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## **KEY=UNIVERSITY - RANDY SCARLET**

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**Multiscale Modelling in Sheet Metal Forming** [Springer](#) *This book gives a unified presentation of the research performed in the field of multiscale modelling in sheet metal forming over the course of more than thirty years by the members of six teams from internationally acclaimed universities. The first chapter is devoted to the presentation of some recent phenomenological yield criteria (BBC 2005 and BBC 2008) developed at the CERTETA center from the Technical University of Cluj-Napoca. An overview on the crystallographic texture and plastic anisotropy is presented in Chapter 2. Chapter 3 is dedicated to multiscale modelling of plastic anisotropy. The authors describe a new hierarchical multi-scale framework that allows taking into account the evolution of plastic anisotropy during sheet forming processes. Chapter 4 is focused on modelling the evolution of voids in porous metals with applications to forming limit curves and ductile fracture. The chapter details the steps needed for the development of dissipation functions and Gurson-type models for non-quadratic anisotropic plasticity criteria like BBC 2005 and those based on linear transformations. Chapter 5 describes advanced models for the prediction of forming limit curves developed by the authors. Chapter 6 is devoted to anisotropic*

damage in elasto-plastic materials with structural defects. Finally, Chapter 7 deals with modelling of the Portevin-Le Chatelier (PLC) effect. This volume contains contributions from leading researchers from the Technical University of Cluj-Napoca, Romania, the Catholic University of Leuven, Belgium, Clausthal University of Technology, Germany, Amirkabir University of Technology, Iran, the University of Bucharest, Romania, and the Institute of Mathematics of the Romanian Academy, Romania. It will prove useful to postgraduate students, researchers and engineers who are interested in the mechanical modeling and numerical simulation of sheet metal forming processes. **Forming the Future Proceedings of the 13th International Conference on the Technology of Plasticity** Springer Nature In this collection, scientists and engineers from across industry, academia, and government present their latest improvements and innovations in all aspects of metal forming science and technology, with the intent of facilitating linkages and collaborations among these groups. Chapters cover the breadth of metal forming topics, from fundamental science to industrial application. **Sustainable Materials with Both Eyes Open** Uit Cambridge Limited This is a follow-up book to the author's *Sustainable Energy Without the Hot Air*, which had a large influence on both government policy and public opinion of how we should plan our energy for the future. This book faces up to the impacts of making materials in the 21st century. We are already making materials well, but demand keeps growing and we need to plan for a sustainable material future. The steel and aluminium industries alone account for nearly 30 per cent of global emissions, and demand is rising. The world target is to reduce industry's carbon emissions by 50 per cent by 2050. However, projections are that world demand for materials will double by 2050, so to meet our emissions target, we have to achieve a 4-fold reduction in emissions per unit of material used: industry will have to make huge changes, not just to the processes involved, but to the entire product life-cycle. This book presents a vision of change for how future generations can still use steel, cement, plastics etc., but with less impact on the environment. First it is a wake-up call, then it is a solutions manual. The solutions presented here are ahead of the game now. By providing an evidence-based vision of change, this book can play a significant role in influencing our energy future. **Metal Forming Analysis** Cambridge University Press Thorough reference to numerical techniques used for simulating metal forming operations. **Beyond the Gender Gap in Japan** University of Michigan Press Why do Japanese women enjoy a high sense of well-being in a context of high inequality? *Beyond the Gender Gap in Japan* brings together researchers from across the social sciences to investigate this question. The authors analyze women's values and the lived experiences at home, in the family, at work, in their leisure time, as volunteers, and in politics and policy-making. Their research shows that the state and firms have blurred "the public" and "the private" in postwar Japan, constraining individuals' lives, and reveals the uneven pace of change in women's representation in politics. Yet, despite these constraints, the increasing diversification in how people live and how they manage their lives demonstrates that some people are crafting a variety of individual solutions to structural problems. Covering a significant breadth of material, the book presents comprehensive findings that use a variety of research methods—public opinion surveys, in-depth interviews, a life history, and participant observation—and, in doing so,

look beyond Japan's perennially low rankings in gender equality indices to demonstrate the diversity underneath, questioning some of the stereotypical assumptions about women in Japan. **The Adaptive Value of Languages: Non-Linguistic Causes of Language Diversity** [Frontiers Media SA](#) The goal of this eBook is to shed light on the non-linguistic causes of language diversity, and in particular, to explore the possibility that some aspects of the structure of languages may result from an adaptation to the natural and/or human-made environment. Traditionally, language diversity has been claimed to result from random, internally-motivated changes in language structure. However, ongoing research suggests instead that different factors that are external to language can promote language change and ultimately account for aspects of language diversity, specifically features of the social and physical environments. The contributions in this eBook discuss whether some aspects of languages are an adaptation to ecological, social, or even technological niches. **Manufacturing System BoD – Books on Demand** This book attempts to bring together selected recent advances, tools, application and new ideas in manufacturing systems. Manufacturing system comprise of equipment, products, people, information, control and support functions for the competitive development to satisfy market needs. It provides a comprehensive collection of papers on the latest fundamental and applied industrial research. The book will be of great interest to those involved in manufacturing engineering, systems and management and those involved in manufacturing research. **Laser Metal Deposition Process of Metals, Alloys, and Composite Materials** [Springer](#) This book highlights the industrial potential and explains the physics behind laser metal deposition (LMD) technology. It describes the laser metal deposition (LMD) process with the help of numerous diagrams and photographs of real-world process situations, ranging from the fabrication of parts to the repair of existing products, and includes case studies from current research in this field. Consumer demand is moving away from standardized products to customized ones, and to remain competitive manufacturers require manufacturing processes that are flexible and able to meet consumer demand at low cost and on schedule. Laser metal deposition (LMD) is a promising alternative manufacturing process in this context. This book enables researchers and professionals in industry gain a better understanding of the LMD process, which they can then use in real-world applications. It also helps spur on further innovations. **Applied Metal Forming Including FEM Analysis** [Cambridge University Press](#) A professional reference for advanced courses in two of the most common manufacturing processes: metal forming and metal cutting. **Advances in E-Engineering and Digital Enterprise Technology Proceedings of the 4th International Conference on E-Engineering and Digital Enterprise** [John Wiley & Sons](#) e-Engineering and digital enterprise technology are becoming the catalysts and prime enablers for the most radical changes in industry since the industrial revolution. *Advances in e-Engineering and Digital Enterprise Technology* includes international papers from experts and practitioners in industry and academia providing an information exchange on all aspects of engineering and management. Providing significant contributions from practitioners, researchers, educators, and end-users, the reader will find information on the latest innovations and techniques, including, e-Engineering systems e-supply chains and e-logistics Web based CAD/CAM/CAPP Virtual and collaborative

engineering Web based modelling and simulations Mass customization and customer driven engineering Tele-operation and tele-robotics. On-line education and industrial training Vital reading for leading-edge system developers, researchers, innovators, and early adopters within industry, government, and academia who are in search of excellence. **The Control of People Smuggling and Trafficking in the EU Experiences from the UK and Italy** [Routledge](#) This book examines the smuggling of migrants and trafficking in human beings in the EU with a comparative analysis of how British and Italian law has approached the issues. The work also analyzes the role of cooperation between the police and judiciary in combating criminal organizations involved in these crimes. The author draws on evidence from the Italian cities of Rimini and Siracusa and from the Italian transit island of Lampedusa to show how an innovative approach can help provide solutions to the problems arising from this sort of criminal activity. The result is a valuable resource for academics and students working in the areas of migration, refugee, criminal justice and EU law. Policy-makers and practitioners working with refugee and immigration issues will also find much of interest in this book. **The Tectonics of Structural Systems An Architectural Approach** [Routledge](#) The Tectonics of Structural Systems provides an architectural approach to the theory of structural systems. The book combines: structural recommendations to follow during the architectural design of various structural systems and the tectonic treatment of structural recommendations in architecture. Written expressly for students, the book makes structures understandable and useful, providing: practical and useful knowledge about structures a design based approach to the subject of structures and a bridge in the gap between structures and the theory of design. Good architectural examples for each structural system are given in order to demonstrate that tectonics can be achieved by applying technical knowledge about structures. Over 300 illustrations visually unpack the topics being explained, making the book ideal for the visual learner. **Convex Optimization** [Cambridge University Press](#) A comprehensive introduction to the tools, techniques and applications of convex optimization. **Carbon Dioxide Capture and Storage Special Report of the Intergovernmental Panel on Climate Change** [Cambridge University Press](#) IPCC Report on sources, capture, transport, and storage of CO<sub>2</sub>, for researchers, policy-makers and engineers. **Quantum Computation and Quantum Information** [Cambridge University Press](#) First-ever comprehensive introduction to the major new subject of quantum computing and quantum information. **Notes on the Synthesis of Form** [Harvard University Press](#) "These notes are about the process of design: the process of inventing things which display new physical order, organization, form, in response to function." This book, opening with these words, presents an entirely new theory of the process of design. In the first part of the book, Christopher Alexander discusses the process by which a form is adapted to the context of human needs and demands that has called it into being. He shows that such an adaptive process will be successful only if it proceeds piecemeal instead of all at once. It is for this reason that forms from traditional un-self-conscious cultures, molded not by designers but by the slow pattern of changes within tradition, are so beautifully organized and adapted. When the designer, in our own self-conscious culture, is called on to create a form that is adapted to its context he is unsuccessful, because the preconceived categories

out of which he builds his picture of the problem do not correspond to the inherent components of the problem, and therefore lead only to the arbitrariness, willfulness, and lack of understanding which plague the design of modern buildings and modern cities. In the second part, Mr. Alexander presents a method by which the designer may bring his full creative imagination into play, and yet avoid the traps of irrelevant preconception. He shows that, whenever a problem is stated, it is possible to ignore existing concepts and to create new concepts, out of the structure of the problem itself, which do correspond correctly to what he calls the subsystems of the adaptive process. By treating each of these subsystems as a separate subproblem, the designer can translate the new concepts into form. The form, because of the process, will be well-adapted to its context, non-arbitrary, and correct. The mathematics underlying this method, based mainly on set theory, is fully developed in a long appendix. Another appendix demonstrates the application of the method to the design of an Indian village.

**Made in the USA The Rise and Retreat of American Manufacturing** MIT Press An argument that America's economy needs a strong and innovative manufacturing sector and the jobs it creates. "There's no author whose books I look forward to more than Vaclav Smil." —Bill Gates In *Made in the USA*, Vaclav Smil powerfully rebuts the notion that manufacturing is a relic of predigital history and that the loss of American manufacturing is a desirable evolutionary step toward a pure service economy. Smil argues that no advanced economy can prosper without a strong, innovative manufacturing sector and the jobs it creates. Smil explains how manufacturing became a fundamental force behind America's economic, strategic, and social dominance. He describes American manufacturing's rapid rise at the end of the nineteenth century, its consolidation and modernization between the two world wars, its role as an enabler of mass consumption after 1945, and its recent decline. Some economists argue that shipping low-value jobs overseas matters little because the high-value work remains in the United States. But, asks Smil, do we want a society that consists of a small population of workers doing high-value-added work and masses of unemployed? Smil assesses various suggestions for solving America's manufacturing crisis, including lowering corporate tax rates, promoting research and development, and improving public education. Will America act to preserve and reinvigorate its manufacturing? It is crucial to our social and economic well-being; but, Smil warns, the odds are no better than even.

**Sustainable Materials Without the Hot Air Making Buildings, Vehicles and Products Efficiently and with Less New Material** Part of the hugely popular *Without the Hot Air* series, this book is accessibly written from an engineering perspective on a wide range of materials. Presenting a vision of change for how future generations can still use steel, cement, plastics, etcetera, but with less impact on the environment, this book is a wake-up call first, and then a solutions manual. By providing an evidence-based vision of change, the book can play a significant role in influencing our future. Written for designers; engineers; operations, technical, and business managers; traders; and government and NGO officials associated with business, climate, energy, environment, waste, trade and financing. It is relevant to a wide range of industries, including energy, construction, consulting, manufacturing, transport, and architecture, but will also appeal to those who love popular science. This second edition is updated with the latest developments in both science and

*industry.* **Environmental Health Perspectives Supplements Icons of Invention The Makers of the Modern World from Gutenberg to Gates** [ABC-CLIO](#) Presents twenty four inventions that have impacted the modern world from 1400 up to the present, with entries that provide the life of each inventor, a detailed description of the invention, and the economic, social, and political impact that the invention had on subsequent history. **The Material Limits of Energy Transition: Thanatia** [Springer Nature](#) Earth has become a huge mine, with a greater quantity and variety of fundamental mineral resources being extracted year after year. Technology, from electric cars to everyday electrical equipment, consume vast amounts of scarce raw materials. On a planet with limited resources, are these minerals being properly assessed? Will there be enough raw materials to meet the demand of a world population on track to reach 10 billion people? What will be the consequences of accelerated resource depredation? Will the planet one day become 'Thanatia', a resource-exhausted Earth? This book allows readers to understand the mineral heritage of the Earth, considering the demand for raw materials in society, comparing it with the availability of resources on Earth and the impact of mining. The basics of physical geonomics are explained, allowing readers to analyse the loss of mineral resources on the planet. The impact of renewable energies and technologies, including electric vehicles, are studied. The book concludes with possible solutions to mineral depletion, from increasing recycling rates, ecodesign measures or alternative sources of mineral resources. Providing numerous tables and illustrations, 'The Material Limits of Energy Transition: Thanatia' gives readers a thorough understanding of mineral depletion. Exploring geology, geochemistry, mining, metallurgy, the environment and thermodynamics, this is a truly holistic book. **Quantum Phase Transitions** [Cambridge University Press](#) Describing the physical properties of quantum materials near critical points with long-range many-body quantum entanglement, this book introduces readers to the basic theory of quantum phases, their phase transitions and their observable properties. This second edition begins with a new section suitable for an introductory course on quantum phase transitions, assuming no prior knowledge of quantum field theory. It also contains several new chapters to cover important recent advances, such as the Fermi gas near unitarity, Dirac fermions, Fermi liquids and their phase transitions, quantum magnetism, and solvable models obtained from string theory. After introducing the basic theory, it moves on to a detailed description of the canonical quantum-critical phase diagram at non-zero temperatures. Finally, a variety of more complex models are explored. This book is ideal for graduate students and researchers in condensed matter physics and particle and string theory. **George Gabriel Stokes Life, Science and Faith** [Oxford University Press, USA](#) Features a biographical sketch of the British mathematician and physicist George Gabriel Stokes (1819-1903), presented by the School of Mathematics and Statistics of the University of Saint Andrews in Scotland. Notes that Stokes developed the modern theory of motion of viscous fluids. **Proceedings of the Ninth International Conference on Management Science and Engineering Management** [Springer](#) This is the Proceedings of the Ninth International Conference on Management Science and Engineering Management (ICMSEM) held from July 21-23, 2015 at Karlsruhe, Germany. The goals of the conference are to foster international research collaborations in Management Science and Engineering Management as well as to

provide a forum to present current findings. These proceedings cover various areas in management science and engineering management. It focuses on the identification of management science problems in engineering and innovatively using management theory and methods to solve engineering problems effectively. It also establishes a new management theory and methods based on experience of new management issues in engineering. Readers interested in the fields of management science and engineering management will benefit from the latest cutting-edge innovations and research advances presented in these proceedings and will find new ideas and research directions. A total number of 132 papers from 15 countries are selected for the proceedings by the conference scientific committee through rigorous referee review. The selected papers in the first volume are focused on Intelligent System and Management Science covering areas of Intelligent Systems, Logistics Engineering, Information Technology and Risk Management. The selected papers in the second volume are focused on Computing and Engineering Management covering areas of Computing Methodology, Project Management, Industrial Engineering and Decision Making Systems.

**A Brief History of Mechanical Engineering** Springer What is mechanical engineering? What a mechanical engineering does? How did the mechanical engineering change through ages? What is the future of mechanical engineering? This book answers these questions in a lucid manner. It also provides a brief chronological history of landmark events and answers questions such as: When was steam engine invented? Where was first CNC machine developed? When did the era of additive manufacturing start? When did the marriage of mechanical and electronics give birth to discipline of mechatronics? This book informs and create interest on mechanical engineering in the general public and particular in students. It also helps to sensitize the engineering fraternity about the historical aspects of engineering. At the same time, it provides a common sense knowledge of mechanical engineering in a handy manner.

**Musical Waves West Coast Perspectives of Pitch, Narrative, and Form** Cambridge Scholars Publishing This volume draws together papers delivered at the 2018 meeting of the West Coast Conference of Music Theory and Analysis. It comprises a wide range of analytical approaches, including those inspired by Schoenberg, his theories and works; methods of applying transformational theory to analysis; and studies in narrative and form. Representing the diversifying discipline of music research, the book pointedly contains several approaches to popular music. It represents the cutting-edge nature of the repertoire under inspection, and the reader will find in this book a compendium of analytic techniques for numerous musical styles.

**Real Analysis** Cambridge University Press A text for a first graduate course in real analysis for students in pure and applied mathematics, statistics, education, engineering, and economics.

**The Geometry of Urban Layouts A Global Comparative Study** Springer This book presents a compendium of the urban layout maps of 2-mile square downtown areas of more than one hundred cities in developed and developing countries—all drawn at the same scale using high-resolution satellite images of Google Maps. The book also presents analytic studies using metric geometrical, topological (or network), and fractal measures of these maps. These analytic studies identify ordinaries, extremes, similarities, and differences in these maps; investigate the scaling properties of these maps; and develop precise descriptive categories, types and indicators for

multidimensional comparative studies of these maps. The findings of these studies indicate that many geometric relations of the urban layouts of downtown areas follow regular patterns; that despite social, economic, and cultural differences among cities, the geometric measures of downtown areas in cities of developed and developing countries do not show significant differences; and that the geometric possibilities of urban layouts are vastly greater than those that have been realized so far in our cities. **Climate change: Unpacking the burden on food safety** [Food & Agriculture Org.](#) Climate change is causing unprecedented damage to our ecosystem. Increasing temperatures, ocean warming and acidification, severe droughts, wildfires, altered precipitation patterns, melting glaciers, rising sea levels and amplification of extreme weather events have direct implications for our food systems. While the impacts of such environmental factors on food security are well known, the effects on food safety receive less attention. The purpose of *Climate change: Unpacking the burden on food safety* is to identify and attempt to quantify some current and anticipated food safety issues that are associated with climate change. The food safety hazards considered in the publication are foodborne pathogens and parasites, harmful algal blooms, pesticides, mycotoxins and heavy metals with emphasis on methylmercury. There is also, a dedicated section on the benefits of forward-looking approaches such as horizon scanning and foresight, which will not only aid in anticipating future challenges in a shifting global food safety landscape, but also help build resilient food systems that can be continually updated as more knowledge is assimilated. By building a more widespread and better understanding of the consequences climate change has on food safety, it is hoped that this document will aid in fostering stronger international cooperation in making our food safer by reducing the global burden of these concerns. **Biochemistry** [PediaPress](#) **Simulating Complex Systems by Cellular Automata** [Springer](#) Deeply rooted in fundamental research in Mathematics and Computer Science, Cellular Automata (CA) are recognized as an intuitive modeling paradigm for Complex Systems. Already very basic CA, with extremely simple micro dynamics such as the Game of Life, show an almost endless display of complex emergent behavior. Conversely, CA can also be designed to produce a desired emergent behavior, using either theoretical methodologies or evolutionary techniques. Meanwhile, beyond the original realm of applications - Physics, Computer Science, and Mathematics - CA have also become work horses in very different disciplines such as epidemiology, immunology, sociology, and finance. In this context of fast and impressive progress, spurred further by the enormous attraction these topics have on students, this book emerges as a welcome overview of the field for its practitioners, as well as a good starting point for detailed study on the graduate and post-graduate level. The book contains three parts, two major parts on theory and applications, and a smaller part on software. The theory part contains fundamental chapters on how to design and/or apply CA for many different areas. In the applications part a number of representative examples of really using CA in a broad range of disciplines is provided - this part will give the reader a good idea of the real strength of this kind of modeling as well as the incentive to apply CA in their own field of study. Finally, we included a smaller section on software, to highlight the important work that has been done to create high quality problem solving environments that allow to quickly and relatively easily implement a CA



model and run simulations, both on the desktop and if needed, on High Performance Computing infrastructures. **Comparative Politics of Latin America Democracy at Last?** [Routledge](#) This text offers a unique balance of comparative politics theory and interdisciplinary country-specific context, of a thematic organization and in-depth country case studies, of culture and economics, of scholarship and pedagogy. No other textbook draws on such a diverse range of scholarly literature to help students understand the ins and outs of politics in Latin America today. The insightful historical background in early chapters provides students with a way to think about how the past influences the present. However, while history plays a part in this text, comparative politics is the primary focus, explaining through detailed case studies and carefully paced analysis such concepts as democratic breakdown and transition, formal and informal institutions, the rule of law, and the impact of globalization. Concepts and theories from comparative politics are well integrated into country-specific narratives and vice versa, leading to a richer understanding of both. Several important pedagogical aids foster student learning: Learning objectives at the start of every chapter "Learning checkpoints" interspersed in chapters to ensure comprehension Bolded key terms focus attention on important concepts Glossary at the end of the book provides a useful reference Discussion questions at the end of each chapter Integrated case studies on most countries in the region A companion website with practice quizzes and other useful study aids. **Advanced Nanoindentation in Materials** [MDPI](#) This book is a printed edition of the Special Issue "Advanced Nanoindentation in Materials" that was published in *Materials* **War: What is it good for? The role of conflict in civilisation, from primates to robots** [Profile Books](#) War is one of the greatest human evils. It has ruined livelihoods, provoked unspeakable atrocities and left countless millions dead. It has caused economic chaos and widespread deprivation. And the misery it causes poisons foreign policy for future generations. But, argues bestselling historian Ian Morris, in the very long term, war has in fact been a good thing. In his trademark style combining inter-disciplinary insights, scientific methods and fascinating stories, Morris shows that, paradoxically, war is the only human invention that has allowed us to construct peaceful societies. Without war, we would never have built the huge nation-states which now keep us relatively safe from random acts of violence, and which have given us previously unimaginable wealth. It is thanks to war that we live longer and more comfortable lives than ever before. And yet, if we continue waging war with ever-more deadly weaponry, we will destroy everything we have achieved; so our struggles to manage warfare make the coming decades the most decisive in the history of our civilisation. In *War: What Is It Good For?* Morris brilliantly dissects humanity's history of warfare to draw startling conclusions about our future. **The Routledge Companion to British Media History** [Routledge](#) The Routledge Companion to British Media History provides a comprehensive exploration of how different media have evolved within social, regional and national contexts. The 50 chapters in this volume, written by an outstanding team of internationally respected scholars, bring together current debates and issues within media history in this era of rapid change, and also provide students and researchers with an essential collection of comparable media histories. The Routledge Companion to British Media History provides an essential guide to key ideas, issues, concepts and debates in the field.

Chapter 40 of this book is freely available as a downloadable Open Access PDF under a Creative Commons Attribution-Non Commercial-No Derivatives 3.0 license. <https://www.routledgehandbooks.com/doi/10.4324/9781315756202.ch40> **Microbial Diversity in Ecosystem Sustainability and Biotechnological Applications Volume 2. Soil & Agroecosystems** Springer Nature This volume comprehensively reviews recent advances in our understanding of the diversity of microbes in various types of terrestrial ecosystems, such as caves, deserts and cultivated fields. It is written by leading experts, and highlights the culturable microbes identified using conventional approaches, as well as non-culturable ones unveiled with metagenomic and microbiomic approaches. It discusses the role of microbes in ecosystem sustainability and their potential biotechnological applications. The book further discusses the diversity and utility of ectomycorrhizal and entomopathogenic fungi and yeasts that dwell on grapes, it examines the biotechnological applications of specific microbes such as lichens, xylan- and cellulose-saccharifying bacteria and archaea, chitinolytic bacteria, methanogenic archaea and pathogenic yeasts. **Sistemas estruturais** Editora Blucher O livro Sistemas estruturais é dividido em: estruturas na natureza - descrição de algumas das formas estruturais comumente encontradas; esboços de teoria - uma teoria geral de Estruturas e Sistemas Estruturais aplicada ao ambiente construído; protótipos estruturais - métodos de desenvolvimento e ensaio de formas estruturais, com instruções práticas de produção de modelos, protótipos em tamanho natural e modelagem computacional; e estudos de caso - uma seleção de figuras-chave envolvidas na evolução da engenharia de estruturas e forma construída, desde meados do século XIX até os dias atuais. O objetivo deste livro é possibilitar que estudantes de arquitetura possam desenvolver um entendimento intuitivo de engenharia de estruturas, para que, a longo prazo, sejam capazes de conduzir diálogos produtivos com engenheiros. Espera-se ainda que sirva como uma valiosa referência tanto para a arquitetura como para a engenharia. **Metallography and Microstructure in Ancient and Historic Metals** Getty Publications David A. Scott provides a detailed introduction to the structure and morphology of ancient and historic metallic materials. Much of the scientific research on this important topic has been inaccessible, scattered throughout the international literature, or unpublished; this volume, although not exhaustive in its coverage, fills an important need by assembling much of this information in a single source. Jointly published by the GCI and the J. Paul Getty Museum, the book deals with many practical matters relating to the mounting, preparation, etching, polishing, and microscopy of metallic samples and includes an account of the way in which phase diagrams can be used to assist in structural interpretation. The text is supplemented by an extensive number of microstructural studies carried out in the laboratory on ancient and historic metals. The student beginning the study of metallic materials and the conservation scientist who wishes to carry out structural studies of metallic objects of art will find this publication quite useful. **Family Life in Japan and Germany Challenges for a Gender-Sensitive Family Policy** Springer This volume addresses the family situation in Japan and Germany. Gender-segregated labor markets and precarious employment patterns bear detrimental consequences for the socioeconomic capacity to maintain family households and to have children. By applying a gender-sensitive approach, this volume's focus is on the impact of

family law, family policy, and family support measures. Scholars from Japan and Germany examine differences and characteristics of social security legislation, intergenerational support systems, single-parent families, inequality among households and poverty situations, local domestic and care service provision, female labor market participation, parental leave systems, organization of child care, domestic violence, historical developments of housework as an institution, and labor market policies. **Making the Modern World: Materials and Dematerialization** Lulu Press, Inc How much further should the affluent world push its material consumption? Does relative dematerialization lead to absolute decline in demand for materials? These and many other questions are discussed and answered in *Making the Modern World: Materials and Dematerialization*. Over the course of time, the modern world has become dependent on unprecedented flows of materials. Now even the most efficient production processes and the highest practical rates of recycling may not be enough to result in dematerialization rates that would be high enough to negate the rising demand for materials generated by continuing population growth and rising standards of living. This book explores the costs of this dependence and the potential for substantial dematerialization of modern economies. *Making the Modern World: Materials and Dematerialization* considers the principal materials used throughout history, from wood and stone, through to metals, alloys, plastics and silicon, describing their extraction and production.