

Online Library Identification Of Pathogenic Fungi  
2nd Second Edition By Campbell Colin K  
Johnson Elizabeth M Published By Wiley  
Blackwell 2013

# **Identification Of Pathogenic Fungi 2nd Second Edition By Campbell Colin K Johnson Elizabeth M Published By Wiley Blackwell 2013**

Diseases caused by fungi have become a significant medical problem and are increasing at an alarming rate. The number of fungal species reported to cause disease is greater than ever some of these species had previously been considered harmless. The increase in the number of patients that are not immuno-competent, along with greater awareness and appreciation of opportunistic fungal infections, have highlighted the importance of accurate identification of fungi. This full-color handbook makes it possible to identify medically important fungi with ease and confidence. Whether the specimen is a common or unusual fungi, the authors take the mystery and difficulty out of identification. A greatly expanded, completely revised and updated edition based upon the highly acclaimed first edition (Identifying Filamentous Fungi). Now including more fungi, including yeasts, new tables, more color photographs, an expanded glossary, more descriptions. Includes two keys: a unique color-coded key you match the colors to those on colony surface, and a comprehensive dichotomous key. Additionally, accurate color photographs of each colony are provided along with precise photomicrographs and drawings to guide

your own microscopic observations. The format of the book is designed to facilitate accurate, easier identification. The author provide careful explanations of fungal identification techniques, stains, and media; useful for experienced laboratory personnel and scientists but also invaluable for those learning medical mycology. No other book has such extensive color photography and these unique identification keys.

"Colletotrichum" is a genus of plant pathogenic fungi of great economic importance, particularly in the tropics. This volume on the group covers topics such as taxonomy, cellular and molecular biology, epidemiology, field pathology and host resistance.

The definitive guide for identifying fungi from clinical specimens *Medically Important Fungi* will expand your knowledge and support your work by: Providing detailed descriptions of the major mycoses as viewed in patients' specimens by direct microscopic examination of stained slides Offering a logical step-by-step process for identification of cultured organisms, utilizing detailed descriptions, images, pointers on organisms' similarities and distinctions, and selected references for further information Covering nearly 150 of the fungi most commonly encountered in the clinical mycology laboratory Presenting details on each organism's pathogenicity, growth characteristics, relevant biochemical reactions, and microscopic morphology, illustrated with photomicrographs, Dr. Larone's unique and elegant drawings, and color photos of colony morphology and various test results Explaining the current changes in fungal taxonomy and nomenclature

that are due to information acquired through molecular taxonomic studies of evolutionary fungal relationships. Providing basic information on molecular diagnostic methods, e.g., PCR amplification, nucleic acid sequencing, MALDI-TOF mass spectrometry, and other commercial platforms. Including an extensive section of easy-to-follow lab protocols, a comprehensive list of media and stain procedures, guidance on collection and preparation of patient specimens, and an illustrated glossary. With Larone's *Medically Important Fungi: A Guide to Identification*, both novices and experienced professionals in clinical microbiology laboratories can continue to confidently identify commonly encountered fungi.

*The Yeasts: A Taxonomic Study* is a three-volume book that covers the taxonomic aspect of yeasts. The main goal of this book is to provide important information about the identification of yeasts. It also discusses the growth tests that can be used to identify different species of yeasts, and it examines how the more important species of yeasts provide information for the selection of species needed for biotechnology.

- Volume 1 discusses the identification, classification and importance of yeasts in the field of biotechnology.
- Volume 2 focuses on the identification and classification of ascomycetous yeasts.
- Volume 3 deals with the identification and classification of basidiomycetous yeasts, along with the genus *Prototheca*.

High-quality photomicrographs and line drawings. Detailed phylogenetic trees. Up-to-date, clearly presented yeast taxonomy and systematic, easy-to-use reference sequence accession numbers to allow for

correct identification

Since the first edition of Identification of Pathogenic Fungi, there has been incredible progress in the diagnosis, treatment and prevention of fungal diseases: new methods of diagnosis have been introduced, and new antifungal agents have been licensed for use. However, these developments have been offset by the emergence of resistance to several classes of drugs, and an increase in infections caused by fungi with innate resistance to one or more classes. Identification of Pathogenic Fungi, Second Edition, assists in the identification of over 100 of the most significant organisms of medical importance. Each chapter is arranged so that the descriptions for similar organisms may be found on adjacent pages. Differential diagnosis details are given for each organism on the basis of both colonial appearance and microscopic characteristics for the organisms described. In this fully updated second edition, a new chapter on the identification of fungi in histopathological sections and smears has been added, while colour illustrations of cultures and microscopic structures have been included, and high quality, four colour digital images are incorporated throughout. This manual covers all groups of fungi and fungus-like organisms and includes over 500 diagrams and line drawings. Descriptions of major groups (phylogenetic and artificial), simplified keys to family, and an illustrated glossary enable placement of common fungi into the appropriate taxonomic category. Text and glossary are coordinated to introduce fundamentals of mycological terminology. Over 30 pages of references are provided

for literature on identification of cultures and specimens, and references are also given for contemporary phylogenetic research on each major taxonomic group. Publisher.

Dear Colleagues, Cancer survival rates and successful organ transplantation in patients continues to increase due to improvements in early diagnosis and treatments. Since immuno-suppressive therapies are frequently used, the mortality rate due to secondary infections has become an ever-increasing problem. Opportunistic fungal infections are probably the deadliest threat to these patients due to their difficult early diagnosis, the limited effect of antifungal drugs and the appearance of resistances. In recent years, a considerable effort has been devoted to investigating the role of many virulence traits in the pathogenic outcome of fungal infections. New virulence factors (hypoxia adaptation, CO<sub>2</sub> sensing, pH regulation, micronutrient acquisition, secondary metabolites, immunity regulators, etc.) have been reported and their molecular mechanisms of action are being thoroughly investigated. The recent application of gene-editing technologies such as CRISPr-Cas9, has opened a whole new window to the discovery of new fungal virulence factors. Accurate fungal genotyping, Next Generation Sequencing and RNAseq approaches will undoubtedly provide new clues to interpret the plethora of molecular interactions controlling these complex systems. Unraveling their intimate regulatory details will provide insights for a more target-focused search or a rational design of more specific antifungal agents. This Special Issue is show significant

discoveries, proofs of concept of new theories or relevant observations in fungal pathogenesis and its regulation.

Dr. Fernando Leal Guest Editor

Written by the world's leading scientists and spanning over 400 articles in three volumes, the Encyclopedia of Food Microbiology, Second Edition is a complete, highly structured guide to current knowledge in the field. Fully revised and updated, this encyclopedia reflects the key advances in the field since the first edition was published in 1999. The articles in this key work, heavily illustrated and fully revised since the first edition in 1999, highlight advances in areas such as genomics and food safety to bring users up-to-date on microorganisms in foods.

Topics such as DNA sequencing and E. coli are particularly well covered. With lists of further reading to help users explore topics in depth, this resource will enrich scientists at every level in academia and industry, providing fundamental information as well as explaining state-of-the-art scientific discoveries. This book is designed to allow disparate approaches (from farmers to processors to food handlers and consumers) and interests to access accurate and objective information about the microbiology of foods. Microbiology impacts the safe presentation of food. From harvest and storage to determination of shelf-life, to presentation and consumption. This work highlights the risks of microbial contamination and is an invaluable go-to guide for anyone working in Food Health and Safety. Has a two-fold industry appeal (1) those developing new functional food products and (2) to all corporations concerned about the potential hazards of microbes in their food.

products

Noninfectious diseases; Infectious diseases; Ecology and taxonomy of pathogenic fungi; Disease control strategy; Disease diagnosis.

Pathogenic fungi are widely distributed and can infect many organisms, particularly humans, but also other vertebrates and insects. Due to a growing number of fungal infections, there is an increasing need to understand the interaction of pathogenic fungi with their hosts. This second completely updated and revised edition of Volume VI of *The Mycota* consists of state of the art reviews written by experts in the field, covering three major areas of this rapidly developing field. In the first part the current understanding of pathogenic fungi and the physiological reactions relevant for the pathogen - host interaction are elucidated. The second part describes novel technologies for the identification of proteins, virulence factors and mechanisms central to the host - pathogen interaction. The third part deals with the characterization of the host response towards pathogenic fungi and addresses timely clinical aspects.

This new edition of a standard reference includes classical methods and information on newer technologies, such as DNA hybridization and monoclonal antibodies.

A field and laboratory manual emphasizing the most practical methods for rapid identification.

Laboratory Protocols in Fungal Biology presents the latest techniques in fungal biology. This book analyzes information derived through real experiments, and focuses on cutting edge techniques in the field. The book comprises 57 chapters contributed from internationally recognised scientists and researchers. Experts in the field have provided up-to-date protocols covering a range of frequently used methods in fungal biology. Almost all important methods available in the area of fungal biology viz. taxonomic keys in fungi; histopathological and microscopy techniques; proteomics methods; genomics methods; industrial applications and related techniques; and bioinformatics tools in fungi are covered and compiled in one book. Chapters include introductions to their respective topics, list of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and notes on troubleshooting. Each chapter is self-contained and written in a style that enables the reader to progress from elementary concepts to advanced research techniques. Laboratory Protocols in Fungal Biology is a valuable tool for both beginner research workers and experienced professionals. Coming Soon in the Fungal Biology series: Goyal, Manoharachary / Future Challenges in Crop Protection Against Fungal Pathogens Martín, García-Estrada, Zeilinger / Biosynthesis and Molecular Genetics of Fungal

Secondary Metabolites Zeilinger, Martín, García-Estrada / Biosynthesis and Molecular Genetics of Fungal Secondary Metabolites, Volume 2 van den Berg, Maruthachalam / Genetic Transformation Systems in Fungi Schmoll, Dattenbock / Gene Expression Systems in Fungi Dahms / Advanced Microscopy in Mycology

This book focuses on techniques for isolation, cultivation, molecular and morphological study of fungi and yeasts. It has been developed as a general text, which is based on the annual mycology course given at the CBS-KNAW Fungal Biodiversity Centre (Centraalbureau voor Schimmelcultures). It provides an introductory text to systematic mycology.

Helps lab workers and medical technology students identify fungal pathogens under the microscope by their morphology and other features. Bandw illustrations and photomicrographs illustrate guides to interpretation of clinical specimens and identification of fungi in culture, with descriptions of filamentous bacteria, yeasts, thermally dimorphic fungi, and thermally monomorphic molds. A section on laboratory technique details lab procedures, staining methods, and media preparation. Includes an illustrated glossary. The latest edition adds new organisms, lab procedures, and staining methods. Annotation copyright by Book News, Inc., Portland, OR

Descriptions of Medical Fungi. Third Edition. Sarah

Kidd, Catriona Halliday, Helen Alexiou and David Ellis. 2016. This updated third edition which includes new and revised descriptions. We have endeavoured to reconcile current morphological descriptions with more recent genetic data. More than 165 fungus species are described, including members of the Zygomycota, Hyphomycetes, Dimorphic Pathogens, Yeasts and Dermatophytes. 340 colour photographs. Antifungal Susceptibility Profiles. Microscopy Stains & Techniques. Specialised Culture Media. References. 250 pages. Mycological studies of yeasts are entering a new phase, with the sequencing of multiple fungal genomes informing our understanding of their ability to cause disease and interact with the host. At the same time, the ongoing use of traditional methods in many clinical mycology laboratories continues to provide information for the diagnosis and treatment of patients. This volume reviews various aspects of pathogenic yeasts and what is known about their molecular and cellular biology and virulence, in addition to looking at clinical and laboratory findings. As each chapter is written by a leading expert in the field, this book summarizes in one volume much of the latest research on several pathogenic yeasts, including *Candida*, *Cryptococcus*, *Malassezia* and yeasts of emerging importance. The importance of laboratory diagnosis, antifungal susceptibility testing, antifungal resistance and yeast diseases in animals are reviewed. Understand the clinically important aspects of microbiology with this full-color review Includes more

than 20 case studies The twenty-seventh edition of Jawetz, Melnick & Adelberg's Medical Microbiology delivers a concise, up-to-date overview of the roles microorganisms play in human health and illness. Linking fundamental principles with the diagnosis and treatment of microbial infections, this classic text has been updated throughout to reflect the tremendous expansion of medical knowledge afforded by molecular mechanisms, advances in our understanding of microbial pathogenesis, and the discovery of novel pathogens. Along with brief descriptions of each organism, you will find vital perspectives on pathogenesis, diagnostic laboratory tests, clinical findings, treatment, and epidemiology. The book also includes an entire chapter of case studies that focuses on differential diagnosis and management of microbial infections. Here's why Jawetz, Melnick & Adelberg's Medical Microbiology is essential for USMLE review: 650+ USMLE-style review questions 300+ informative tables and illustrations 23 case studies to sharpen you differential diagnosis and management skills An easy-to-access list of medically important microorganisms Coverage that reflects the latest techniques in laboratory and diagnostic technologies Full-color images and micrographs Chapter-ending summaries Chapter concept checks Jawetz, Melnick & Adelberg's Medical Microbiology introduces you to basic clinical microbiology through the fields of bacteriology, virology, mycology, and parasitology, giving you a thorough yet understandable review of the discipline. Exploring breakthroughs in fungal detection and control, this book covers fungal nomenclature, population

instability, and phylogeny, as well as investigative research on Peronosporomycetes, Zygomycetes, Filamentous Ascomycetes, Basidiomycetous Yeasts, Endomycetes and Blastomycetes, and Miscellaneous Opportunistic Fungi. It offers methods to identify Medical mycology deals with those infections in humans, and animals resulting from pathogenic fungi. As a separate discipline, the concepts, methods, diagnosis, and treatment of fungal diseases of humans are specific. Incorporating the very latest information concerning this area of vital interest to research and clinical microbiologists, Fundamental Medical Mycology balances clinical and laboratory knowledge to provide clinical laboratory scientists, medical students, interns, residents, and fellows with in-depth coverage of each fungal disease and its etiologic agents from both the laboratory and clinical perspective. Richly illustrated throughout, the book includes numerous case presentations.

Naturally present bioactive compounds in plants are referred to as "Phytochemicals" and are being studied extensively for their role in human health. Studies have shown that they can have an important role to play in the prevention and management of several human diseases. Recognizing the increasing interest in this area, this book is being published in response to the need for more current information globally about phytochemicals and their role in human health. Chapters of the book are authored by internationally recognized authors who are experts in their respective field of expertise. The chapters represent both original research as well as up-

to-date and comprehensive reviews. We are sure that the book will be an important reference source meeting the needs of a wide range of interest groups.

Identification of Pathogenic Fungi John Wiley & Sons  
Almost 200 fungal entities covered information from various authors schematic line drawings color photographs.

This dissertation, "Identification of Pathogenic Fungal Isolates by ITS Sequencing" by Ching-lai, Lau, ???, was obtained from The University of Hong Kong (Pokfulam, Hong Kong) and is being sold pursuant to Creative Commons: Attribution 3.0 Hong Kong License. The content of this dissertation has not been altered in any way. We have altered the formatting in order to facilitate the ease of printing and reading of the dissertation. All rights not granted by the above license are retained by the author. Abstract: In clinical microbiology laboratories, the conventional method for identification of pathogenic fungi is based on fungal culture and observation of fungal phenotypic characters. However, it is time-consuming, subjective and unreliable due to the long incubation period and variations in fungal colony morphology. Thus, there is a need for a rapid, objective and accurate identification of pathogenic fungal isolates. ITS regions are most commonly used targets for molecular identification of fungal pathogens because of the optimal inter- and intra-species variations and large copies in fungal genome. In this study, twenty-two clinical fungal isolates were identified using the phenotypic method and ITS sequencing. The results showed that there were only thirteen isolates identified to

species level by phenotypic method, while others were only differentiated in genus level. Due to the poor differentiation based on the conventional phenotypic approach, misidentification of fungal pathogens occasionally occurred. However, ITS sequencing successfully achieved accurate species-level identification of all fungal isolates. The results were demonstrated in phylogenetic trees with high bootstrap support. In conclusion, ITS sequencing is a rapid and reliable for the identification of pathogenic fungal isolates. DOI: 10.5353/th\_b5091411 Subjects: Pathogenic fungi - Identification

The fungal genus *Botrytis* is the focus of intensive scientific research worldwide. The complex interactions between this pathogen and the plants it infects and the economic importance of the diseases caused by *Botrytis* (principally grey mould) on more than 1400 species of cultivated plants pre- and post-harvest, render this pathogen of particular interest to farmers, advisers, students and researchers in many fields worldwide. This 20-chapter book is a comprehensive treatise covering the rapidly developing science of *Botrytis* and reflecting the major developments in studies of this fungus. It will serve as a source of general information for specialists in agriculture and horticulture, and also for students and scientists interested in the biology of this fascinating, multifaceted phytopathogenic fungal species.

In the last few decades, DNA-based tools for the

investigation of fungal taxonomy, signal transduction and regulation, differentiation processes and biosynthetic potential have accelerated advances in our understanding of the Mycota. This completely updated and revised second edition presents a selection of exciting issues involving basic and applied aspects of fungal physiology and genetics. In 14 chapters, respected experts provide an overview of traditional, topical and future aspects of basic fungal principles and potential applications in biotechnology. The contributions will bring scientists up-to-date on the latest developments, and help students familiarize themselves with the different topics.

16 pages of colour plates to aid identification  
Only published text available where all relevant material is referenced together  
This manual enables the isolation and identification of bacteria that are found in aquatic animals (particularly fish). The emphasis is on bacteria from farmed aquatic animals (fish, molluscs and crustacea) but some attention is also given to other marine and freshwater animals such as mammals and birds, both captive (as in zoos) or wild, as well as aquarium fish.

Environmental Mycology in Public Health: Fungi and Mycotoxins Risk Assessment and Management provides the most updated information on fungi, an essential element in the survival of our global ecology that can also pose a significant threat to the

health of occupants when they are present in buildings. As the exposure to fungi in homes is a significant risk factor for a number of respiratory symptoms, including allergies and hypersensitivity pneumonitis, this book presents information on fungi and their disease agents, important aspects of exposure assessment, and their impacts on health. This book answers the hard questions, including, "How does one detect and measure the presence of indoor fungi?" and "What is an acceptable level of indoor fungi?" It then examines how we relate this information to human health problems. Provides unique new insights on fungi and their metabolites detection in the environmental and occupational settings Presents new information that is enriched by significant cases studies Multi-contributed work, edited by a proficient team in medical and environmental mycology with different individual expertise Guides the readers in the implementation of preventive and protective measures regarding exposure to fungi

In the last few decades more and more yeast habitats have been explored, spanning cold climates to tropical regions and dry deserts to rainforests. As a result, a large body of ecological data has been accumulated and the number of known yeast species has increased rapidly. This book provides an overview of the biodiversity of yeasts in different habitats. Recent advances achieved by the

application of molecular biological methods in the field of yeast taxonomy and ecology are also incorporated in the book. Wherever possible, the interaction between yeasts and the surrounding environment is discussed.

Now available from ASM Press, this lavishly illustrated atlas sets the standard for innovative techniques in medical mycology. It illustrates the diversity of fungal agents and provides ample molecular data for the majority of clinically relevant fungi. In addition, antifungal susceptibility data is given for most species, providing essential knowledge for the clinician in view of adequate therapy. Numerous emerging opportunistic species are covered including recently described agents of brain infection such as *Ramichloridium mackenziei* and *Cladophialophora modesta*, as well as several *Trichoderma* species. Molecular data include rDNA SSU restriction maps for genera and rDNA ITS restriction maps for species. Phylogenetic overviews of the fungal Kingdom in general, and many important groups in detail, are also provided. This comprehensive volume also offers a list of doubtful names and insufficiently proven cases and references more than 3,400 fungal names that have appeared in the medical literature.

This practical book provides an updated resource for the identification of bacteria found in animals inhabiting the aquatic environment, illustrated with

colour photos. It contains expanded biochemical identification tables to include newly identified pathogenic and saprophytic bacteria, molecular identification tests now available for a greater number of aquatic bacterial pathogens, more information on the pathogenesis and virulence of each organism and new coverage of traditional and molecular identification of fungal pathogens and quality assurance standards for laboratories.

*Pictorial Atlas of Soil and Seed Fungi: Morphologies of Cultured Fungi and Key to Species*, Third Edition describes and illustrates more than 515 fungal species, including: 49 oomycetous species belonging to seven genera 42 zygomycetous species belonging to 12 genera 52 ascomycetous species belonging to 28 genera 42 basidiomycetous species belonging to

*The Fungi* provides a comprehensive microbiological perspective on the importance of fungi, one of the most diverse groups of living organisms. Their roles in the natural world and in practical applications from the preparation of foods and beverages to drug production, and their relationship with man, animals and plants are clearly described. The recent contributions of molecular biology to mycology and the development of molecular methods for the study of fungal ecology, pathology and population genetics are also covered. This invaluable work has been completely revised and updated. With new material relating to molecular biology, this new and highly successful title continues to be essential reading for students and researchers. New to the second edition:

Modern classification Medical and veterinary mycology  
section Organelles and processes involved in hyphal  
growth Molecular methods in ecology and pathology  
Production of new drugs of fungal origin Question and  
answer sections Colour plate section Praise for the first  
edition: "An enjoyable way to survey the subject of  
modern mycology. We are fortunate to have this  
excellent textbook." --MYCOLOGIA "The text is  
beautifully written and an understanding and enthusiasm  
for this important group of organisms comes through on  
every page." --TRENDS IN MICROBIOLOGY "This will  
improve undergraduate learning and promote a more  
integrated understanding of fungal biology. I will certainly  
use it in my teaching and am sure many others will do  
likewise." --NEW PHYTOLOGIST "The coverage is  
extensive and informative. I am very pleased to  
recommend this book to those who want to know and  
understand fungi." --BIODIVERSITY AND  
CONSERVATION

Fungal diseases have contributed to death and disability  
in humans, triggered global wildlife extinctions and  
population declines, devastated agricultural crops, and  
altered forest ecosystem dynamics. Despite the  
extensive influence of fungi on health and economic well-  
being, the threats posed by emerging fungal pathogens  
to life on Earth are often underappreciated and poorly  
understood. On December 14 and 15, 2010, the IOM's  
Forum on Microbial Threats hosted a public workshop to  
explore the scientific and policy dimensions associated  
with the causes and consequences of emerging fungal  
diseases.

Fungi have come into demand as sources of biological control agents and of particular physiological active substances. Recent studies indicate that fungi can be the prime cause of sinusitis, asthma, and allergenic troubles. Some fungi can be useful however, and can be used to improve the overall quality of human life. With very few books available

This book is specially written for researchers at various levels, for example, in forestry, agriculture, industry, university and college laboratories. It describes the fungal pathogenicity; resistance behavior of fungal biofilms and its mechanisms; different categories of fungal infection and colonization patterns with example relevant to soybean; characteristics of white rot of corn cob and head smut of maize such as cycle, pathogenicity factors, control methods, the abilities of chitosan and its derivatives to elicit resistance reactions in plants and its action in the production and viability of fungal spores; and the mode of actions of single constituents of different essential oils depending on different case studies. In addition, this book also describes the importance of synthetic peptides as an alternative tool for the diagnosis of cryptococcosis. Finally, a survey of fungal diseases occurring on trees of Namibia is described. This survey is the first dedicated step to find ways of protecting them from disease-causing agents.

The Bad Bug Book 2nd Edition, released in 2012, provides current information about the major known agents that cause foodborne illness. Each chapter in this book is about a pathogen—a bacterium, virus, or

parasite—or a natural toxin that can contaminate food and cause illness. The book contains scientific and technical information about the major pathogens that cause these kinds of illnesses. A separate “consumer box” in each chapter provides non-technical information, in everyday language. The boxes describe plainly what can make you sick and, more important, how to prevent it. The information provided in this handbook is abbreviated and general in nature, and is intended for practical use. It is not intended to be a comprehensive scientific or clinical reference. The Bad Bug Book is published by the Center for Food Safety and Applied Nutrition (CFSAN) of the Food and Drug Administration (FDA), U.S. Department of Health and Human Services.

Fungi enjoy great popularity in pharmaceutical, agricultural, and biotechnological applications. Recent advances in the decipherment of whole fungal genomes promise an acceleration of these trends. This timely book links scientists from different parts of the world who are interested in the molecular identification of fungi combined with the exploration of the fungal biodiversity in different ecosystems. It provides a compendium for scientists who rely on a rapid and reliable detection of fungal specimens in environmental as well as clinical resources in order to ensure the benefit of industrial and clinical applications. Chapters focus on the opportunities and limits of the molecular marker-mediated identification of fungi. Various methods, procedures and strategies are outlined. Furthermore, the book offers an update of the current progress in the development of fungal molecular techniques, and draws attention to potential and

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associated problems, as well as integrating theory and practice.

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