

Adaptive Space How Gm And Other Companies Are Positively Disrupting Themselves And Transforming Into Agile Organizations

Wishing for Wisdom from Your Future Self? You Got it What if you could walk into a room with your younger self? Imagine the mentoring moments the two of you would share. Now, you can! It's the human condition to wish we knew then what we know now. We all have things we would tell the younger version of ourselves if we could. Of course, that is impossible, but what if you were able to glean wisdom from moments at the mentoring table with your younger self? That's exactly what Michelle Hoverson did in this book. Through a series of heartfelt letters to her former self, Michelle explores lessons learned from good and poor choices made in her younger years. She covers a wide array of topics dealing with faith, courage, marriage and beyond. Her insights are enhanced with wise counsel from the Bible. Mentoring Moments is a tool. It's a resource for anyone seeking to enrich themselves as well as those who are leading others. Each letter is followed by a "Read and Reflect" page that invites readers to look back on their own life making this book a one-of-a-kind experience for mentor and mentee alike. Mentoring Moments with Myself is the intimate conversation we wish we all could have with ourselves. If you're in the throes of becoming an adult or you love someone who is, navigate the uncertainty with Michelle's letters to herself. Whether you are seeking advice yourself or mentoring someone else, Mentoring Moments with Myself offers wisdom for life, faith, love, and leadership. Pick up your copy today by clicking the BUY NOW button at the top of this page!

This open access book provides a comprehensive overview of the application of the newest laser and microscope/ophthalmoscope technology in the field of high resolution imaging in microscopy and ophthalmology. Starting by describing High-Resolution 3D Light Microscopy with STED and RESOLFT, the book goes on to cover retinal and anterior segment imaging and image-guided treatment and also discusses the development of adaptive optics in vision science and ophthalmology. Using an interdisciplinary approach, the reader will learn about the latest developments and most up to date technology in the field and how these translate to a medical setting. High Resolution Imaging in Microscopy and Ophthalmology – New Frontiers in Biomedical Optics has been written by leading experts in the field and offers insights on engineering, biology, and medicine, thus being a valuable addition for scientists, engineers, and clinicians with technical and medical interest who would like to understand the equipment, the applications and the medical/biological background. Lastly, this book is dedicated to the memory of Dr. Gerhard Zinser, co-founder of Heidelberg Engineering GmbH, a scientist, a husband, a brother, a colleague, and a friend.

Through essays on topics including survival in extreme environments and the multicultural dimensions of exploration, readers will gain an understanding of the psychological challenges that have faced the space program since its earliest days. An engaging read for those interested in space, history, and psychology alike, this is a highly relevant read as we stand poised on the edge of a new era of spaceflight. Each essay also explicitly addresses the history of the psychology of space exploration.

Lack of Agility is the kiss of death. Position your company to succeed in world of change. To edge out the competition in today's disruptive environment, you need to ensure that your company is agile—that it can respond to change instantly and effectively. Because fast and furious change is the only thing you can count on in business today. Network expert Michael Arena helped enable GM's legendary turnaround. In these pages, he explains how you can transform your own company through the concept of adaptive space. Based on hundreds of interviews and the author's own groundbreaking study of dozens of organizations spanning a variety of industries, Adaptive Space shows how to position your company for today—and for the future—by enabling creativity, innovation, and novel ideas to flow freely among teams, across departments, and throughout the company. Using GM as the main case study—along with the stories of other highly adaptive organizations, like Apple, Amazon, Disney, and Gore—Arena provides a model you can follow to reinvent your company. It's about inspiring employees to explore new ideas, empowering the most creative people and teams to spread their ideas across the organization, and operationalizing the entrepreneurial spirit so adaptability is set in stone. Hesitation is a killer in today's business landscape. With Adaptive Space, you have everything you need to confront disruption with smart, confident actions and seize the valuable opportunities that come with change.

A powerful, visual framework helps managers discover how employees really communicate and collaborate to get work done - and helps them identify ways they can influence these social networks to improve performance and innovation. In The Hidden Power of Social Networks, Cross and Parker, experts in "social network analysis"—a technique that visually maps relationships between people in large, distributed groups - apply this powerful tool to management for the first time. Based on their in-depth study of sixty informal employee networks in well-known companies around the world, Cross and Parker show managers how to conduct a social network analysis of their organization.

Brain disorders—neurological, psychiatric, and developmental—now affect at least 250 million people in the developing world, and this number is expected to rise as life expectancy increases. Yet public and private health systems in developing countries have paid relatively little attention to brain disorders. The negative attitudes, prejudice, and stigma that often surround many of these disorders have contributed to this neglect. Lacking proper diagnosis and treatment, millions of individual lives are lost to disability and death. Such conditions exact both personal and economic costs on families, communities, and nations. The report describes the causes and risk factors associated with brain disorders. It focuses on six representative brain disorders that are prevalent in developing countries: developmental disabilities, epilepsy, schizophrenia, bipolar disorder, depression, and stroke. The report makes detailed recommendations of ways to reduce the toll exacted by these six disorders. In broader strokes, the report also proposes six major strategies toward reducing the overall burden of brain disorders in the developing world.

Adaptive Space: How GM and Other Companies are Positively Disrupting Themselves and Transforming into Agile OrganizationsMcGraw-Hill Education

Brucellosis is a nationally and internationally regulated disease of livestock with significant consequences for animal health, public health, and international trade. In cattle, the primary cause of brucellosis is *Brucella abortus*, a zoonotic bacterial pathogen that also affects wildlife, including bison and elk. As a result of the Brucellosis Eradication Program that began in 1934, most of the country is now free of bovine brucellosis. The Greater Yellowstone Area (GYA), where brucellosis is endemic in bison and elk, is the last known *B. abortus* reservoir in the United States.

The GYA is home to more than 5,500 bison that are the genetic descendants of the original free-ranging bison herds that survived in the early 1900s, and home to more than 125,000 elk whose habitats are managed through interagency efforts, including the National Elk Refuge and 22 supplemental winter feedgrounds maintained in Wyoming. In 1998 the National Research Council (NRC) issued a report, *Brucellosis in the Greater Yellowstone Area*, that reviewed the scientific knowledge regarding *B. abortus* transmission among wildlife—particularly bison and elk—and cattle in the GYA. Since the release of the 1998 report, brucellosis has re-emerged in domestic cattle and bison herds in that area. Given the scientific and technological advances in two decades since that first report, *Revisiting Brucellosis in the Greater Yellowstone Area* explores the factors associated with the increased transmission of brucellosis from wildlife to livestock, the recent apparent expansion of brucellosis in non-feedground elk, and the desire to have science inform the course of any future actions in addressing brucellosis in the GYA.

A set of tools for mastering the one skill standing between us and success: the ability to ask for the things we need to succeed. Imagine you're on a deadline for a big project, and feeling overwhelmed. Or you're looking for a job, but can't seem to get your foot in the door. Or you're dying for tickets to a sold out concert, and all your leads have gone cold. What do these problems have in common? They can all be solved simply by reaching out to a colleague, friend, or wider network and making an ask. Studies show that asking for help makes us better and less frustrated at our jobs. It helps us find new opportunities and new talent. It unlocks new ideas and solutions, and enhances team performance. And it helps us get the things we need outside the workplace as well. And yet, we rarely give ourselves permission to ask. Luckily, the research shows that asking—and getting—what we need is much easier than we tend to think. Here, Wayne Baker shares a set of strategies—used at companies like Google, GM, and IDEO—that individuals, teams, and leaders can use to make asking for help a personal and organizational habit, including:

- A quiz to identify your asking-giving style
- SMART criteria for who, when, and how to ask
- “Plug-and-play” routines that make requests a standard component of meetings
- Mini-games that incentivize asking within teams
- The Reciprocity Ring, a guided activity that allows people to tap into the giving power of a network

Picking up where the bestselling book *Give and Take* left off, *All You Have to Do Is Ask* shows us how to ignite the cycle of giving and receiving by asking for the things we need. Advance praise for *All You Have to Do Is Ask* “Asking for help and support has been a key to my success. Wayne Baker expertly shares how everyone can do it.”—Shellye Archambeau, former CEO, MetricStream, and board director, Verizon and Nordstrom “Wayne Baker shares the formula for driving personal, organizational, and social change by tapping the power of our teams and networks for help. This insightful book is a must-read for anyone seeking practical and proven solutions to make our workplaces and world a better place.”—Noel Tichy, professor, University of Michigan, and author of *Judgment and Control Your Destiny or Someone Else Will*

"I raced through *RADICAL CANDOR*--It's thrilling to learn a framework that shows how to be both a better boss and a better colleague. *RADICAL CANDOR* is packed with illuminating truths, insightful advice, and practical suggestions, all illustrated with engaging (and often funny) stories from Kim Scott's own experiences at places like Apple, Google, and various start-ups. Indispensable."--Gretchen Rubin author of NYT bestseller *THE HAPPINESS PROJECT* "Reading *Radical Candor* will help you build, lead, and inspire teams to do the best work of their lives. Kim Scott's insights--based on her experience, keen observational intelligence and analysis--will help you be a better leader and create a more effective organization."--Sheryl Sandberg author of the NYT bestseller *LEAN IN* "Kim Scott has a well-earned reputation as a kick-ass boss and a voice that CEOs take seriously. In this remarkable book, she draws on her extensive experience to provide clear and honest guidance on the fundamentals of leading others: how to give (and receive) feedback, how to make smart decisions, how to keep moving forward, and much more. If you manage people?whether it be 1 person or a 1,000--you need *RADICAL CANDOR. Now.*"--Daniel Pink author of NYT bestseller *DRIVE* From the time we learn to speak, we're told that if you don't have anything nice to say, don't say anything at all. When you become a manager, it's your job to say it--and your obligation. Author Kim Scott was an executive at Google and then at Apple, where she developed a class on how to be a good boss. She has earned growing fame in recent years with her vital new approach to effective management, *Radical Candor*. *Radical Candor* is a simple idea: to be a good boss, you have to Care Personally at the same time that you Challenge Directly. When you challenge without caring it's obnoxious aggression; when you care without challenging it's ruinous empathy. When you do neither it's manipulative insincerity. This simple framework can help you build better relationships at work, and fulfill your three key responsibilities as a leader: creating a culture of feedback (praise and criticism), building a cohesive team, and achieving results you're all proud of. *Radical Candor* offers a guide to those bewildered or exhausted by management, written for bosses and those who manage bosses. Taken from years of the author's experience, and distilled clearly giving actionable lessons to the reader; it shows managers how to be successful while retaining their humanity, finding meaning in their job, and creating an environment where people both love their work and their colleagues.

The Janeway's Immunobiology CD-ROM, *Immunobiology Interactive*, is included with each book, and can be purchased separately. It contains animations and videos with voiceover narration, as well as the figures from the text for presentation purposes.

Since its origins in the 1940s, the subject of decision making under uncertainty has grown into a diversified area with application in several branches of engineering and in those areas of the social sciences concerned with policy analysis and prescription. These approaches required a computing capacity too expensive for the time, until the ability to collect and process huge quantities of data engendered an explosion of work in the area. This book provides succinct and rigorous treatment of the foundations of stochastic control; a unified approach to filtering, estimation, prediction, and stochastic and adaptive control; and the conceptual framework necessary to understand current trends in stochastic control, data mining, machine learning, and robotics.

Traditionally seen as a purely people function unconcerned with numbers, HR is now uniquely placed to use company data to drive performance, both of the people in the organization and the organization as a whole. Data-Driven HR is a practical guide which enables HR professionals to leverage the value of the vast amount of data available at their fingertips. Covering how to identify the most useful sources of data, collect information in a transparent way that is in line with data protection requirements and turn this data into tangible insights, this book marks a turning point for the HR profession. Covering all the key elements of HR including recruitment, employee engagement, performance management, wellbeing and training, Data-Driven HR examines the ways data can contribute to organizational success by, among other things, optimizing processes, driving performance and improving HR decision making. Packed with case studies and real-life examples, this is essential reading for all HR professionals looking to make a measurable difference in their organizations.

This essential book unravels the link between regional cultures, adaptive reuse of existing buildings and sustainability. It concentrates on the social dimensions relating to Brazilian architect Lina Bo Bardi's late adaptive reuse projects and works from the 1960s to the early 1990s, interpreting her themes, technical sources and design strategies of the creation of luxury as sustainability. The edited book charts how Lina Bo Bardi "invented" her own version of sustainability, introduced this concept through her landscape and adaptive reuse designs and through ideas about cross-cultures in Brazil. The book offers a critical reflection, exploration and demonstration of the importance of adaptive reuse in the landscape and related themes for researchers and provides researchers and students new material on sustainability for further study. In the context of the plurality of revisions of Lina Bo Bardi's work, this book brings about a refreshed interpretation of her integrative approach to adaptive reuse of buildings and landscapes as a significant contribution to the sustainability debate. It offers new insights into the construction of discourses about sustainability from the perspective of one of the key architects in the period to operate in the interface between modernity and tradition. – Dr Fabiano Lemes de Oliveira, Senior Lecturer, University of Portsmouth (UK) Adaptability is one of the most important words in sustainable architecture today. From this perspective, this book looks at the work of a master of Brazilian modernism with lessons to be learnt on how to qualify indoor and outdoor spaces in social, environmental and architectural terms. Adaptive strategies as those seen throughout the work of Bo Bardi are key instrument/tools/concept to sustainable buildings and cities. ? Professor Joana Carla Soares Goncalves, FAU, University of Sao Paulo (Brazil) The year 2015 marked the centenary of Lina Bo Bardi. This book is looking at Bardi's work through the perspective of adaptive reuse. Bringing together specialists on sustainability with specialists of Lina's work, the book generates an interesting new layer of discussion on the work of an architect that was never shy of controversy. ? Associate Professor Fernando Luiz Lara, University of Texas at Austin (USA) This collection of essays makes a very important and engaging contribution to suggest that to take Lina as an inspiration is to deal with her contradictions and to evaluate the stakes of what she struggled with in a 21st century world. What the authors gathered here and have laid out is a very timely invitation to discern "Lessons from Lina" in relationship to today's pressing issues of architecture and environment, sustainability, recycling, and developing an ethical design position in a world of diminishing resources and escalating challenges. -Prof Barry Bergdoll, Columbia University and MoMA, New York (USA) The book features a Foreword by Barry Bergdoll. Winner of the Curtin University Humanities Research Award 2017 for Best Book of the Year (Oct. 2017). Here the judges' appraisal: "An elegantly conceptualised and carefully crafted volume that represents the work of the twentieth century Brazilian architect Lina Bo Bardi through the lens of urgent contemporary questions of sustainability, adaptive re-use and ethical design. The book brings together a multidisciplinary and international collection of authors and addresses a global readership. It is beautifully presented and intelligently edited." (Jury, Book Award 2017) Winner of the Curtin University Humanities Research Award 2017 for Best Chapter of the Year (Sept. 2017): Annette Condello. Chapter 3 "Salvaging the Site's Luxuriance: Lina Bo Bardi – Landscape Architect." Here the judges appraisal: "A richly textured investigation of Lina Bo Bardi, a complex, fascinating and important Italian-born Brazilian architect, designer and co-founder of the magazine Habitat. [...] This chapter is a thoughtful and respectful but also critical piece, combining thorough research with deft analysis and carefully selected images, and the publication has been highly recommended by leading academics and curators." (Jury, Book Award 2017)

Handbook of the Biology of Aging, Eighth Edition, provides readers with an update on the rapid progress in the research of aging. It is a comprehensive synthesis and review of the latest and most important advances and themes in modern biogerontology, and focuses on the trend of 'big data' approaches in the biological sciences, presenting new strategies to analyze, interpret, and understand the enormous amounts of information being generated through DNA sequencing, transcriptomic, proteomic, and the metabolomics methodologies applied to aging related problems. The book includes discussions on longevity pathways and interventions that modulate aging, innovative new tools that facilitate systems-level approaches to aging research, the mTOR pathway and its importance in age-related phenotypes, new strategies to pharmacologically modulate the mTOR pathway to delay aging, the importance of sirtuins and the hypoxic response in aging, and how various pathways interact within the context of aging as a complex genetic trait, amongst others. Covers the key areas in biological gerontology research in one volume, with an 80% update from the previous edition Edited by Matt Kaeberlein and George Martin, highly respected voices and researchers within the biology of aging discipline Assists basic researchers in keeping abreast of research and clinical findings outside their subdiscipline Presents information that will help medical, behavioral, and social gerontologists in understanding what basic scientists and clinicians are discovering New chapters on genetics, evolutionary biology, bone aging, and epigenetic control Provides a close examination of the diverse research being conducted today in the study of the biology of aging, detailing recent breakthroughs and potential new directions

The essential introduction to the principles and applications of feedback systems—now fully revised and expanded This textbook covers the mathematics needed to model, analyze, and design feedback systems. Now more user-friendly than ever, this revised and expanded edition of Feedback Systems is a one-volume resource for students and researchers in mathematics and engineering. It has applications across a range of disciplines that utilize feedback in physical, biological, information, and economic systems. Karl Åström and Richard Murray use techniques from physics, computer science, and operations research to introduce control-oriented modeling. They begin with state space tools for analysis and design, including stability of solutions, Lyapunov functions, reachability, state feedback observability, and estimators. The matrix exponential plays a central role in the analysis of linear control systems, allowing a concise development of many of the key concepts for this class of models. Åström and Murray then develop and explain tools in the frequency domain, including transfer functions, Nyquist analysis, PID control, frequency domain design, and robustness. Features a new chapter on design principles and tools, illustrating the types of problems that can be solved using feedback Includes a new chapter on fundamental limits and new material on the Routh-Hurwitz criterion and root locus plots Provides exercises at the end of every chapter Comes with an electronic solutions manual An ideal textbook for undergraduate and graduate students Indispensable for researchers seeking a self-contained resource on control theory

Robust and Adaptive Control shows the reader how to produce consistent and accurate controllers that operate in the presence of uncertainties and unforeseen events. Driven by aerospace applications the focus of the book is primarily on continuous-dynamical systems. The text is a three-part treatment, beginning with robust and optimal linear control methods and moving on to a self-contained presentation of the design and analysis of model reference adaptive control (MRAC) for nonlinear uncertain dynamical systems. Recent extensions and modifications to MRAC design are included, as are guidelines for combining robust optimal and MRAC controllers. Features of the text include: · case studies that demonstrate the benefits of robust and adaptive control for piloted, autonomous and experimental aerial platforms; · detailed background material for each chapter to motivate theoretical developments; · realistic examples and simulation data illustrating key features of the methods described; and · problem solutions for instructors and MATLAB® code provided electronically. The theoretical content and practical applications reported address real-life aerospace problems, being based on numerous transitions of control-theoretic results into operational systems and airborne vehicles that are drawn from the authors' extensive professional experience with The Boeing Company. The systems covered are challenging, often open-loop unstable, with uncertainties in their dynamics, and thus requiring both persistently reliable control and the ability to track commands either from a pilot or a guidance computer. Readers are assumed to have a basic understanding of root locus, Bode diagrams, and Nyquist plots, as well as linear algebra, ordinary differential equations, and the use of state-space methods in analysis and modeling of dynamical systems. Robust and Adaptive Control is intended to methodically teach senior undergraduate and graduate students how to construct stable and predictable control algorithms for realistic industrial applications. Practicing engineers and academic researchers will also find the book of great instructional value.

As a result of the COVID-19 pandemic there have been unprecedented impacts on business, the economy, and society. But what comes next? In The Future After COVID top-ranked forecaster and Chairman of The Futurist Institute, Jason Schenker, offers a futurist perspective into the potential long-term changes, challenges, and opportunities that the experience of COVID-19 is likely to mean for over a dozen different critical fields and industries, including the future of work, education, healthcare, supply chain, and more.

Learn from the Best Great leaders of innovation know that creativity is not enough. They succeed not only on the basis of their ideas, but because they have the vision, reputation, and networks to win the backing needed to commercialize them. It turns out that this quality--called "innovation capital"--is measurably more important for innovation than just being creative. The authors have spent decades studying how people get great ideas (the subject of The Innovator's DNA) and how people test and develop those ideas (explored in The Innovator's Method). Now they share what they've learned from a multipronged research program designed to determine how people compete for, and obtain, resources to launch new ideas: How you can build a personal reputation for innovation What techniques you can use to amplify your innovation capital How you can garner attention for your ideas and projects and persuade audiences to support them What it means to provide visionary leadership and how you can achieve it Featuring interviews with the superstars of innovation--individuals like Jeff Bezos (Amazon), Elon Musk (Tesla), Marc Benioff (Salesforce), Indra Nooyi (PepsiCo), and Shantanu Narayen (Adobe)--this book will help you position yourself and your ideas to compete for attention and resources so that you can launch innovations with impact.

Do the movements of animals, including humans, follow patterns that can be described quantitatively by simple laws of motion? If so, then why? These questions have attracted the attention of scientists in many disciplines, and stimulated debates ranging from ecological matters to queries such as 'how can there be free will if one follows a law of motion?' This is the first book on this rapidly evolving subject, introducing random searches and foraging in a way that can be understood by readers without a previous background on the subject. It reviews theory as well as experiment, addresses open problems and perspectives, and discusses applications ranging from the colonization of Madagascar by Austronesians to the diffusion of genetically modified crops. The book will interest physicists working in the field of anomalous diffusion and movement ecology as well as ecologists already familiar with the concepts and methods of statistical physics.

From the New York Times bestselling author of My Share of the Task and Leaders, a manual for leaders looking to make their teams more adaptable, agile, and unified in the midst of change. When General Stanley McChrystal took command of the Joint Special Operations Task Force in 2004, he quickly realized that conventional military tactics were failing. Al Qaeda in Iraq was a decentralized network that could move quickly, strike ruthlessly, then seemingly vanish into the local population. The allied forces had a huge advantage in numbers, equipment, and training—but none of that seemed to matter. To defeat Al Qaeda, they would have to combine the power of the world's mightiest military with the agility of the world's most fearsome terrorist network. They would have to become a "team of teams"—faster, flatter, and more flexible than ever. In Team of Teams, McChrystal and his colleagues show how the challenges they faced in Iraq can be relevant to countless businesses, nonprofits, and organizations today. In periods of unprecedented crisis, leaders need practical management practices that can scale to thousands

of people—and fast. By giving small groups the freedom to experiment and share what they learn across the entire organization, teams can respond more quickly, communicate more freely, and make better and faster decisions. Drawing on compelling examples—from NASA to hospital emergency rooms—Team of Teams makes the case for merging the power of a large corporation with the agility of a small team to transform any organization.

A plan for conquering collaborative overload to drive performance and innovation, reduce burnout, and enhance well-being. Most organizations have created always-on work contexts that are burning people out and hurting performance rather than delivering productivity, innovation and engagement. Collaborative work consumes 85% of employees' time and is drifting earlier into the morning, later into the night, and deeper into the weekend. The dilemma is that we all need to collaborate more to create effective organizations and vibrant careers for ourselves. But conventional wisdom on teamwork and collaboration has created too much of the wrong kind of collaboration, which hurts our performance, health and overall well-being. In *Beyond Collaboration Overload*, Babson professor Rob Cross solves this paradox by showing how top performers who thrive at work collaborate in a more purposeful way that makes them 18-24% more efficient than their peers. Good collaborators are distinguished by the efficiency and intentionality of their collaboration—not the size of their network or the length of their workday. Through landmark research with more than 300 organizations, in-depth stories, and tools, *Beyond Collaboration Overload* will coach you to reclaim close to a day a week when you: Identify and challenge beliefs that lead you to collaborate too quickly Impose structure in your work to prevent unproductive collaboration Alter behaviors to create more efficient collaboration It then outlines how successful people invest this reclaimed time to: Cultivate a broad network—not a big one—for innovation and scale Energize others—a strong predictor of high performance Connect with others to reduce micro-stressors and enhance physical and mental well-being Cross' framework provides relief from the definitive problem of our age—dysfunctional collaboration at the expense of our performance, health and overall well-being.

Tomorrow's best physicians will be those who continually learn, adjust, and innovate as new information and best practices evolve, reflecting adaptive expertise in response to practice challenges. As the first volume in the American Medical Association's MedEd Innovation Series, *The Master Adaptive Learner* is an instructor-focused guide covering models for how to train and teach future clinicians who need to develop these adaptive skills and utilize them throughout their careers. Explains and clarifies the concept of a Master Adaptive Learner: a metacognitive approach to learning based on self-regulation that fosters the success and use of adaptive expertise in practice. Contains both theoretical and practical material for instructors and administrators, including guidance on how to implement a Master Adaptive Learner approach in today's institutions. Gives instructors the tools needed to empower students to become efficient and successful adaptive learners. Helps medical faculty and instructors address gaps in physician training and prepare new doctors to practice effectively in 21st century healthcare systems. One of the American Medical Association Change MedEd initiatives and innovations, written and edited by members of the ACE (Accelerating Change in Medical Education) Consortium – a unique, innovative collaborative that allows for the sharing and dissemination of groundbreaking ideas and projects.

Adaptive Enterprise outlines the new sense-and-respond business model that helps companies anticipate, adapt, and respond to continually changing customer needs. Author Stephan Haeckel shows how large, complex organizations can adapt in a systematic way to the unpredictable demands of rapid, relentless change--if the organization is designed and managed as an adaptive system. In fact, the only kind of strategy that makes sense in the face of change is a strategy to become adaptive. Haeckel maps out a step-by-step plan that firms can use to transform themselves into a new type of organization, one where change is not a problem to be solved but rather a source of energy, growth, and value. *Adaptive Enterprise* is both a new way of thinking about business and a prescription for leadership of post-industrial organizations. It is, as Adrian Slywotsky says in his foreword, "a book that will influence the influencers of business thought."

How do organizations structure themselves? A synthesis of the empirical literature in the field, supported by numerous examples and illustrations, provides images that produce a theory. The author introduces five basic configurations of structure - the simple structure, the machine bureaucracy, the professional bureaucracy, the divisionalized form, and the adhocracy. This book reveals that structure seems to be at the root of many questions about organizations and why they function as they do.

The goal of machine learning is to program computers to use example data or past experience to solve a given problem. Many successful applications of machine learning exist already, including systems that analyze past sales data to predict customer behavior, optimize robot behavior so that a task can be completed using minimum resources, and extract knowledge from bioinformatics data. *Introduction to Machine Learning* is a comprehensive textbook on the subject, covering a broad array of topics not usually included in introductory machine learning texts. Subjects include supervised learning; Bayesian decision theory; parametric, semi-parametric, and nonparametric methods; multivariate analysis; hidden Markov models; reinforcement learning; kernel machines; graphical models; Bayesian estimation; and statistical testing. Machine learning is rapidly becoming a skill that computer science students must master before graduation. The third edition of *Introduction to Machine Learning* reflects this shift, with added support for beginners, including selected solutions for exercises and additional example data sets (with code available online). Other substantial changes include discussions of outlier detection; ranking algorithms for perceptrons and support vector machines; matrix decomposition and spectral methods; distance estimation; new kernel algorithms; deep learning in multilayered perceptrons; and the nonparametric approach to Bayesian methods. All learning algorithms are explained so that students can easily move from the equations in the book to a computer program. The book can be used by both advanced undergraduates and graduate students. It will also be of interest to professionals who are concerned with the application of machine learning methods.

How we produce and consume food has a bigger impact on Americans' well-being than any other human activity. The food industry is the largest sector of our economy; food touches everything from our health to the environment, climate change, economic inequality, and the federal budget. From the earliest developments of agriculture, a major goal has been to attain sufficient foods that provide the energy and the nutrients needed for a healthy, active life. Over time, food production, processing, marketing, and consumption

have evolved and become highly complex. The challenges of improving the food system in the 21st century will require systemic approaches that take full account of social, economic, ecological, and evolutionary factors. Policy or business interventions involving a segment of the food system often have consequences beyond the original issue the intervention was meant to address. A Framework for Assessing Effects of the Food System develops an analytical framework for assessing effects associated with the ways in which food is grown, processed, distributed, marketed, retailed, and consumed in the United States. The framework will allow users to recognize effects across the full food system, consider all domains and dimensions of effects, account for systems dynamics and complexities, and choose appropriate methods for analysis. This report provides example applications of the framework based on complex questions that are currently under debate: consumption of a healthy and safe diet, food security, animal welfare, and preserving the environment and its resources. A Framework for Assessing Effects of the Food System describes the U.S. food system and provides a brief history of its evolution into the current system. This report identifies some of the real and potential implications of the current system in terms of its health, environmental, and socioeconomic effects along with a sense for the complexities of the system, potential metrics, and some of the data needs that are required to assess the effects. The overview of the food system and the framework described in this report will be an essential resource for decision makers, researchers, and others to examine the possible impacts of alternative policies or agricultural or food processing practices.

Evolutionary biology has long sought to explain how new traits and new species arise. Darwin maintained that competition is key to understanding this biodiversity and held that selection acting to minimize competition causes competitors to become increasingly different, thereby promoting new traits and new species. Despite Darwin's emphasis, competition's role in diversification remains controversial and largely underappreciated. In their synthetic and provocative book, evolutionary ecologists David and Karin Pfennig explore competition's role in generating and maintaining biodiversity. The authors discuss how selection can lessen resource competition or costly reproductive interactions by promoting trait evolution through a process known as character displacement. They further describe character displacement's underlying genetic and developmental mechanisms. The authors then consider character displacement's myriad downstream effects, ranging from shaping ecological communities to promoting new traits and new species and even fueling large-scale evolutionary trends. Drawing on numerous studies from natural populations, and written for a broad audience, Evolution's Wedge seeks to inspire future research into character displacement's many implications for ecology and evolution.

Decades of research have demonstrated that the parent-child dyad and the environment of the family—which includes all primary caregivers—are at the foundation of children's well-being and healthy development. From birth, children are learning and rely on parents and the other caregivers in their lives to protect and care for them. The impact of parents may never be greater than during the earliest years of life, when a child's brain is rapidly developing and when nearly all of her or his experiences are created and shaped by parents and the family environment. Parents help children build and refine their knowledge and skills, charting a trajectory for their health and well-being during childhood and beyond. The experience of parenting also impacts parents themselves. For instance, parenting can enrich and give focus to parents' lives; generate stress or calm; and create any number of emotions, including feelings of happiness, sadness, fulfillment, and anger. Parenting of young children today takes place in the context of significant ongoing developments. These include: a rapidly growing body of science on early childhood, increases in funding for programs and services for families, changing demographics of the U.S. population, and greater diversity of family structure. Additionally, parenting is increasingly being shaped by technology and increased access to information about parenting. Parenting Matters identifies parenting knowledge, attitudes, and practices associated with positive developmental outcomes in children ages 0-8; universal/preventive and targeted strategies used in a variety of settings that have been effective with parents of young children and that support the identified knowledge, attitudes, and practices; and barriers to and facilitators for parents' use of practices that lead to healthy child outcomes as well as their participation in effective programs and services. This report makes recommendations directed at an array of stakeholders, for promoting the wide-scale adoption of effective programs and services for parents and on areas that warrant further research to inform policy and practice. It is meant to serve as a roadmap for the future of parenting policy, research, and practice in the United States.

Macrophages are the sentinels of the immune system whose role has evolved beyond providing aseptic conditions to homeostasis, immune regulation, development, and behaviour. These cells have varied ontogenetic origins which reflects in their phenotypic and functional heterogeneity. Macrophage functions are fine-tuned by exogenous and endogenous signals and once tweaked, the information is included in their genetic makeup, albeit not indefinitely. Subversion of the macrophage functions is the hallmark of many pathogenic organisms and modulation of macrophage activity is pivotal to many therapeutic strategies. Fascinating and rapid developments in this field have necessitated the maintenance of currency of knowledge. This book provides a current account of information on varied topics in macrophage biology. Literature surveys have been presented in a captivating and lucid language. The contributing authors have also provided brief accounts of their own research. Every chapter provides a future perspective of what more could be achieved in the context of the current knowledge. The book will be of interest to students and researchers in microbiology, immunobiology, translational research, pathology, and related fields.

Modern Strategy explains how strategic reasoning makes sense of the great complexity of war on land, at sea, in the air, in space and even cyberspace.

"Jugaad Innovation is the most comprehensive book yet to appear on the subject [of frugal innovation]." —The Economist A frugal and flexible approach to innovation for the 21st century Innovation is a key directive at companies worldwide. But in these tough times, we can't rely on the old formula that has sustained innovation efforts for

decades—expensive R&D projects and highly-structured innovation processes. Jugaad Innovation argues the West must look to places like India, Brazil, and China for a new approach to frugal and flexible innovation. The authors show how in these emerging markets, jugaad (a Hindi word meaning an improvised solution born from ingenuity and cleverness) is leading to dramatic growth and how Western companies can adopt jugaad innovation to succeed in our hypercompetitive world. Outlines the six principles of jugaad innovation: Seek opportunity in adversity, do more with less, think and act flexibly, keep it simple, include the margin, and follow your heart Features twenty case studies on large corporations from around the world—Google, Facebook, 3M, Apple, Best Buy, GE, IBM, Nokia, Procter & Gamble, PepsiCo, Tata Group, and more—that are actively practicing jugaad innovation The authors blog regularly at Harvard Business Review; their work has been profiled in BusinessWeek, MIT Sloan Management Review, The Financial Times, The Economist, and more Filled with previously untold and engaging stories of resourceful jugaad innovators and entrepreneurs in emerging markets and the United States This groundbreaking book shows leaders everywhere why the time is right for jugaad to emerge as a powerful business tool in the West—and how to bring jugaad practices to their organizations.

The significantly expanded and updated new edition of a widely used text on reinforcement learning, one of the most active research areas in artificial intelligence. Reinforcement learning, one of the most active research areas in artificial intelligence, is a computational approach to learning whereby an agent tries to maximize the total amount of reward it receives while interacting with a complex, uncertain environment. In Reinforcement Learning, Richard Sutton and Andrew Barto provide a clear and simple account of the field's key ideas and algorithms. This second edition has been significantly expanded and updated, presenting new topics and updating coverage of other topics. Like the first edition, this second edition focuses on core online learning algorithms, with the more mathematical material set off in shaded boxes. Part I covers as much of reinforcement learning as possible without going beyond the tabular case for which exact solutions can be found. Many algorithms presented in this part are new to the second edition, including UCB, Expected Sarsa, and Double Learning. Part II extends these ideas to function approximation, with new sections on such topics as artificial neural networks and the Fourier basis, and offers expanded treatment of off-policy learning and policy-gradient methods. Part III has new chapters on reinforcement learning's relationships to psychology and neuroscience, as well as an updated case-studies chapter including AlphaGo and AlphaGo Zero, Atari game playing, and IBM Watson's wagering strategy. The final chapter discusses the future societal impacts of reinforcement learning.

There are four distinct types of managers. One performs much worse than the rest, and one performs far better. Which type are you? Based on a first-of-its-kind, wide-ranging global study of over 9,000 people, analysts at the global research and advisory firm Gartner were able to classify all managers into one of four types: • Teacher managers, who develop employees' skills based on their own expertise and direct their development along a similar track to their own. • Cheerleader managers, who give positive feedback while taking a general hands-off approach to employee development. • Always-on managers, who provide constant, frequent feedback and coaching on all aspects of the employee's performance. • Connector managers, who provide feedback in their area of expertise while connecting employees to others in the team or organization who are better suited to address specific needs. Although the four types of managers are more or less evenly distributed, the Connector manager consistently outperforms the others by a significant margin. Meanwhile, Always-on managers tend to see their employees struggle to grow within the organization. Why is that? Drawing on their groundbreaking data-driven research, as well as in-depth case studies and extensive interviews with managers and employees at companies like IBM, Accenture, and eBay, the authors show what behaviors define a Connector manager, and why they are able to build powerhouse teams. They also show why other types of managers fail to be equally effective, and how they can incorporate behaviors of Connector managers in order to be more effective at building teams.

Presented in a tutorial style, this comprehensive treatment unifies, simplifies, and explains most of the techniques for designing and analyzing adaptive control systems. Numerous examples clarify procedures and methods. 1995 edition.

Mike Peng and Klaus Meyer have direct, first-hand, experience of researching and teaching in Europe, Asia and North America. This combined experience makes them uniquely qualified to write this textbook, which offers a comprehensive and accessible introduction to international business that starts from Europe but ultimately encompasses the globe. The text's comprehensive coverage is accessibly arranged around one central question and two core perspectives. The central question is a what determines the success and failure of firms around the globe? Institutional and resource-based perspectives are utilised to answer this question. Throughout the text the very latest scholarly research is used to facilitate successful learning of the key concepts, in order to engage students with the historical context and recent global developments. International Business has been shortlisted for the 2011/12 CMI Management Book of the Year award in the ebook category. More information about the CMI and the competition can be found here <http://yearbook.managers.org.uk/index5.htm>.

CRISPR/Cas is a recently described defense system that protects bacteria and archaea against invasion by mobile genetic elements such as viruses and plasmids. A wide spectrum of distinct CRISPR/Cas systems has been identified in at least half of the available prokaryotic genomes. On-going structural and functional analyses have resulted in a far greater insight into the functions and possible applications of these systems, although many secrets remain to be discovered. In this book, experts summarize the state of the art in this exciting field.

This open access book focuses on both the theory and practice associated with the tools and approaches for decisionmaking in the face of deep uncertainty. It explores approaches and tools supporting the design of strategic plans under deep uncertainty, and their testing in the real world, including barriers and enablers for their use in practice. The book broadens traditional approaches and tools to include the analysis of actors and networks related to the problem at hand. It also shows how lessons learned in the application process can be used to improve the approaches and tools used in the design process. The book offers guidance in identifying and applying appropriate approaches and tools to design plans, as well as advice on implementing these plans in the real world. For decisionmakers and practitioners, the book includes realistic examples and practical guidelines that should help them understand what decisionmaking under deep uncertainty is and how it may be of assistance to them. Decision Making under Deep Uncertainty: From Theory to Practice is divided into four parts. Part I presents five approaches for designing strategic plans under deep uncertainty: Robust Decision Making, Dynamic Adaptive Planning, Dynamic Adaptive Policy Pathways, Info-Gap Decision Theory, and Engineering Options Analysis. Each approach is worked out in terms of its theoretical foundations, methodological steps to follow when using the approach, latest methodological insights, and challenges for improvement. In Part II, applications of each of these approaches are presented. Based on recent case studies, the practical implications of applying each approach are discussed in depth. Part III focuses on using the approaches and tools in real-world contexts, based on insights from real-world cases. Part IV contains conclusions and a synthesis of the lessons that can be drawn for designing, applying, and implementing strategic plans under deep uncertainty, as well as recommendations for future work. The publication of this book

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During the past decade there has been an explosion in computation and information technology. With it have come vast amounts of data in a variety of fields such as medicine, biology, finance, and marketing. The challenge of understanding these data has led to the development of new tools in the field of statistics, and spawned new areas such as data mining, machine learning, and bioinformatics. Many of these tools have common underpinnings but are often expressed with different terminology. This book describes the important ideas in these areas in a common conceptual framework. While the approach is statistical, the emphasis is on concepts rather than mathematics. Many examples are given, with a liberal use of color graphics. It should be a valuable resource for statisticians and anyone interested in data mining in science or industry. The book's coverage is broad, from supervised learning (prediction) to unsupervised learning. The many topics include neural networks, support vector machines, classification trees and boosting---the first comprehensive treatment of this topic in any book. This major new edition features many topics not covered in the original, including graphical models, random forests, ensemble methods, least angle regression & path algorithms for the lasso, non-negative matrix factorization, and spectral clustering. There is also a chapter on methods for "wide" data (p bigger than n), including multiple testing and false discovery rates. Trevor Hastie, Robert Tibshirani, and Jerome Friedman are professors of statistics at Stanford University. They are prominent researchers in this area: Hastie and Tibshirani developed generalized additive models and wrote a popular book of that title. Hastie co-developed much of the statistical modeling software and environment in R/S-PLUS and invented principal curves and surfaces. Tibshirani proposed the lasso and is co-author of the very successful An Introduction to the Bootstrap. Friedman is the co-inventor of many data-mining tools including CART, MARS, projection pursuit and gradient boosting.

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