs and inventions that led to greater improvements siting as examples the 1940 collapse of the Tacoma Narrows Bridge and the space shuttle disasters. Moral thinking pervades our practical lives, but where did this way of thinking come from, and what purpose does it serve? Is it to be explained by environmental pressures on our ancestors a million years ago, or is it a cultural invention of more recent origin? In The Evolution of Morality, Richard Joyce takes up these controversial questions, finding that the evidence supports an innate basis to human morality. As a moral philosopher, Joyce is interested in whether any implications follow from this hypothesis. Might the fact that the human brain has been biologically prepared by natural selection to engage in moral judgment serve in some sense to vindicate this way of thinking-staving off the threat of moral skepticism, or even undergirding some version of moral realism? Or if morality has an adaptive explanation in genetic terms—if it is, as Joyce writes, "just something that helped our ancestors make more babies"—might such an explanation actually undermine morality's central role in our lives? He carefully examines both the evolutionary "vindication of morality" and the evolutionary "debunking of morality," considering the skeptical view more seriously than have others who have treated the subject. Interdisciplinary and combining the latest results from the empirical sciences with philosophical discussion, The Evolution of Morality is one of the few books in this area written from the perspective of moral philosophy. Concise and without technical jargon, the arguments are rigorous but accessible to readers from different academic backgrounds. Joyce discusses complex issues in plain language while advocating subtle and sometimes radical views. The Evolution of Morality lays the philosophical foundations for further research into the biological understanding of human morality.

The Evolution of Useful ThingsVintage

Language, more than anything else, is what makes us human. It appears that no communication system of equivalent power exists elsewhere in the animal kingdom. Any normal human child will learn a language based on rather sparse data in the surrounding world, while even the brightest chimpanzee, exposed to the same environment, will not. Why not? How, and why, did language evolve in our species and not in others? Since Darwin's theory of evolution, questions about the origin of language have generated a rapidly-growing scientific literature, stretched across a number of disciplines, much of it directed at specialist audiences. The diversity of perspectives - from linguistics, anthropology, speech science, genetics, neuroscience and evolutionary biology - can be bewildering. Tecumseh Fitch cuts through this vast literature, bringing together its most important insights to explore one of the biggest unsolved puzzles of human history.

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