

Scientia 1978 Volume 113 E Supplemento

"... the book reminds us of an important lesson in the postwar era of big science: that government policy may lead initially to tremendous support for various fields of science and technology." —Science "... a triumph of historical analysis." —Choice "This is an excellent record of the beginnings of the NASA planetary astronomy program in the years 1958-70." —American Historical Review "The historical circumstances that led to this country's great leap into space were unique, but it is clear that there are many lessons to be learnt from this enthralling tale and Tatarewicz tells the tale well." —Annals of Science When NASA went looking for expertise on the moon and planets following Sputnik, they found that astronomers had long since turned their telescopes away from our planets and toward the stars. Where were the scientists who could help the United States explore the solar system? The answer, as this important new study shows, was that NASA had to create them This story of the precipitous rise and decline of planetary astronomy is an important case study of science in an age of state-managed research and development. It demonstrates that the lines between science, technology, politics, and society are anything but fixed and impermeable.

This volume comprises original and review articles on the frontier problems of the gravitation theory, theoretical and mathematical physics. The volume is dedicated to the memory of Professor Dmitri Ivanenko who made the great contribution to the physical science of the twentieth century.

Potato is the most significant non-cereal crop. Much attention has been paid to this commercially important crop. The aim of this volume is to capture the recent advances made in improving potatoes using traditional breeding methods as well as genetic engineering technology. The book provides a critical appraisal of the state-of-the-art finding on

These volumes are an exhaustive source of information on the control and regulation of flowering. They present data on the factors controlling flower induction and how they may be affected by climate and chemical treatments. For each plant, specific information is provided on all aspects of flower development, including sex expression, requirements for flowering initiation and development, photoperiod, light density, vernalization, and other temperature effects and interactions. Individual species are described from the standpoint of juvenility and maturation, morphology, induction and morphogenesis to anthesis.

All information is presented alphabetically for easy reference

Microporous Media presents new developments from nearly a decade of advancement. Written by a leading researcher in the field, this reference provides examples of the most original scientific and technical research impacting studies in porosity and microporosity, and illustrates methods to forecast the properties of microporous structures for impro

Pines are the most economically important group of trees in the world, covering large parts of the Northern Hemisphere and also being of silvicultural significance in many countries in the Southern Hemisphere. This book is compiled from 65 datasheets on pine from the Forestry Compendium Global Module (published by CABI on CD-ROM). For each species, there is information on common names, taxonomy, botanical features, natural distribution, latitude range, climate, soil properties, silvicultural characteristics, pests, wood and non-wood products.

Historically, the scientific method has been said to require proposing a theory, making a prediction of something not already known, testing the prediction, and giving up the theory (or substantially changing it) if it fails the test. A theory that leads to several successful predictions is more likely to be accepted than one that only explains what is already known but not understood. This process is widely treated as the conventional method of achieving scientific progress, and was used throughout the twentieth century as the standard route to discovery and experimentation. But does science really work this way? In *Making 20th Century Science*, Stephen G. Brush discusses this question, as it relates to the development of science throughout the last century. Answering this question requires both a philosophically and historically scientific approach, and Brush blends the two in order to take a close look at how scientific methodology has developed. Several cases from the history of modern physical and biological science are examined, including Mendeleev's Periodic Law, Kekule's structure for benzene, the light-quantum hypothesis, quantum mechanics, chromosome theory, and natural selection. In general it is found that theories are accepted for a combination of successful predictions and better explanations of old facts. *Making 20th Century Science* is a large-scale historical look at the implementation of the scientific method, and how scientific theories come to be accepted.

Environmental Geochemistry: Site Characterization, Data Analysis and Case Histories, Second Edition, reviews the role of geochemistry in the environment and details state-of-the-art applications of these principles in the field, specifically in pollution and remediation situations. Chapters cover both philosophy and procedures, as well as applications, in an array of issues in environmental geochemistry including health problems related to environment pollution, waste disposal and data base management. This updated edition also includes illustrations of specific case histories of site characterization and remediation of brownfield sites. Covers numerous global case studies allowing readers to see principles in action Explores the environmental impacts on soils, water and air in terms of both inorganic and organic geochemistry Written by a well-respected author team, with over 100 years of experience combined Includes updated content on: urban geochemical mapping, chemical speciation, characterizing a brownfield site and the relationship between heavy metal distributions and cancer mortality

For catalytic practitioners who are concerned with laboratory studies of reaction mechanisms, as often as not catalyst deactivation is treated as a nuisance to be ignored or factored out of the experimental results. However, the engineer concerned with the design and operation of real catalysts and processes cannot afford this luxury: for him deactivation and the need for regeneration are inevitable facts of life which need to be treated as quantified design parameters. The first chapter in this volume by Prof. J. B. Butt deals with catalyst deactivation and regeneration as processes in their own right, and shows how they are to be approached from kinetic and design points of view. Catalytic olefin polymerization spans a very wide field in catalytic process chemistry and technology. Processes of this sort range from the generation of high volume products such as polyethylene and polypropylene, through more specialized commercial products, to conversions that still remain laboratory curiosities. The reaction chemistry is, in detail, often very complex. However, because of the insight provided by organometallic reaction chemistry, many of the polymerization mechanisms are reasonably well understood, and the way in which product stereospecificity may be obtained is also understood in considerable detail. This highly complex subject is reviewed in detail in the second chapter of this volume by Prof. I. Pasquon and Dr. G. Giannini.

Horticulture Reviews is an open-ended, serial continuation series of review articles on research in commercial horticulture crops. This detailed analysis bridges the gap between the specialized researcher and the broader community of plant scientists.

The main purpose of this book is to offer a comprehensive historical analysis of the discussions on a crucial problem for the early modern theory of knowledge: the formal

mediation of sensible reality in intellectual knowledge.

This monograph examines the relationship between science and democracy. The author argues that there is no clear-cut division between science and the rest of society. Rather, scientists and laypeople form a single community of inquiry, which aims at the truth. To defend his theory, the author shows that science and society are both heterogeneous and fragmented. They display variable and shifting alliances between components. He also explains how information flow between science and society is bi-directional through "transactional" processes. In other words, science and society mutually define themselves. The author also explains how science is both objective and laden with values. Coverage includes a wide range of topics, such as: the ideal of value-free science, the is/ought divide, "thick terms" and the language of science, inductive risk, the dichotomy between pure science and applied science, constructivism and the philosophy of risk. It also looks at the concepts of truth and objectivity, the autonomy of science, moral and social inquiry, perfectionism and democracy, and the role of experts in democratic societies. The style is philosophical, but the book features many examples and case-studies. It will appeal to philosophers of science, those in science and technology studies as well as interested general readers.

Vols. for 1969- include a section of abstracts.

This book examines the distinction between principles and rules so that they can be better understood and applied. It structures the distinction between principles and rules on different foundations than those jurisprudence ordinarily employs. It also proposes a new model to explain the normative species, which includes structured weighing on the application process while encompassing substantive criteria of justice in its argument.

In occasione del suo settantesimo compleanno, amici, colleghi e allievi esplorano – in tre volumi che restituiscono il panorama del dibattito filosofico contemporaneo non solo italiano – i molteplici sentieri che caratterizzano l'impegno teorico di Eugenio Mazzarella. L'opera è organizzata attorno a tre diadi: ontologia e storia, etica e politica, poesia e natura, ciascuna indagata nel suo sviluppo storiografico e nella sua articolazione concettuale. Occasione più di confronto che di celebrazione, Metafisica dell'immanenza ben rappresenta il magistero di Mazzarella, che dell'incontro tra prospettive, talora all'apparenza anche poco compatibili, ha fatto il centro del suo pensiero, della sua poesia e della sua prassi politica.

Advances in Agronomy continues to be recognized as a leading reference and a first-rate source for the latest research in agronomy. As always, the subjects covered are varied and exemplary of the myraid of subject matter dealt with by this long-running serial. Volume 89 contains six comprehensive and timely reviews. Chapter 1 presents a thorough coverage of wet chemistry and state-of-the art molecular scale techniques, such as x-ray absorption fine structure (XAFS) and nuclear magnetic resonance (NMR) spectroscopies, that can be used to characterize phosphorus in organic wastes. Chapter 2 discusses the Wheat Genetics Resource Center that has served the scientific community for 25 years. These resources have been useful to scientists in 45 countries and 39 of the states in the U.S. Chapter 3 covers various aspects of the biology and management of Stevia, a sweet herb of Paraguay. Chapter 4 is a timely review of aspects of soil fertility decline in the tropics as assessed by soil chemical measurements. Chapter 5 covers nematode interactions and assessment of models for their control on crop plants. Chapter 6 presents data and algorithms on ammonia emission form animal operations, a current area of much interest in the area of environmental quality. Over 40 figures and 32 tables Presents a review of the present and future status of soil science Offers an analysis of biodiversity in agronomy

This book presents comparisons of recent accounts in the formalization of natural language (dynamic logics and formal semantics) with informal conceptions of interaction (dialogue, natural logic and attribution of rationality) that have been developed in both psychology and epistemology. There are four parts which explore: historical and systematic studies; the formalization of context in epistemology; the formalization of reasoning in interactive contexts in psychology; the formalization of pathological conversations. Part one discusses the Erlangen School, which proposed a logical analysis of science as well as an operational reconstruction of psychological concepts. These first chapters provide epistemological and psychological insights into a conceptual reassessment of rational reconstruction from a pragmatic point of view. The second focus is on formal epistemology, where there has recently been a vigorous contribution from experts in epistemic and doxatic logics and an attempt to account for a more realistic, cognitively plausible conception of knowledge. The third part of this book examines the meeting point between logic and the human and social sciences and the fourth part focuses on research at the intersection between linguistics and psychology. Internationally renowned scholars have contributed to this volume, building on the findings and themes relevant to an interdisciplinary scientific project called DiaRaFor ("Dialogue, Rationality, Formalisms") which was hosted by the MSH Lorraine (Lorraine Institute for Social Sciences and Humanities) from 2007 to 2011.

Historical linguistic theory and practice consist of a large number of chronological "layers" that have been accepted in the course of time and have acquired a permanence of their own. These range from neogrammarian conceptualizations of sound change, analogy, and borrowing, to prosodic, lexical, morphological, and syntactic change, and to present-day views on rule change and the effects of language contact. To get a full grasp of the principles of historical linguistics it is therefore necessary to understand the nature of each of these "layers". This book is a major revision and reorganization of the earlier editions and adds entirely new chapters on morphological change and lexical change, as well as a detailed discussion of linguistic palaeontology and ideological responses to the findings of historical linguistics to this landmark publication.

Insects are the most diverse group of organisms in the 3 billion-year history of life on Earth, and the most ecologically dominant animals on land. This book chronicles for the first

time the complete evolutionary history of insects: their living diversity, relationships and 400 million years of fossils. Whereas other volumes have focused on either living species or fossils, this is the first comprehensive synthesis of all aspects of insect evolution. The book is illustrated with 955 photo- and electronmicrographs, drawings, diagrams, and field photos, many in full colour and virtually all of them original. The book will appeal to anyone engaged with insect diversity: professional entomologists and students, insect and fossil collectors, and naturalists.

Horticultural Reviews presents state-of-the-art reviews on topics in horticultural science and technology covering both basic and applied research. Topics covered include the horticulture of fruits, vegetables, nut crops, and ornamentals. These review articles, written by world authorities, bridge the gap between the specialized researcher and the broader community of horticultural scientists and teachers.

This is the first volume in the new multi-volume set, Global Biodiversity. Each volume in this series aims to provide insightful information on the biodiversity of selected nations in particular regions. The volumes summarize the available data on both wild and cultivated plants, wild and domesticated animals, and microbes of the different nations. Global Biodiversity, Volume 1: Selected Countries in Asia focuses on selected countries of Asia, providing an abundance of biodiversity information on Afghanistan, Bangladesh, India, Indonesia, Iran, Iraq, Japan, Lebanon, Malaysia, Mongolia, Myanmar, Nepal, and Vietnam. The first chapter in the volume provides an informative overview of what is biodiversity along with biogeographic classifications. It provides explanations of biodiversity patterns and species number; biodiversity conservation, protection, and international commitments and cooperation; biodiversity threats and drivers of change (such as human population growth, climate change, land use change); and the economics of biodiversity as well.

This volume gives English readers for the first time an opportunity to study a representative selection of the writings of this early sixth-century author. It also presents Fulgentius's biography, the *Life*, for the first time in English.

Michel Foucault offers an iconoclastic exploration of why we feel compelled to continually analyze and discuss sex, and of the social and mental mechanisms of power that cause us to direct the questions of what we are to what our sexuality is.

First multi-year cumulation covers six years: 1965-70.

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