Linguistic Variation And Change Edinburgh Sociolinguistics

This is the first volume to focus on the role of media in processes of linguistic change, one of the most contested issues in contemporary sociolinguistics. Its 17 chapters and five section commentaries present cutting-edge research from variationist and interactional sociolinguistics, media linguistics, language ideology research, and minority language studies. The volume advances our understanding of linguistic change in a mediated world in three ways. First, it introduces the notions of sociolinguistic change and mediatization to create a broader theoretical framing than the one offered by ‘the media’ and ‘language change’. Second, it takes the discussion beyond the notions of ‘influence’ and ‘effect’ and the binary distinction of ‘media’ vs. ‘community language’. Third, it examines the relation of sociolinguistic change and mediatization and from five complementary viewpoints: media influence on linguistic structure; media engagement in interaction; change in mass and new media language; language-ideological change; and the role of media for minority languages. Bringing these strands of sociolinguistic scholarship together, this volume examines their shared references and common lines of thinking.

The second edition of the definitive reference on contact studies and linguistic change—provides extensive new research and original case studies Language contact is a dynamic area of contemporary linguistic research that studies how language changes when speakers of different languages interact. Accessibly structured into three sections, The Handbook of Language Contact explores the role of contact studies within the field of linguistics, the value of contact studies for language change research, and the relevance of language contact for sociolinguistics. This authoritative volume presents original findings and fresh research directions from an international team of prominent experts. Thirty-seven specially-commissioned chapters cover a broad range of topics and case studies of contact from around the world. Now in its second edition, this valuable reference has been extensively updated with new chapters on topics including globalization, language acquisition, creolization, code-switching, and genetic classification. Fresh case studies examine Romance, Indo-European, African, Mayan, and many other languages in both the past and the present. Addressing the major issues in the field of language contact studies, this volume: Includes a representative sample of individual studies which re-evaluate the role of language contact in the broader context of language and society Offers 23 new chapters written by leading scholars Examines language contact in different societies, including many in Africa and Asia Provides a cross-section of case studies drawing on languages across the world The Handbook of Language Contact, Second Edition is an indispensable resource for researchers, scholars, and students involved in language contact, language variation and change, sociolinguistics, bilingualism, and language theory.

The Romance languages offer a particularly fertile ground for the exploration of the relationship between language and society in different social contexts and communities. Focusing on a wide range of Romance languages – from national languages to minoritized varieties – this volume explores questions concerning linguistic diversity and multilingualism, language contact, medium and genre, variation and change. It will interest researchers and policy-makers alike.

The dimensions of time and space fundamentally cause and shape the variability of all human language. To reduce investigation of this insight to manageable proportions, researchers have traditionally concentrated on the deepest dialects. But it is increasingly apparent that, although most people still speak with a distinct regional coloring, the new mobility of speakers in recently industrialized and postindustrial societies and the efflorescence of communication technologies cannot be ignored. This has given rise to a reconsideration of the relationship between geographical place and cultural space, and the fundamental link between language and a spatially bounded territory. Language and Space: An International Handbook of Linguistic Variation seeks to take full account of these developments in a comprehensive, theoretically rich way. The introductory volume examines the concept of space and linguistic approaches to it, the structure and dynamics of language spaces, and relevant research methods. A second volume offers the first thorough exploration of the interplay between linguistic investigation and cartography, and subsequent volumes uniformly document the state of research into the spatial dimension of particular language groupings. Key features: comprehensive coverage of the field in terms of theory and methods the unique volume stands alone, since it neither is a handbook of dialectology or of areal linguistics, nor a handbook on language variation alone gathers together a great number of distinguished scholars and experts in the field

This book presents a synchronic investigation of variation and change processes in Carlisle English, a variety spoken in the far north-west of England. The dataset is based on sociolinguistic interviews and the variation in the variables Goose, Go'st and Foot, (T), (R) and (TH) is analysed quantitatively in order to detect diffusion and levelling processes as outcomes of dialect contact scenarios in Carlisle.

The study of variation and change is at the heart of the sociolinguistics. Providing a wide survey of the field, this textbook is organised around three constraints on variation: linguistic structure, social structure and identity, and social and linguistic perception. By considering both structure and meaning, Scott F. Kiesling examines the most important issues surrounding variation theory, including canonical studies and terms as well as challenges to them.

The Guidebook to Sociolinguistics presents a comprehensive introduction to the main concepts and terms of sociolinguistics, and of the goals, methods, and findings of sociolinguistic research. Introduces readers to the methodology and skills of doing hands-on research in this field Features chapter-by-chapter classic and contemporary case studies, exercises, and examples to enhance comprehension Offers wide-ranging coverage of topics across sociolinguistics. It begins with multilingualism, and moves on through language choice and variation to style and identity Takes students through the challenges involved in conducting their own research project Written by one of the leading figures in sociolinguistics

The British Isles are home to a vast range of different spoken and signed languages and dialects. Language continues to evolve rapidly, in its diversity, in the number and the backgrounds of its speakers, and in the repercussions it has had for political and educational affairs. This book provides a comprehensive survey of the dominant languages and dialects used in the British Isles. Topics covered include the history of English; the relationship between Standard and Non-Standard Englishes; the major non-standard varieties spoken on the islands; and the history of multilingualism; and the educational and planning implications of linguistic diversity in the British Isles. Among the many dialects and languages surveyed by the volume are British Black English, Celtic languages, Chinese, Indian, European migrant languages, British Sign Language, and Anglo-Romani. Clear and accessible in its approach, it will be welcomed by students in

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sociolinguistics, English language, and dialectology, as well as anyone interested more generally in language within British society.

English Accents and Dialects is an essential guide to contemporary social and regional varieties of English spoken in the British Isles today. Together with invaluable overviews of numerous regional accents and dialects, this fifth edition provides a detailed description of key features of Received Pronunciation (RP) as well as several major non-standard varieties of English. Key features: main regional differences are followed by a survey of speech in over 20 areas of the UK and Ireland, audio samples of which are available to download at www.routledge.com/cw/hughes recent findings on London English, Aberdeen English and Liverpool English contains new entries on Hull, Manchester, Carlisle, Middlesbrough, Southampton, London West Indian, Lancashire and the Shetlands additional exercises with answers online accompany the new varieties clear maps throughout for locating particular accents and dialects. This combination of reference manual and practical guide makes this fifth edition of English Accents and Dialects a highly useful resource providing a comprehensive and contemporary coverage of speech in the UK and Ireland today.

This book looks at the ever-present anxieties associated with language change. Focusing on English from Alfred the Great to the present, Tim Machan offers a fresh perspective on the history of language. He reveals amusing and sometimes disconcerting aspects of our linguistic and social behavior and suggests that anxiety about language has sometimes allowed us to avoid the issues we really find disturbing: when speakers of English worry over grammar, sounds, or words the real source of their anxiety is often not language at all but issues like immigration or social instability. Drawing on an array of evidence from archives, literature, history, polemics, and the press, as well as centuries of legislation, Tim Machan uncovers the perennial nature of concerns about the poverty and purity of English. There has never been a time, he shows, when we weren't worried about the corruption of language and its apparent connections with educational standards, the morality of youth, the integrity of society, and the identity of our nations. This is a fascinating story, told here in consummate fashion, combining insight and anecdote, and learning with wit - a book for everyone interested in languages and the people who speak them.

Dialects are constantly changing, and due to increased mobility in more recent years, European dialects have 'levelled', making it difficult to distinguish a native of Reading from a native of London, or a native of Bonn from a native of Cologne. This comprehensive study brings together a team of leading scholars to explore all aspects of recent dialect change, in particular dialect convergence and divergence. Drawing on examples from a wide range of European countries - as well as areas where European languages have been transplanted - they examine a range of issues relating to dialect contact and isolation, and show how sociolinguistic conditions differ hugely between and within European countries. Each specially commissioned chapter is based on original research, giving an overview of work on that particular area and presenting case studies to illustrate the issues discussed. Dialect Change will be welcomed by all those interested in sociolinguistics, dialectology, the relevance of language variation to formal linguistic theories, and European languages.

Departing from Schneider and Barron (2008), representing the emerging field of Variational Pragmatics, this volume examines pragmatic variation focusing on methods utilized to collect and analyze data in a variety of first (L1) and second (L2) language contexts. The objectives are to: (1) examine variation in such areas of pragmatics as speech acts, conventional expressions, metapragmatics, stance, frames, mitigation, communicative action, (im)politeness, and implicature; and (2) critically review central methodological concerns relevant for research in pragmatic variation, such as coding, ethical issues, qualitative and quantitative methods, and individual variation. Theoretical frameworks vary from variationist and interactional sociolinguistics, to variational pragmatics. This collection contains eleven chapters by leading scholars, including two state-of-the art chapters on key methodological issues of pragmatic variation study. Given the theoretical perspectives, methodological focus, and analyses, the book will be of interest to those who study pragmatics, discourse analysis, second language acquisition, sociolinguistics, corpus linguistics, and language variation.

Investigates when and how preschool children acquire the vernacular norms of the community they come from.

The papers in this volume address the interplay of factors underlying the formation of intermediate varieties in the ‘dialect-standard’ landscape of present-day Europe. Research is presented on varieties of several different languages (Norwegian, Dutch, German, Italian, Spanish, Greek), on speech communities with different (geo)political and sociolinguistic histories, as well as on previously unexplored sociolinguistic situations. The contributions all share the twin characteristics of (a) robust scrutiny of structural variation and its links to both structural-systemic parameters and extralinguistic variables and (b) nuanced approaches to macro- and micro- level categories, with the requisite theoretical and methodological fine-tuning. While focusing on different languages/language groups, the papers in this volume share the common foci of bringing together structural and sociolinguistic considerations and of the concomitant necessary revisiting of methodologies. The data and analyses presented yield a firmer and more nuanced understanding of the dynamic permutations of cross-dialectal and dialect-to-standard convergence and the formation of intermediate varieties in different yet comparable contexts.

Linguistics – the close study of language and languages – is an indispensable foundation for all forms of knowledge. The African continent is blessed with hundreds of languages which act as local repositories of culture and interaction. South Africa alone has eleven official languages, plus Sign Language, many heritage languages, and new languages of global movements and migration. Part of the linguist's business is to document, record and affirm languages and diversity. Applied linguists use their training to understand and enhance the role of language in education and upliftment, and the opportunities and challenges of new technologies of communication. The International Congress of Linguists
meets every five years to reflect the development of the field and 2018 is the first time that the congress is being held in Africa. This book is a collection of the plenary and focus papers presented at the conference and thus represents current thinking in the major branches of language study as represented by leading local and international scholars. The papers discuss the history of languages, their structure, acquisition, diversity and use. At the same time due regard is paid to the African continent in connection with its linguistic diversity, multilingualism and educational and societal concerns. The Congress is meant to affirm the value of the languages of Africa, of languages and Linguistics in general, as well as to inspire and equip younger scholars to undertake advanced research into language in its many facets.

Historical sociolinguistics has now established itself as a separate independent field of linguistic inquiry, and the impact of its theoretical and empirical advances are reflected in a thriving body of publications of various types. This volume adds to this flourishing array by presenting nine original studies by highly accomplished scholars holding a prominent reputation in the field. The overarching objective of the volume is to call attention to contemporary trends and innovative developments in the discipline and, more generally, to highlight current research on the relationship between sociolinguistics and historical linguistics, social motivations of language variation and change, and corpus-based studies. The overall interdisciplinary nature of the contributions, the variety of languages they examine and the range of themes they address are distinguishing features of the book, which also make it appealing to a wider readership. The general themes covered by the volume include how to define the historical and social dimensions in historical sociolinguistics research, historical second-language use and multilingualism, the role and relevance played by linguistic ideologies and attitudes in language choices, usage, policy (standardization and preservation), and language death. More specific topics addressed are the linguistic strategies employed to convey and defend religious ideology or to heighten the overall persuasiveness of the information provided. Controversial and/or under-researched issues are tackled, such as authorship and gender in the study of private documents, the regularization and standardization of English orthography, and the issue of speakers' awareness of the dissociation between spoken and written language. In addition, several contributions are methodologically linked by employing data from epistolary correspondence.

Knowing About Language is an essential and comprehensive introduction to and discussion of the value of linguistics in the secondary and post 16 curriculum. Split into three easily accessible parts, each chapter draws on theoretical and practical reasons for developing language awareness for the teacher and student, the impact of government and institutional policy on teaching and teacher knowledge, and explores recent research about the value of linguistic knowledge to support student attainment. Expert contributors show how recent innovations in linguistics can support language teaching by providing a range of practical ideas that can be used in the classroom. Knowing About Language is a valuable theoretical, critical and practical guide for the teacher and researcher, and anyone interested in applied linguistics and the study of language in education. Written by authors who are passionate about the value of language study both as a classroom topic and more generally, this book acts as a resource to inform and support teachers in wider aspects of their role by demonstrating the powerfully enabling nature and inherent value of language study and linguistics in secondary and post-16 curricula.

Like all skilful authors, the composer of the biblical books of Luke and Acts understood that a good story requires more than a gripping plot - a persuasive narrative also needs well-portrayed, plot-enhancing characters. This book brings together a set of new essays examining characters and characterization in those books from a variety of methodological perspectives. The essays illustrate how narratological, sociolinguistic, reader-response, feminist, redaction, reception historical, and comparative literature approaches can be fruitfully applied to the question of Luke's techniques of characterization. Theoretical and methodological discussions are complemented with case studies of specific Lukan characters. Together, the essays reflect the understanding that while many of the literary techniques involved in characterization attest a certain universality, each writer also brings his or her own unique perspective and talent to the portrayal and use of characters, with the result that analysis of a writer's characters and style of characterization can enhance appreciation of that writer's work.

This book presents the first systematic quantitative study of null subjects not only in British English, but also in the contact varieties Indian, Hong Kong and Singapore English. Analysing informal spoken language, it addresses issues relevant for language contact and World Englishes, corpus linguistics and variationist sociolinguistics, linguistic typology and syntax. A Framework for Cognitive Sociolinguistics attempts to lay out the epistemological system for a cognitive sociolinguistics—the first book to do so in the English language. The intention of this volume is not to provide a simple catalog of sociolinguistic principles or of theoretical postulates of a cognitive nature, but rather it aims to build a verifiable metatheoretical basis for cognitive sociolinguistics. This book is articulated through a series of propositions, accompanied by annotations and commentaries that develop, qualify and exemplify these propositions. As for the research questions that would be central to a cognitive sociolinguistic endeavor, the following incomplete catalog could be enumerated: What do speakers know about their language? What do they know about communicative interaction? What do speakers know about sociolinguistic variation? Where does that knowledge reside and how is it configured? How does social reality influence the origin and processing of language? How does language use affect the configuration, evolution and variation of language? What do speakers know about their socio-communicative context? How do speakers perceive sociolinguistic reality? What are speakers' attitudes and beliefs regarding linguistic variation? How does sociolinguistic perception influence speakers' communicative behavior at all levels? How does language contribute to the construction of identity? Offering a fresh perspective on the frequently taught and studied topic of cognitive linguistics, A Framework for Cognitive Sociolinguistics can easily be incorporated into existing courses in the areas of both cognitive and sociocultural linguistics.
Sociolinguistics in Scotland presents a comprehensive overview of sociolinguistic research in Scotland and showcases developments in sociolinguistic theory, method and application, highlighting Scotland's position as a valuable 'sociolinguistic laboratory'. This book is a key resource for those interested in language use in Scotland.

Sociolinguistic Variation and Change

A Dictionary of Varieties of English presents a comprehensive listing of the distinctive dialects and forms of English spoken throughout the contemporary world. Provides an invaluable introduction and guide to current research trends in the field. Includes definitions both for the varieties of English and regions they feature, and for terms and concepts derived from a linguistic analysis of these varieties. Explores important research issues including the transportation of dialects of English, the rise of 'New Englishes', sociolinguistic investigations of various English-speaking locales, and the study of language contact and change. Reflects our increased awareness of global forms of English, and the advances made in the study of varieties of the language in recent decades. Creates an invaluable, informative resource for students and scholars alike, spanning the rich and diverse linguistic varieties of the most widely accepted language of international communication.

This book explores the ways in which linguistic variation and complex social practices interact toward the formation of male interactional identities in a sports club in Dublin, illustrating the affordances of studying sporting contexts in contributing to advancing sociolinguistic theory. Adopting a participant-informed ethnographic approach, the book examines both the social interactional contexts within the club and the sociopragmatic and sociophonetic features which contribute to the different performances of masculinity in and outside the club. The volume focuses particularly on the linguistic analysis of humor and its multifunctional uses as a means of establishing solidarity and social ties but also aggression, competitiveness, and status within the social world of this club as well as similar such clubs across Ireland. The book’s unique approach is intended to complement and build on existing sociolinguistic studies looking at linguistic variation in groups by supporting quantitative data with ethnographically informed insights to look at social meaning in interaction from micro-, meso-, and macro-levels. This book will be of particular interest to graduate students and scholars in sociolinguistics, language, gender, and sexuality, and language and identity.

"First issued as an Oxford University Press paperback, 2015"--Title page verso.

This third edition of Miriam Meyerhoff's highly successful textbook provides a solid, up-to-date appreciation of the interdisciplinary nature of the field and covers foundation issues, recent advances and current debates. It presents familiar or classic data in new ways, and supplements the familiar with fresh examples from a wide range of languages and social settings. It clearly explains the patterns and systems that underlie language variation in use, as well as the ways in which alternations between different language varieties index personal style, social power and national identity. New features of the third edition: Every chapter has been revised and updated with current research in the field, including material on sexuality, polylinguaging and lifespan change; Additional Connections with theory and Facts: No, really? are included throughout; Data from sign languages, historical linguistics and Asia-Pacific sociolinguistics have been revised and expanded; A brand new companion website featuring more examples and exercises can be found at www.routledge.com/textbooks/meyerhoff. Chapters include exercises that enable readers to engage critically with the text, break-out boxes making connections between sociolinguistics and linguistic or social theory, and brief, lively add-ons guaranteed to make the book a memorable and enjoyable read. With a full glossary of terms and suggestions for further reading, this text gives students all the tools they need for an excellent command of sociolinguistics. It can also be used in conjunction with The Routledge Sociolinguistics Reader, Doing Sociolinguistics and the online resources shared by all three books.


This volume presents a selection of Peter Trudgill's major works since 1990 in the field of sociolinguistics. The book deals with a number of different but related topics. One theme is the role of English in the world, and the nature of standard English or Englishes. Another is language as a human issue, reflecting the author's concern that the results of sociolinguistic research should be made available to assist, wherever possible, with the solution of educational and other real-world problems. Reflecting a multitude of developments in the study of language change and variation over the last ten years, this extensively updated second edition features a number of new chapters and remains the authoritative reference volume on a core research area in linguistics. A fully revised and expanded edition of this acclaimed reference work, which has established its reputation based on its unrivalled scope and depth of analysis in this interdisciplinary field includes seven new chapters, while the remainder have undergone thorough revision and updating to incorporate the latest research and reflect numerous developments in the field. Accessibly structured by theme, covering topics including data collection and evaluation, linguistic structure, language and time, language contact, language domains, and social differentiation brings together an experienced, international editorial and contributor team to provides an unrivalled learning, teaching and reference tool for researchers and students in sociolinguistics.

The ‘third wave’ of variation study, spearheaded by the sociolinguist Penelope Eckert, places its focus on social meaning, or the inferences that can be drawn about speakers based on how they talk. While social meaning has always been a concern of modern sociolinguistics, its aims and assumptions have not been explicitly spelled out until now. This pioneering book provides a comprehensive overview of the central tenets of variation study, examining several components of dialects, and considering language use in a wide variety of cultural and linguistic contexts. Each chapter, written by a leader in the field, posits a unique theoretical claim about social meaning and presents new empirical data to shed light on the topic at hand. The volume makes a
case for why attending to social meaning is vital to the study of variation while also providing a foundation from which variationists can productively engage with social meaning.

The second edition of this hugely successful textbook provides comprehensive coverage of a wide range of topics in theoretical and applied linguistics. Written by leading academics in the field, this text offers a firm grounding in linguistics and includes engaging insights into current research. It covers all the key areas of linguistic analysis, including phonetics, morphology, semantics and pragmatics, and core domains of study, comprising the history of the English language, regional and social variation, style and communication and interaction. Fresh material on research methods outlines key areas for consideration when carrying out a research project, and provides students with the framework they need to investigate linguistic phenomena for themselves.

This is an invaluable resource for both undergraduate and postgraduate students on English language and linguistics degree programmes. New to this Edition: - Seven new chapters covering topics such as second language acquisition, corpus linguistics and research methods - A number of chapters have been substantially revised, including those on World Englishes, Literacies in Cyberspace and TEFL, TESOL and Linguistics - Fully updated throughout to reflect the latest advances in the field Language, Gender, and Sexuality offers a panoramic and accessible introduction to the ways in which linguistic patterns are sensitive to social categories of gender and sexuality, as well as an overview of how speakers use language to create and display gender and sexuality. This book includes discussions of trans/non-binary/genderqueer identities, embodiment, new media, and the role of language and interaction in sexual harassment, assault, and rape. Drawing on an international range of examples to illustrate key points, this book addresses the questions of: how language categorizes the gender/sexuality world in both grammar and interaction; how speakers display, create, and orient to gender, sexuality, and desire in interaction; how and why people display different ways of speaking based on their gender/sexual identities. Aimed at students with no background in linguistics or gender studies, this book is essential reading for anyone studying language, gender, and sexuality for the first time.

This book reflects on the future of the English language as used by native speakers, speakers of nativized New Englishes, and users of English as a lingua franca (ELF). The volume begins by outlining the current position of English in the world and accounts for the differences among native and nativized varieties and ELF usages. It offers a historical perspective on the impact of language contact on English and discusses whether the lexicogrammatical features of New Englishes and ELF are shaped by imperfect learning or deliberate language change. The book also considers the consequences of writing in a second language and questions the extent to which non-native English-speaking academics and researchers should be required to conform to ‘Anglo’ patterns of text organization and ‘English Academic Discourse’. The book then examines the converse effect of English on other languages through bilingualism and translation. This volume is essential reading for students and scholars in English language and linguistics - particularly those who wish to extend their coverage in other works.

This book outlines a model of language that can be characterized as functionalist, usage-based, dynamic, and complex-adaptive. The core idea is that linguistic structure is not stable and uniform, but continually refreshed by the interaction between three components: usage, the communicative activities of speakers; conventionalization, the social processes triggered by these activities and feeding back into them; and entrenchment, the individual cognitive processes that are also linked to these activities in a feedback loop. Hans-Jorg Schmid explains how this multiple feedback system works by extending his Entrenchment-and-Conventionalization Model, showing how the linguistic system is created, sustained, and continually adapted by the ongoing interaction between usage, conventionalization, and entrenchment. Filling the promise of usage-based accounts, the model explains how exactly usage is transformed into collective and individual grammar and how these two grammars in turn feed back into usage. The book is exceptionally broad in scope, with insights from a wide range of linguistic subdisciplines. It provides a coherent account of the role of multiple factors that influence language structure, variation, and change, including frequency, economy, identity, multilingualism, and importance of World Englishes and numerous theoretical subfields of Linguistics. Part III offers detailed accounts of the structure and social histories of specific varieties of English spoken across the globe, highlighting points of theoretical interest. The collection closes with a set of case studies that exemplify the type of analysis encouraged by the volume. As attention is focused on innovative work at the interface of dialect description and theoretical explanation, the book is more succinct in its treatment of applied themes, which are given complementary coverage in other works.
and language contact. This collection identifies the main theoretical and methodological issues currently preoccupying researchers in social dialectology, drawing not only on variation in English in the UK, USA, New Zealand, Europe and elsewhere but also in Arabic, Greek, Norwegian and Spanish dialects. The volume brings together previously unpublished work by the world's most prolific and well-respected social dialectologists as well as by some younger, dynamic researchers. Together the authors provide new perspectives on both the traditional areas of sociolinguistic variation and change and the newer fields of dialect formation, dialect diffusion and dialect levelling.

A historically, spatially and methodologically rich sub-field of sociolinguistics, Linguistic Landscapes (LL) is a rapidly evolving area of research and study. With contributions by an international team of experts from the USA, Europe, the UK, South Africa, Israel, Hong Kong and Colombia, this volume is a cutting-edge, interdisciplinary account of the most recent theoretical and empirical developments in this area. It covers both the conceptual tools and methodologies used to define and question, and case studies of real-world phenomena to showcase Linguistic Landscapes methods in action. Divided into four parts, chapters bring into dialogue themes relating to reterritorialization practices and the productive nature of boundaries and spaces. This book considers the contemporary challenges facing the field, the politics and processes of identifying and demarcating 'sites of research', and the ethics and pedagogical applications of LL research. With comprehensive lists of further reading, extended discussion questions and suggestions for independent research at the end of each chapter, this is an essential reference work for all LL scholars and students who wish to keep abreast of the current state of the art.