



UNIVERSITY OF
CAMBRIDGE

Research Centre for English
and Applied Linguistics

ANNUAL REPORT 2006–2007



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RCEAL ANNUAL REPORT 2006–7

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Research Centre for English and Applied Linguistics

1. ORGANISATION OF THE RESEARCH CENTRE 2006–2007

RCEAL Committee of Management

William Brown (Chair)

Montague Burton Professor of Industrial Relations, Chair of the Faculty of Social and Political Sciences.

John Hawkins (Secretary)

Professor of English and Applied Linguistics, Director of RCEAL.

Richard Beadle

Reader in English Literature and Historical Bibliography, Faculty of English.

Michael Evans

Senior Lecturer in Education, Faculty of Education.

Simon Lebus

Group Chief Executive of Cambridge Assessment and Chairman of OCR (Oxford Cambridge and RSA Examinations).

Michael Milanovic

Cambridge Assessment, Head of ESOL (English for Speakers of Other Languages).

Francis Nolan

Professor of Phonetics, Head of Department, Faculty of Modern and Medieval Languages, Department of Linguistics.

Lorraine Tyler

MRC Research Professor of Cognitive Neuroscience. Head of the Centre for Speech and Language.

David Willis

Lecturer, Department of Linguistics.

Boping Yuan

Senior Lecturer in Chinese Language and Linguistics, Faculty of Oriental Studies.

Patrick Rebuschat

RCEAL student representative.

RCEAL Appointments Committee

Malcolm Schofield (Chair)

Professor of Ancient Philosophy, Department of Classics.

John Hawkins (Secretary)

Professor of English and Applied Linguistics, Director of RCEAL.

William Brown

Montague Burton Professor of Industrial Relations, Chair of the Faculty of Social and Political Sciences.

Richard Beadle
Reader in English Literature and Historical Bibliography, Faculty of English.

Ted Briscoe
Professor of Computational Linguistics, NLIP Group, University Computer Laboratory.

Lorraine Tyler
MRC Research Professor of Cognitive Neuroscience, Head of Centre for Speech and Language.

Boping Yuan
Senior Lecturer in Chinese Language and Linguistics, Faculty of Oriental Studies.

RCEAL Academic Staff

Professor and Director of RCEAL.
John Hawkins, MA, PhD (Cambridge).

Assistant Directors of Research

James Blevins, BA (Bishop's University, Canada), PhD (University of Massachusetts, Amherst).

Henriëtte Hendriks, MA, PhD (Leiden).

Teresa Parodi, MA (Buenos Aires), PhD (Düsseldorf).

John Williams, BA (Durham), PhD (Cambridge).

Senior Research Associates

Paula Buttery, MA, MPhil, PhD (Cambridge).

Napoleon Katsos, BA (Athens) MPhil, PhD (Cambridge).

Anna Korhonen, BA (Helsinki), MA (Reading), MPhil, PhD (Cambridge).

Brechtje Post, MA, PhD (Nijmegen).

Administrative Staff

Administrator of the Centre

Susan Rolfe.

Librarian/Graduate Secretary

Barbara Jones.

Technical Staff

Computer Associate

Michael Franklin, MA, PhD (Cambridge), FSA, FRHistS, MBCS, CITP.

Visitors

Visiting Lecturers

From ESOL, Cambridge Assessment, University of Cambridge:

Evelina Dimitrova-Galaczi, BA (Sophia), MA (Columbia), PhD (Columbia).

Anthony Green, BA, PGCE, MA (Southampton), MA (Reading), PhD (Surrey).

Neil Jones, BA (Bristol), MSc (Edinburgh), PhD (Edinburgh).

Hanan Khalifa, BA (Egypt), MA (Reading), PhD (Reading).

Stuart Shaw, BSc (Manchester), Dip. Phys (Sheffield), MPhil (Oxford).

Lynda Taylor, BA (Manchester), MPhil, PhD (Cambridge), MSc (Aston).

Affiliated Lecturers

Keith Brown, BA (Cambridge), PhD (Edinburgh).
Chieko Kuribara, BA (Rikkyo), MA (UCL), PhD (Reading).
Friedemann Pulvermüller, BA (Rottenburg), MA, (Tübingen), PhD (Konstanz).

Visiting Fellow

Alastair Pollitt, BSc, MEd (Aberdeen).

Collaborative Visitors

Dora Alexopoulou, Marie-Curie Fellow Lille III, France.
Elaine Andersen, University of Southern California, Los Angeles, USA.
Bernard Comrie, Max Planck Institute for Evolutionary Anthropology, Germany.
Elisabeth Delais-Roussarie, CNRS/Université de Paris VII, France.
Giuliana Fiorentino, Università Degli Studi del Molise, Italy.
Laura Gonnerman, Lehigh University, Pennsylvania, USA.
Belma Haznedar, Bogazici University, Turkey.
Maya Hickmann, CNRS, Paris VIII, France.
Ruth Kempson, Kings College London, UK.
Jieun Kiaer, King's College London, UK.
Yuval Krymolowski, Bar-Ilan University, Israel.
Thierry Poibeau, Laboratoire d'Informatique de Paris-Nord, France.
Cristel Portes, Université de Provence, Aix-en-Provence, France.
Aline Villavicencio, Universidade Federal do Rio Grande do Sul, Brazil.

Academic Visitors

Academic Visitors are appointed for one to three terms:
Laura Atzori, Università per Stranieri, Perugia, Italy.
Bert Cappelle, Katholieke Universiteit Leuven, Belgium.
Bin Chen, Guangdong University of Foreign Studies, PR China.
Shengmei Chen, Lanzhou University, PR China.
Nicoletta Chiapedi, Università per Stranieri, Perugia, Italy.
Yuan Gao, Graduate School of Chinese Academic Sciences, PR China.
Li Hao, Shanxi Normal University, PR China.
Fengguang Liu, Dalian University of Foreign Languages, PR China.
Haiqing Liao, Sun Yat-sen University, PR China.
Dongmei Ma, Nanjing University of Technology, PR China.
Sheila Thomas, Open University, Milton Keynes, UK.
Jian Wang, Shanghai International Studies University, PR China.
Yougui Wang, South China Normal University, PR China.
Jun Xu, Dalian University of Foreign Languages, PR China.
Yufeng Zhang, Harbin Engineering University, PR China.

Visiting Scholars in the Summer Vacation

Khaled Jebahi, The Higher Institute of Applied Biology, Medenine, Tunisia.
Temenuzhka M Seizova-Nankova, Episkop Konstantin Preslavsky University,
Shumen, Bulgaria

RCEAL PhD Students

	<i>Supervisor</i>
Bettina Beinhoff	Henriëtte Hendriks
Melanie Bell	James Blevins
Andrew Caines	James Blevins
Kyungchul (Leo) Chang (<i>completed</i>)	James Blevins
Amanda Cheung	John Williams
Gordon Chi	John Williams
Vassiliki (Vicky) Chondrogianni (<i>completed</i>)	Teresa Parodi
Valérie Dörrzapf	John Williams
Milja Đurković (<i>completed</i>)	Teresa Parodi
Linet Frey	John Williams
Youping Han	Teresa Parodi
Yinglin Ji	Henriëtte Hendriks
Gorazd Kert (<i>completed</i>)	James Blevins
Tihana Kraš	Teresa Parodi
Eleni Kriempardis	John Williams
Janny Leung (<i>completed</i>)	John Williams
Maja Miličević	Teresa Parodi
Lavanya Sankaran	Henriëtte Hendriks
Patrick Rebuschat	John Williams
Sharmaine Seneviratne	Henriëtte Hendriks
Ivana Vidaković (<i>completed</i>)	Teresa Parodi
Daniel Weston	Henriëtte Hendriks
Caroline Williams	John Hawkins
Tae Yamazaki-Hasegawa	Teresa Parodi

2. DIRECTOR'S REPORT

Let me start with my annual comment about our title and its significance. We are the Research Centre for English and Applied Linguistics. This means we are a research centre, first of all, and as readers will see in the pages that follow there is a lot of high quality and cutting-edge research that is being conducted within the walls of our beautiful new building. What we work on is the English language and English linguistics, and applied linguistics in a broad and perhaps novel sense. My predecessor as director, Gillian Brown, set the academic direction with her insistence that ours was a theoretically based approach to applied linguistics, as well as an interdisciplinary one bridging between linguistics and psychology. I have taken this a step further with the addition of more areas, such as computational linguistics, and with some initial steps into "medical linguistics". I have also tried to exploit the new opportunities that come with our new building and its enhanced space, by reaching out to other language science departments on campus and to Cambridge Assessment and by collaborating with them, and by (strongly) encouraging the pursuit of research funds wherever possible. We need research funds not only in order to do the actual research, we must also enhance our basic budget and make up for the disappointing performance of the University's Amalgamated Fund since the late 1990s. This fund contains most of our endowment and we rely heavily on the money that it earns. The yield has barely increased in the last eight years, while costs and salaries have risen considerably. Teaching revenue from our MPhil and PhD students now covers only a small portion of our annual costs. I am pleased to report that external funding from a variety of sources has begun to flow into the Centre, for research projects, conferences

and other research costs including staff salaries, and more is in the pipeline. The financial future of RCEAL looks much better at this point.

But back to basics, what exactly do we do? Our research on English includes English grammar (phonology, morphology, syntax and semantics), the learning of English as both a first and a second language, the use of English (as recorded and measured in corpora and in psycholinguistic experiments), and the similarities and contrasts between English and other languages.

Applied linguistics has different meanings at different universities. Here at Cambridge it refers, first, to the application and exchange of theories and data across the current disciplines that constitute the language sciences, in a word 'interdisciplinarity'. Insights and findings from linguistics are applied to psychology, to education, and to computer science, for example. Conversely, insights and findings from these disciplines are fed back into linguistic theories. Applied linguistics in this sense is much like applied mathematics: an inherently interdisciplinary venture in which mathematics/linguistics serves other disciplines, and vice versa, and in which the boundaries between theory and application are increasingly blurred. Through interdisciplinary co-operation we can do better science that will ultimately be useful to those who need to solve practical problems involving English, in language teaching, textbook publishing, testing, in computers that use English, and in medical diagnosis. I am pleased to see that a number of other institutions around the world are now setting up applied linguistics programs and doing applied linguistics in this interdisciplinary sense. Perhaps they have been reading our website!

Chapter 3 of this report summarizes the research projects of our academic staff and PhD students. The major areas we cover now include: English and general linguistics; first language acquisition, second language acquisition and learning theory; the English Profile Project; language processing; semantics and pragmatics; and computational linguistics. There is a rich range of topics covered here and I have enjoyed compiling and editing all the entries that the staff and PhD students have given me. Annual reports such as this have the benefit of making us all more aware of what we do within the Centre. And for those of you reading this year's report from outside, please do not hesitate to get in touch with the relevant researchers if you want more information or wish to give your input.

There have been two significant, high-profile conferences hosted by RCEAL this year, both in collaboration with other academic units. The first was a conference on Language and Music as Cognitive Systems held in May 2007 and organized jointly with the Centre for Music and Science at Cambridge, directed by Dr Ian Cross. By general agreement this conference was a huge success. It was attended by so many delegates (in the end over 300 people registered) that we could scarcely find adequate space for everyone. There was a stellar international cast of keynote speakers representing the different contributing areas of linguistics, music, psychology, physiology and neuroscience, plus a large number of high-quality regular papers and posters. What was striking throughout the conference, to me personally, was the number of people who commented that they were discovering how much work relevant to their own was going on in some other discipline. Psycholinguists, for example, heard all about experiments in music perception that incorporate standard psycholinguistic experimental techniques, adapted to musical sounds and structural groupings in music and to fascinating combinations of linguistic and musical stimuli. It is no exaggeration to say that this conference helped to define a new interdisciplinary collaboration. Full details are given in the conference report in chapter 4 below. At the conference dinner at Jesus College, Jamshed Barucha, the provost of Tufts University and one of our keynote speakers, told me that he was

inspired by our event to organize a follow-up conference in North America in 2008, and this follow-up has recently been announced.

The success of the Language and Music collaboration requires special mention of two very gifted individuals who were its principal organizers: RCEAL graduate student Patrick Rebuschat and Music graduate student Martin Rohrmeier. While they were attending one of our interdisciplinary PhD seminars on learning over a year ago, taught by John Williams, they realized there was a need for a meeting that would bring their two fields together for one big moment of mutual awareness. How right they were! What started out as a workshop turned, by popular demand, into a larger conference and then, by the end, into a mega-conference. This made organizing it a real challenge, but both Patrick and Martin rose to the challenge and were superbly efficient. They put in a lot of time and a lot of effort and I cannot find sufficient words of praise for them. They also told me something which we should all listen to: it was a lot of work, but at the same time it was a great learning experience for them. Some people have suggested to me that graduate students shouldn't be organizing conferences like this and should get on with their PhDs. Ian Cross and I disagree. When you have graduate students like Patrick and Martin, and they come up with a great idea, you support them and you let them run with it. I think we've been proven right. I also want to put on record how much I enjoyed working together with Ian Cross, and how much I learned from him. Special thanks also to the Arts and Humanities Research Council (AHRC) and to the music sponsor Sempre for their financial support, and to the Cambridge Centre for Research in the Arts, Social Sciences and Humanities (CRASSH) for both financial and logistical assistance.

A second international and interdisciplinary conference that we held this year focussed on a single linguistic structure, relative clauses (as in *the book that the professor bought* in English). Relative clauses are important structures for identifying entities, they are quite frequent, and at the same time they are syntactically and semantically quite complex. They have been increasingly well-studied in different areas of the language sciences, in formal grammar, typology, first and second language acquisition and language processing, to name just a few, but it seemed to us that there was not yet sufficient mutual awareness of empirical findings and theoretical insights across these areas. At a workshop two years at the Max Planck Institute for Evolutionary Anthropology in Leipzig we explored the idea of holding a conference that would bring people together to do exactly that, and Cambridge was mentioned as a favoured venue. The conference took place in September 2007, with generous financial support from the MPI in Leipzig and co-hosted by RCEAL and by the Linguistics Department of the MPI directed by Bernard Comrie. The primary organizer was Dora Alexopoulou (Cambridge/Lille), with myself, Ian Roberts, Teresa Parodi and John Williams as members of the local organizing committee. Again there was a large and stellar cast of invited speakers and many high-quality regular talks and posters with contributors coming from many different countries, especially North America. Just about everybody commented to me how much they had learned from the occasion and how useful it had been for them. Further details of the conference are given in chapter 4 below. Once again whenever you run a conference like this, there is a huge amount of work to be done and not insignificant expense. Dora Alexopoulou (Affiliated Lecturer at RCEAL and Marie Curie postdoctoral fellow at Lille) did a wonderful and efficient job, for which I want to thank her. I also learned a great deal from her in our planning sessions as discussion of logistical details often turned into more substantive issues, such as the difference between gap strategies and resumptive pronouns. Further thanks go to the Cambridge Scandinavian Studies Fund and to Cambridge Assessment, both of which sponsored keynote speakers and their

expenses. Thanks also to CRASSH for its logistical and conference-organizing support. But special thanks again to Dora, the main organizer.

We continue to expand our collaborations with other units at Cambridge. RCEAL collaborates with the Medical Research Council Cognition and Brain Sciences Unit (CBU) in Cambridge, at a number of levels. For example, Friedemann Pulvermüller from CBU is now an affiliated researcher at RCEAL, and he teaches a very successful and much-appreciated PhD course for us on the neuroscience of language in the Easter term. A joint research grant has been submitted for funding by RCEAL's computational linguists Anna Korhonen and Paula Buttery, by Professor Marslen-Wilson of the CBU, and by Professor Lorraine Tyler of the Department of Experimental Psychology in Cambridge. The project involves a series of neuro-cognitive experiments that examine the processing of core components of language, in morphology, syntax and semantics, using linguistic input that is automatically extracted from relevant spoken language data. Further details are given in chapter 3F below. Korhonen and Buttery both continue their active collaboration with Professor Ted Briscoe and other members of the Cambridge Computer Lab (see again chapter 3F).

We continue our active collaboration with the Department of Linguistics at Cambridge and with members of several foreign language departments. Kirsty McDougall (Linguistics) and John Williams (RCEAL) co-taught a very successful statistics course. Many members of the Department of Linguistics were discussants or speakers at our conferences on Language and Music and on relative clauses, graduate students from Linguistics provided invaluable assistance with conference organization, and members of staff from around the whole campus helped with chairing sessions and introducing invited speakers. We are grateful to them all. Many students from other departments, in turn, benefited from our PhD courses and seminars. This year's offerings were: Language Learning and Cognition Seminar (John Williams); Language Acquisition Seminar (Henriëtte Hendriks and Teresa Parodi); Language Typology Course (John Hawkins); Statistics Course (John Williams and Kirsty McDougall); Neuroscience of Language Course (Friedemann Pulvermüller); Notions of Gradience and Cross-linguistic Variation (Dora Alexopoulou) and Computational Linguistics (Paula Buttery).

The English Profile Project has made significant progress during 2006-07, it now involves several members of RCEAL, and real results are beginning to emerge, sufficient to warrant a new section devoted specifically to it in our research reports in chapter 3. This project is a joint one with the Cambridge ESOL group of Cambridge Assessment led by Mike Milanovic and Nick Saville, with Cambridge University Press, and with the British Council and English UK. A vital further contributor is the Cambridge Computer Laboratory whose computational linguistics section is headed by Professor Ted Briscoe. The first stage of the project, described in last year's report, involved automatic tagging and parsing of the Cambridge Learner Corpus using Briscoe's Robust Automatic Statistical Parser (RASP). Paula Buttery played a key role in implementing this, helped by Caroline Williams whose PhD is now being funded by Cambridge Assessment. The basic goals of the project are to identify and define criterial features of each of the six proficiency levels used in Cambridge English language examinations throughout the world. The project differs from earlier studies by being empirically based, by incorporating psycholinguistic metrics of complexity, and by controlling for different first languages and hence for 'transfer' effects.

RCEAL's contributors during 2006-07 included Buttery, Hendriks, and Parodi, in addition to myself, with the assistance of Dora Alexopoulou and Caroline Williams. Presentations of ongoing work were made by members of the team at the

January 2007 seminar of the English Profile Project held at Hughes Hall, Cambridge, and then at July and September 2007 workshops for mostly outside participants and stake-holders, from academia, education and government ministries, again held in Cambridge. Buttery also made a presentation about the project at the Linguistic Society of America Summer Institute meeting in Stanford University in July, highlighting the new corpus search tools she had built. The second half of the academic year was devoted to consolidating the preliminary research findings and especially to defining the way forward. A number of research grant proposals were written by members of the RCEAL team for submission to Cambridge Assessment in order to compensate the Research Centre for staff time and other expenses that will be incurred during 2007-08. These proposals were all accepted and next year's research phase begins on 1st October 2007. Full details are given in chapter 3C below.

Research collaborations also continue to grow between RCEAL and other universities and research centres in Britain, in Europe, in America and in Asia, and details of these are given in the research reports of chapter 3. It will be clear from all these examples that RCEAL really has now become an interdisciplinary bridge, here in Cambridge and in the language sciences as a whole. There is so often insufficient mutual awareness across the different areas of the language sciences and the great strength of Cambridge University is that it has such outstanding personnel in so many departments. It just takes a bit of persuasion, and a bit of glue, to pull people together in mutually beneficial ways, and I believe we have succeeded in doing this during the last few years.

Ten MPhil students completed the demanding MPhil course that RCEAL has offered for many years now. This interdisciplinary and theoretically-oriented programme is an important part of our outreach since many of our students have university positions abroad teaching advanced levels of English and English linguistics. Some of this year's students will continue into the PhD programme here, Jeffery Hanna and Meg Zellers, and they are to be congratulated on gaining admission. Congratulations also to our PhD students who successfully completed and defended their dissertations this year (listed on page 40).

This is the last of my three years as Head of Department at RCEAL. Starting on 1st October 2007 Dr Henriette Hendriks will assume this role for the next three years. Both I and our Management Committee have every confidence that she will do a great job and that RCEAL will thrive. She has shown a real talent for organisation and administration, in addition to her excellent research record and teaching, and we all wish her well.

I will personally be taking up a Professorship in Linguistics at the University of California, Davis, while keeping the Professorship of English and Applied Linguistics at Cambridge, on a research and part-time basis. I intend to remain fully involved with a number of projects at Cambridge, and I plan to exploit my rather unique position, with feet on both sides of the Atlantic, to develop collaborations that can benefit both California and Cambridge. I am looking forward to this exciting new lifestyle - if you know of any good remedies for jet-lag, however, let me know! The trigger for this unexpected move was forced retirement in the UK, which does not exist in the USA and which the EU was supposed to get rid of in 2006, but didn't. For those of us with advancing years and young children, premature retirement creates long-term and also short-term problems, especially when you have come from outside Britain, as I did. In any case, who wants to retire when there is so much more to be done! The new joint arrangement will make it possible for me to keep the research momentum going at RCEAL in a number of projects and to set up some new ones of an international nature.

As I hand over my administrative role, it is important to acknowledge the person who has really run the Centre during these last three years: Susan Rolfe. What an incredible administrator! And what a delight to be part of a team that is run by someone with her soft-spoken efficiency, kindness and good judgement. She is unique. She has also been most ably assisted by Barbara Jones, and I want to acknowledge Barbara's contributions as well. I am pleased to announce that we have been given the go-ahead to make two new part-time administrative staff appointments, one in the financial accounting area, the other a receptionist. This will enable us to restructure and redistribute the excessive workload that Susan and Barbara have had to endure, and to upgrade our current staff positions. Among many further benefits let me mention just one: Susan will now be able to spend more time on research grants and grant-related services, which as I mentioned at the outset has become increasingly vital to our wellbeing.

Let me give special thanks, finally, to all of RCEAL's staff for helping me as Head of Department these last three years. We have done some good things together, I think, we are moving in the right direction, and the future looks bright.

3. RESEARCH PROJECTS

A. English and General Linguistics

Hawkins continued his interdisciplinary and collaborative research programme on language universals. It examines grammatical variation across the world's languages and performance variation within individual languages, and it integrates linguistic and psycholinguistic theories in trying to account for this variation (see his most recent book *Efficiency and Complexity in Grammars*, Oxford University Press, 2004). Its most original feature is the hypothesis that the patterns and preferences found in performance in languages with several structures of a given type (e.g. alternative word orders) are the same patterns and preferences one finds across languages in the fixed conventions of grammars that permit less variation (i.e. in fixed word orders). This is referred to as the 'Performance-Grammar Correspondence Hypothesis'. One of its consequences is that processing principles need to enter the very core of linguistic theorizing in order to explain grammars and grammatical variation. Conversely, grammars can provide relevant data for psycholinguists, testing hypotheses and assumptions in their processing models. Grammatical data are useful since processing theories are still largely based on data from a limited set of familiar European languages and have not yet come to grips with the challenges for on-line processing that are posed by typological diversity. Hawkins argues this point in a paper that appeared in a special issue of *New Ideas in Psychology* 25 entitled 'Processing typology and why psychologists need to know about it' (pp.87-107). He also pursued the performance-grammar correspondence perspective further in a paper on language acquisition that appeared in *Studies in Second Language Acquisition* 29: 'Acquisition of relative clauses in relation to language universals' (pp.337-344).

Hawkins also completed a paper on word order typology to appear in a volume on *Case and Grammatical Relations* published by OUP. It involves the ordering of oblique phrases (such as English prepositional phrases) in relation to direct objects (O) and verbs (V): opened [the door] [with the key] and put [the book] [on the table] and their counterparts in other languages. *The World Atlas of Language Structures* (Map 84, compiled by Dryer with Gensler 2005) established an interesting asymmetry between head-initial (VO) and head-final (OV) grammars: the former have a consistent and almost exceptionless preference for VOX orders (where X refers to the oblique phrase); the latter have variable basic orders, all of XOY, OXY and OYX are productively attested, and there are fewer clear basic orders than in VO languages. In

the paper he pursues this asymmetry from the perspective of the ‘processing typology’ programme, examining alternative orderings of V, O and X within and across languages. His Performance-Grammar Correspondence Hypothesis predicts that the principles underlying variation in performance (or the lack of it) are the same principles that underlie variation in grammars (or the lack of it), and hence that performance and processing can help us better understand grammatical variation, in this case the asymmetry between VO and OV with respect to obliques. Performance data from English and Japanese lead to predictions for grammars that are tested on various samples and on the WALS database. Common patterns and principles are found in both sets of data, supporting the hypothesis and the proposed performance explanation for grammars. Caroline **Williams** assisted Hawkins in this work with the collection and analysis of grammatical data.

In another paper completed for a forthcoming OUP volume Hawkins returned to the two central notions in the title of his most recent book, efficiency and complexity, and considers the precise relationship between them. The notion of complexity has received more attention than efficiency and there have been serious attempts to define metrics for it. He argues that these metrics are currently of limited value. They do not succeed in defining the structural preferences of language use and of grammars that they are designed to predict. Instead he argues that efficiency is the primary concept that we should be defining, he outlines some of the different ways in which efficiency is achieved, and he links degrees of complexity in performance and grammars to this larger theory of efficiency.

Some problems for an adequate definition of linguistic complexity include: *trade-offs* (simplicity in one part of the grammar often results in complexity in another); *overall complexity* (there is no good metric for complexity throughout a whole grammar); *defining grammatical properties* (the structural units of grammars are often clearly definable, but the rules and representations are not and there are significant disagreements among grammarians); *defining complexity itself* (should the definition be stated in terms of rules or principles that generate the structures of each grammatical area or in terms of the structures themselves?). Hawkins proposes that some of these problems can be solved if metrics of complexity are embedded in a larger theory of efficiency. Efficiency relates to the basic function of language, which is to communicate information from the speaker to the hearer rapidly and with minimal processing effort. Complexity metrics are defined on the grammar and structure of language. An important component of efficiency often involves structural and grammatical simplicity. But sometimes efficiency results in greater complexity. And it also involves additional factors that determine the speaker’s structural selections, leading to the observed preferences of performance, including: *speed* in delivering linguistic properties in on-line processing; *fine-tuning* structural selections to (i) frequency of occurrence and (ii) accessibility; and *few on-line errors* or garden paths. These factors interact, sometimes reinforcing sometimes opposing one another. Hawkins argues that grammatical conventions across languages have conventionalized these performance factors and also reveal a similar interaction and competition between them.

Blevins’ research over the past year has mainly been concerned with the analysis of complex morphological systems and the development of word-based models of morphology that incorporate an information-theoretic perspective. These interests are reflected in a number of publications, including ‘Word-based morphology’ in *Journal of Linguistics* 42.3, 531–73, ‘Estonian conjugation classes’ in *Linguistica Uralica* (in press) and ‘Case and declensional paradigms’ in *The Handbook of Case* (edited by Malchukov and Spencer, Oxford University Press). A related monograph, *Word and Paradigm Morphology*, is currently being completed

for publication, along with an edited volume, *Analogy in Grammar*, both with Oxford University Press. Longer-term interests in syntax and morphosyntax are reflected in ‘Thematic inversion in Georgian’ in *Natural Language and Linguistic Theory* (in press), ‘The post-generative enterprise’ in *Journal of Linguistics* (to appear) and ‘Feature-based grammar’ in *Nontransformational Syntax* (edited by Borsley and Börjars, Blackwell), and in a volume *Periphrasis and Paradigms* (co-edited with Ackerman and Stump, CSLI, Stanford).

A more pedagogical interest is reflected in ‘English inflection and derivation’ in the *Handbook of English Linguistics* (edited by Aarts and McMahon, Blackwell, 507–536, 2006). A number of shorter articles deal with particular formal or typological issues or aspects of the history of linguistics. These include ‘The Post-Bloomfieldians’, ‘Passive and impersonal constructions’, ‘Features and feature structures’ (*Elsevier Encyclopedia of Language and Linguistics*, 2nd edn 2006).

Chang’s PhD thesis, *Complex predicates in English*, supervised by Blevins, was completed and defended in 2007. It investigates predicates consisting of a verb and secondary predicate in which these elements form a grammatical and semantic unit that excludes any syntactic arguments. The resulting ‘complex predicates’ provide an useful treatment of a range of predicative constructions in English, from phrasal verbs through resultatives and various types of ‘clause union’, and which can be classified on a scale from fully non-compositional to transparently compositional.

Caines began his PhD research this, under the supervision of Blevins, carrying out a corpus-based study of progressive aspect constructions in English. He is examining the auxiliary verb in particular, looking for the contexts in which it may be omitted, and the constraints against such ‘auxiliary-drop’. His initial findings are that aux-drop is mainly restricted to the spoken language medium – conversational registers especially – and that it happens most prolifically in present tense questions with second person pronominal subjects (eg. *you talking to me?*). This indicates that it is a phenomenon of efficiency, interaction and the vernacular. It furthermore highlights the well-known fact that the auxiliary is relatively insignificant, not only in semantic but also phonetic terms. Future sociolinguistic investigation may show that it is a spreading feature, if younger age groups are found to omit the auxiliary more often than their seniors.

Heys has continued with his research into language shift in Hong Kong and Gibraltar, supervised by Henriette **Hendriks** and Laura **Wright**. A variety of techniques, including observation, interviews and questionnaires, has been developed to see whether or not a shift away from Spanish is occurring in the speech habits of children and teenagers in the latter territory. Preliminary data suggest not only that this language shift is occurring but that the Spanish of some Gibraltarian teenagers may be in the process of obsolescing. A similar battery of tests is being developed to determine if code-switching is becoming more widespread in Hong Kong, and if the type of code-switching is shifting from the insertion of isolated NPs below the clause level to more complex intra- and inter-sentential switching.

One of the central topics in **Parodi**’s research has been the syntax and morphology of finiteness. Clitics are of special interest since in some languages they are considered agreement markers, given that they can co-occur with full NPs and are obligatory in a number of well-defined contexts. Details of her research in this area are given in section B. A further syntactic and morphological topic that she has addressed is that of functional categories in the nominal, particularly the existence of a D(eterminer)-category cross-linguistically, the features that different languages encode in it, and the relation between a Num(ber)-category and the marking of number in the NP. This topic is addressed by her PhD students Chondrogianni and Han (see section B).

Post has continued her research on prosodic variation within the project ‘Different phonological structures in prosody? - The effect of speaking rate and style in spoken French’, see Annual Report 2005-06. The main objective of the project has been to investigate the role that speaking rate and style play in the realisation of prosodic structures in utterances, testing her earlier phonological account of French (*Tonal and phrasal structures in French intonation*, Doctoral dissertation; The Hague: Holland Academic Graphics, 2000).

In a production experiment, conflicting claims that have been made in the literature about the phonetic realization and the phonological status of rises were investigated. Pitch movements in French intonation contours have traditionally been claimed to mark accented syllables, even though they tend to coincide with the edges of word groups (cf. Post’s earlier work). Recent proposals either reanalyse all of them as boundary phenomena, or distinguish between edge-marking for word-initial movements and accentuation for word- or group-final movements. If the pitch movements in these different positions are in fact all accents, one would expect them to be affected in the same way by factors such as speaking rate, while showing different phonetic realizations in different contexts (i.e. the prosodic and segmental structure of the utterance). In addition, their phonetic realization in terms of the timing relative to the segmental structure could lend further support to the traditional view. That is, pitch accents in Greek, Dutch, English and Mexican Spanish have been shown to be segmentally anchored, i.e. showing constant timing relative to the segmental structure at different speaking rates (Ladd et al. (1999). Constant “segmental anchoring” of F0 movements under changes in speech rate. *Journal of the Acoustical Society of America* 106: 1543-1553). If similar pitch movements in French can be shown to behave in the same way, this would argue for an analysis as pitch accents. The results confirmed Post’s hypotheses: they support an analysis of French rises as segmentally anchored (L)H* pitch accents. This implies that a unified account of French pitch movements can be given, and that the principle of segmentally anchored pitch targets also holds in French.

Closely related to this research is the project which **Post** coordinates for the EC Marie Curie Research Training Network *Sound to Sense* (May 2007 – May 2011). The network brings together phoneticians, phonologists, language acquisition specialists, computational linguists, engineers and psychologists from 13 universities in 10 countries who aim to provide models of speech processing that closely reflect the flexibility and robustness of human speech processing. The aim of Project 8 ‘Prosodic structure and fine phonetic detail: segmental-suprasegmental interaction’ is to elucidate how disparate acoustic parameters – including the timing of fundamental frequency peaks and troughs – covary to cause language-specific interpretations of prosodic properties and conversational functions. Post organised the *Sound to Sense* kick-off meeting in Cambridge in May with network coordinator Sarah **Hawkins** (Linguistics), and she presented a position paper on behalf of Project 8 as invited speaker at a special session at the International Congress of the Phonetic Sciences in Saarbrücken in August. One of the Network’s Fellows will be based at RCEAL from Oct. 2007 in order to work on Project 8.

Post also continued her collaboration with Elisabeth **Delais-Roussarie** (Centre National de Recherches Scientifiques (CNRS)/Université de Paris VII) on the transcription of prosodic variation, funded by an international Joint Projects grant from the British Academy and the CNRS (June 2006 - June 2008). In this project, the first objective is to develop a transcription system for prosody which is sufficiently flexible and robust to allow for the systematic transcription of languages whose prosodic characteristics are poorly understood, similar to the International Phonetic Alphabet for segmental information. This year, the prosodic annotation system IVTS

(Intonational Variation Transcription System) was further developed, and tested on a variety of data (see list of presentations and publications in chapters 7 and 8 below). The second objective is to account for the intonational features which play a key role in the mapping between sound and meaning in French. The transcription system will be used to analyse a range of French speech data to provide evidence for a consensus model of French intonation, based on proposals by Post and others. Preparations for this phase of the project were started with the seminar *Intonation contours: State of the Art* given by Post in Paris in May. This part of the work is carried out in collaboration with Jean-Marie **Marandin** (Université de Paris VII) and Cristel **Portes** (Université de Provence), and is also partly funded by a 'Programme Blanc' research grant from the French Agence Nationale de la Recherche *Prosody in Grammar*.

In 2007, Post also began a comparative study of the acquisition of rhythm in Catalan, Spanish and English, coordinated by Pilar **Prieto** of the Universitat Autònoma de Barcelona. Catalan, Spanish and English all differ crucially in terms of the prosodic structures that are predominant in the ambient language of the child, due to differences in syllabic complexity, the number of syllables in prosodic words, left- or right-headedness of feet, vowel reduction, etc. Recent research by Prieto has shown that the production of Prosodic Word shapes by young Catalan and Spanish children is strongly influenced by the language-specific frequency distributions of these structures (especially feet) in the target language (see Prieto's paper 'The relevance of metrical information in early prosodic word acquisition: A comparison of Catalan and Spanish', *Language and Speech* 49 (2), 2006, 231–259). In this new study, Post and her collaborators will further explore the acoustic properties of the metrical models that the children are exposed to, following earlier work by Grabe, Watson and Post who showed that 4-year-old French children appear to have acquired the syllable-timed rhythm of French, whereas 4-year-old English children have not acquired the stress-timed rhythm of English. They attributed this finding to differences in prosodic complexity between the languages (reported in 'The acquisition of rhythmic patterns in English and French' in *Proceedings ICPHS*, San Francisco, 1999, 1201-1204). In line with this study, children as well as their mothers or care-givers will be recorded in different speaking styles, which will make possible a direct comparison between the languages. A Spanish 'Batista i Roca' grant has provided funding for research assistance in Cambridge and Barcelona.

Beinhoff has conducted PhD research on "Establishing identity through accent: Attitudes of non-native speakers toward foreign accents of English", supervised by **Hendriks**. Her project investigates the perception of accents of English from a socio-phonetic perspective, specifically the perception of non-native speaker (NNS) accents of English by other NNS of English. Due to globalisation the use of English as a worldwide lingua franca is increasing and thus, in intercultural communication, NNSs of English have to express their identity through English, i.e. through a language which is not their native language. The sociolinguistic component of this project is set within the general framework of Henri Tajfel's Social Identity Theory, John Turner Self-categorization Theory and theories derived from these. The project is investigating whether NNSs of English identify with their own 'foreign' accent of English and what their attitudes are towards other NNSs and towards different native speaker accents of English. The overall aim of the project is to examine whether variation in accents, specifically in consonants, has an effect on the judgements of accents, and more precisely, if certain aspects of attitudes can be linked to particular types of phonetic variation.

B. First Language Acquisition, Second Language Acquisition and Learning Theory

Williams has continued his research programme on language learning. In one strand he is looking at implicit learning, i.e. the learning of linguistic regularities without an intention to learn and without awareness of what was learned. The issue here is not so much whether implicit learning exists at all, but whether different kinds of regularity are more readily learned implicitly than others, and whether such differences point to the role of prior linguistic knowledge. In collaboration with his PhD student **Leung**, Williams has developed reaction time methodologies derived from serial reaction time and contextual cuing paradigms in experimental psychology. Participants' response times are continually recorded whilst they perform some task in a novel language. If underlying regularities in the language are relevant to the task being performed, and if participants learn those regularities, then their performance will improve (e.g., become quicker and more accurate) over time, and their performance will show a sudden decrement when the rules are violated. Using this methodology Leung has examined learning of form-meaning mappings involving novel determiners. Previously she obtained evidence for implicit learning when the determiners correlated with thematic roles or animacy of the accompanying noun, but not when they correlated with the relative size of the object referred to by the noun. Williams also failed to find an effect when determiners correlated with relative distance (as reported in Leung & Williams, 2006, 'Implicit learning of form-meaning connections', 28th Annual Conference of the Cognitive Science Society, Vancouver, Canada). This year Leung has shown implicit learning when the novel forms were clitic pronouns that mark reflexivity, but only in Spanish participants. Chinese participants showed no effect. A potential explanation for these results is that prior linguistic knowledge facilitates the implicit learning of certain form-meaning mappings. Consistent with this, the experiment again showed implicit learning of a correlation between determiners and noun animacy. When meaningless computer-generated sounds were substituted for the determiners, however, there was no implicit learning of the correlation between these non-linguistic sounds and animacy, suggesting that only when stimuli are perceived as linguistic items can implicit learning effects be obtained (as argued in Leung's submitted doctoral dissertation 'Implicit learning of form-meaning connections').

In collaboration with Chieko **Kuribara**, **Williams** has continued his work on the incidental learning of Japanese word order by native speakers of English, examining to what extent this is accounted for by the acquisition of syntactic rules, transfer of first language knowledge, or statistical regularities in the input. In these experiments participants are exposed to sentences composed of English lexical items, but with Japanese case markers and word order (e.g. *John-ga pizza-o ate*). In the exposure phase the participants perform a meaning-oriented task on these sentences (e.g., semantic plausibility judgments) and are then subjected to a surprise grammaticality judgment task in a test phase. In this way it is possible to examine incidental acquisition of word order regularities after limited exposure (typically just 30 minutes) without requiring participants to learn large amounts of vocabulary. These experiments examined learning of two simple properties of Japanese – head direction (clauses are verb final), and the syntactic principle of scrambling (phrases can move to the left). The results of their initial study (written up this year in Williams & Kuribara, in press, 'Comparing a nativist and emergentist approach to the initial stage of SLA: An investigation of Japanese scrambling', *Lingua*) showed no evidence of acquisition of generalised notions of scrambling or verb position, and no evidence of L1 transfer. Rather the pattern of results was consistent with the predictions of a connectionist model (a simple recurrent network) that was trained and

tested on the same structures, suggesting that participants were learning the contingencies between different grammatical categories in the input sequences (e.g. that a sentence beginning Subject-Object is most likely to continue with a verb, forming an SOV structure, but with a lower probability could continue with a subject, forming an S[OSV]V structure). When applied to novel test sentences these probabilities provided an indication of the likelihood of grammaticality which generally fit the pattern of the human data. Williams & Kuribara (in press) argue that these results are consistent with an emergentist, rather than a nativist, approach to SLA.

More recently Williams & Kuribara have extended this work in two ways. In the first study, the number of items in the exposure phase was doubled. Comparison with the earlier results showed improved acceptance of test items that repeated structures encountered in training, but no improvement whatsoever in generalising scrambling to new structures, and no significant improvement in the rejection of non-verb-final clauses. Thus, learning of grammatical rules was not enhanced by doubling the exposure. However, the data fit the predictions of the connectionist model even better than before, suggesting that with more exposure participants simply gain a better grasp of the underlying probabilistic structure of the input. This work was presented at the European Society for Second Language Acquisition, Newcastle-Upon-Tyne, in September 2007 (Williams & Kuribara, 'Incidental learning of word order: Statistical patterns or abstract knowledge?'). In the second study the statistical approach to learning was evaluated in an experiment in which English words were replaced by nonsense syllables (e.g. *John-ga pizza-o ate* becomes *So-ga pe-o ka*). The correlation with the earlier grammaticality judgement results was high, but there were some notable differences. A connectionist simulation is currently being conducted that will reveal to what extent these differences are a result of differences in the input (which might have arisen in the translation from the linguistic to the non-linguistic version) or whether they reflect the contribution of linguistic knowledge to the earlier results. As in the work of **Leung**, this kind of experiment is an attempt to distinguish the contribution of specifically linguistic and domain-general factors to learning.

Rebuschat, under the supervision of **Williams**, has continued his investigation into the acquisition of German verb-placement rules by native-speakers of English. He employs a semi-artificial grammar, consisting of German syntax and English words, to generate the stimulus sentences for his experiments. In the experiments, subjects were trained on the semi-artificial language by means of different exposure conditions. In one experiment, subjects were exposed to the grammar under incidental conditions, i.e. they were not told that the focus of the experiment was on syntactic learning but instead were required to judge the semantic plausibility of each sentence. Subjects in a different experiment were exposed to the semi-artificial grammar under intentional exposure conditions: they were asked to listen attentively to the training sentences and were explicitly instructed to discover the rules that governed the word order of the semi-artificial language. In the testing phase of all experiments, subjects were asked to listen to new sentences and to judge, on an item-by-item basis, whether they followed the word order rules of the semi-artificial grammar or not. Performance on the grammaticality judgment task was used as a measure of learning. Awareness was assessed by four different measures: confidence judgments, source judgments and two post-hoc measures, namely accuracy estimates and verbal reports. Control subjects received no training in the semi-artificial language and participated only in the testing phase of the experiments.

The results of Rebuschat's experiments indicate that adult learners are able to acquire natural language syntax under both incidental and intentional learning conditions, without the benefit of feedback and after a relatively brief exposure

period. However, his findings provide no evidence for the implicit learning of natural language syntax since the different measures of awareness employed in these experiments suggest that subjects did become aware of the syntactic rules in question. Interestingly, learning without awareness was only observed under intentional learning conditions: for example, when subjects attributed their grammaticality decisions to guesses, they were actually significantly above chance level. Instructing subjects to discover the word order rules of the semi-artificial grammar resulted in both aware and unaware knowledge.

In addition to his PhD research, Rebuschat has also continued his ongoing collaboration with Martin **Rohrmeier** (Centre for Music and Science, University of Cambridge). In a series of experiments, Rebuschat and Rohrmeier have been investigating the implicit learning of linguistic and musical structures. In the past academic year, Rebuschat has presented his work at the RCEAL Tuesday Colloquia Series, the biannual meeting of the German Cognitive Science Society (with Williams) and at the 2007 meetings of the German Experimental Psychology Society (TeaP, Trier) and the Society for Music Perception and Cognition (SMPC, Montreal) (both with Rohrmeier).

Under the supervision of **Williams, Cheung** has been investigating the cross-language connections between newly acquired words and known words at the early stages of learning, assessing the types of semantic information that are activated by the newly acquired words. This year, the focus of research was on the impact of the training method and the type of prime-target relationships. The results showed that when new L3 (French) words were learned using L2 (English) translation equivalents, L1 (Chinese) translation equivalents and semantically related words were activated, as shown by priming from the new L3 words as primes to L1 targets. However, across a number of experiments no priming effect was obtained for associated words. These findings suggest that when new vocabulary is learned via translation equivalents, core semantic information is immediately inherited from the translation equivalent during the learning process, but associates of the translation equivalents are not. In a further experiment, it was found that when the new words were learned using pictures in which the associate concept was present incidentally, there was activation of associated L1 words from the newly acquired L3 words. Cheung is now further investigating the impact of picture learning on the early formation of associative connections. Parts of this work were presented at The European Society for Second Language Acquisition, Newcastle-Upon-Tyne, in September 2007 (Cheung & Williams, 2007, 'The integration of new foreign vocabulary into the lexicon at the early stages of learning').

Parodi's research focuses on first and second language acquisition. Her research centres around structure-building processes, with particular reference to feature specification of functional categories and the issues they raise for the syntax-morphology interface.

One of her major topics recently has been finiteness and its manifestations in syntax and morphology. Clitics are of special interest, since in some languages, such as Romance, Modern Greek, Bulgarian and Macedonian, they are considered agreement markers given that they can co-occur with full NPs and are obligatory in a number of well-defined contexts. The phenomenon of clitic doubling and other cases of resumption are crucial in this debate. From an acquisitional perspective the study of clitics and resumption leads to a discussion of the syntax-morphology interface, the role of overt morphology, the role of transfer in the interpretation of the input as well as in production, and the question of optionality in developmental grammars. This, in turn, contributes to discussions about potential representational deficits in second language acquisition.

Within this domain Parodi has worked on clitic doubling and clitic left-dislocation in Spanish, Greek and Macedonian. She has explored the conditions under which a clitic can co-occur with a coreferential NP showing the role of case, specificity and topicality and how these conditions hold in cases of displaced NPs, as for example in left dislocation. The study also considers acquisition, comparing languages that have or lack clitics. A paper entitled “Clitic doubling and clitic left dislocation in Spanish and Greek L2 grammars” will be published in an edited book discussing potential representational deficits in second language acquisition. (N. Snape, et al (eds), *The debate on representational or selective deficits in SLA*. John Benjamins, Amsterdam).

Parodi also works on resumption and optionality in the acquisition of pronominal elements (clitics and strong pronouns) versus empty categories. In this respect she has studied English learners of Spanish and Greek, as well as Spanish and Greek learners of English. While both infinitival and finite subjunctive forms are available in Spanish, Greek lacks infinitives. This difference might have an effect on the availability of pronominals in certain contexts. She is currently expanding this research into the field of L1 acquisition. In 2006-2007 Parodi was awarded a British Academy grant for a project on L1 acquisition of Spanish in collaboration with Theodora **Alexopoulou** (University of Lille/RCEAL). Initial findings were presented at the Child Language Seminar 2007 at the University of Reading and are summarised in what follows.

The main objectives of the British Academy project were: (i) to investigate the nature of resumptive and gap strategies in Null Operator Structures (The zebra is hard Op_i to see e_j/it_i) and questions (which frog_i did she catch e_j/it_i ?) in L1 grammars, in order to determine specifically whether resumption interacts with agreement morphology/finiteness; (ii) to identify the source of optionality that distinguishes developmental grammars from adult ones (as argued in work by A. Sorace 2000, “Syntactic optionality in non-native grammars. *Second Language Research* 16, 93-102). Two main hypotheses were compared, namely whether optionality is the consequence of feature underspecification (Hyams 1996 “The underspecification of functional categories in early grammar”, in H. Clahsen (ed.), *Generative perspectives on language acquisition*. Amsterdam: John Benjamins. 91-127.) or whether fully specified structures can lead to optionality when, for instance, mapping to PF/morphology is problematic (Prévost & White, 2000, “Missing surface inflection or impairment in second language acquisition? Evidence from tense and agreement”. *Second Language Research* 16). Random distribution of gaps and pronominals within and across structures will support underspecification hypotheses, while structure dependent effects will indicate specified features.

In Null Operator Structures the results indicate an effect of overt morphology, ie finiteness of the verb and the presence or absence of overt pronominals. In finite contexts, both the verb morphology and the overt pronominal make the interpretation unambiguous. In a non-finite context such as (the Spanish equivalent of) “the giraffe is too tall to kiss”, the subject of the matrix clause can be interpreted either as the subject or the object of the embedded verb. The test participants, both adults and children, favoured the subject interpretation. This preference leads to a garden-path effect when, in a non-finite context, an overt pronominal appeared as object of the embedded verb. With respect to resumption in relative clauses and questions, previous studies have established productive use of non-target resumption in child relative clauses cross-linguistically. Pérez-Leroux 1995 (“Resumptives in the acquisition of relative clauses”, *Language Acquisition* 4, 105-138) takes such overproduction to be the consequence of an underspecified [+/-variable] value for the pronominal. While they master movement, they have not acquired the [-variable] value of pronominals.

This analysis predicts that resumption will appear in questions as well as relative clauses. In our elicitation of questions and relative clauses we found no resumption in questions, as opposed to relative clauses, which we take as an indication that the children know the [+/-variable] value of pronominals. Interestingly, the authors found resumption only in a subset of relative clauses, namely, in oblique positions. This suggests a sensitivity to the extraction site and to movement. On the basis of the combined results from the three tasks it appears that a random distribution of gaps and pronominals, indicative of feature specification, is only observed for the 3-year olds. The grammar of children appears to be one of intrusive resumption and, thus, much closer to the adult grammar than suggested by the work of Perez-Leroux, for instance. Acquisitional studies have traditionally compared first and second language acquisition focussing on children learning their L1 and adults learning an L2. More recently long overdue attention has been devoted to the study of child L2 acquisition, as opposed to L1 acquisition on the one hand and on L2 acquisition by adults on the other. Some of Parodi's PhD students address this issue (Chondrogianni, Kraš: see below).

Djurković submitted and defended her PhD thesis this year, supervised by **Parodi** and entitled *First language acquisition of argument structure alternations: A comparative study of passives and impersonals in Serbian and Croatian*. Passives and impersonals overlap in meaning and function and have been analysed in the literature as two types of passive: the participial and the 'reflexive' passive. One of the main goals of the thesis is to show that the construction known as the reflexive passive in Serbian has been incorrectly classified as a type of passive due to the functional similarity of the two. Morpho-syntactic criteria are employed to establish their respective defining properties, and evidence is presented that the reflexive passive should be analysed as an active impersonal construction. It is argued that the distinctive properties of the passive and impersonal are related to operations in the argument structure which affect the assignment of grammatical functions to the predicate's arguments (with the passive) or the realisation of the arguments in surface syntax (with the impersonal).

With respect to L1 acquisition, the principal goal of Djurković's thesis is to investigate the pattern of acquisition for the passive and impersonal in Serbian, in light of her theoretical reanalysis of the latter. Three acquisition studies were conducted: two comprehension experiments with children aged 2 to 6, and a study of a corpus of Serbian child language and child-directed speech. It was found that both the transitive and the intransitive impersonal are acquired (in both comprehension and production) significantly earlier than the passive. In comprehension, the impersonal was shown not to differ significantly from the transitive active, from the earliest age tested.

These findings are discussed in the context of the debate between nativist and usage-based approaches to L1 acquisition. It is concluded that the data are best accounted for by the usage-based approach, without an obvious need for the assumption that language acquisition processes (and theories) require recourse to innate grammatical/syntactic representations. It is argued, however, that establishing appropriate theoretical distinctions at an appropriate level of abstraction between the constructions informs language acquisition theory, provides an account of the nature of linguistic representations that are formed during acquisition, and also accounts for the way the constructions are distributed in the input.

Chondrogianni submitted her PhD thesis this year on the acquisition of clitics and determiners by child and adult L2 learners of Modern Greek, supervised by **Parodi**. The learners of Greek are native speakers of Turkish. On the one hand this thesis examines the acquisition of two categories, clitics and determiners, which are

traditionally regarded as having similar L2 acquisition histories. On the other hand its goal is to discover the similarities and differences between two types of learners, child vs. adult L2 learners. The acquisition data are interpreted within one of the most recent frameworks of grammatical theory (Chomsky's Minimalism), and the consequences for L2 acquisition theories are explored in terms of feature interpretability and grammatical operations in the L2 grammar. Chondrogiani's results indicate the following: (i) L1 functional categories are initially present in the interlanguage of both child and adult L2 learners, as manifested by the (partial) omission of determiners and clitics; (ii) at a later stage both groups exhibit an asymmetrical pattern in the acquisition of third person direct object clitics and the definite determiner, as clitic drop remains robust until later stages of acquisition, whereas the definite determiner is already present; (iii) both groups exhibit a hierarchical pattern of acquisition of uninterpretable features (case, number > gender); (iv) the two groups differ with respect to the production of the clitic at later stages of development, with adults performing worse than children; (v) L2 learners show a dissociation between syntax and morphology, as syntactic structures are present but the correct morphological form is missing; (vi) L2 learners are sensitive to the production of clitics in various contexts. In Chondrogiani's view these findings challenge current L2 acquisition theories that place the burden of learnability on mere feature interpretability. At the same time, they raise questions about the source of the asymmetrical patterns observed in the data.

In 2007, Chondrogiani was appointed as a Research Associate on the project entitled "Real-time processing of syntactic information in children with English as a Second Language & children with Specific Language Impairment" at the Department of Clinical Language Sciences, University of Reading. This project compares the processing of morpho-syntax (pronouns, verbal agreement and passives) in four different groups of learners: (i) typically developing English monolingual children, (ii) English monolingual children with Specific Language Impairment (SLI), (iii) typically developing Turkish-English bilingual children, and (iv) Turkish-English bilingual children with SLI.

During 2007, **Miličević** finalised her PhD project on the L2 acquisition of reflexives and reciprocals by Serbian and English learners of Italian and by Italian learners of Serbian and English, under the supervision of **Parodi**. She has been testing L2 knowledge of nominal and verbal reflexives and reciprocals, where the former (marked by reflexive/reciprocal pronouns) represent transitive constructions, while the latter (marked by reflexive/reciprocal clitics or being morphologically unmarked) are products of an argument structure alternation. More specifically, she has been interested in how learners deal with the transitivity requirements that underlie reflexive and reciprocal formation, and how they treat the two types of markers with different verb classes. With respect to the theory of second language acquisition, her research focuses on three potential influences on the acquisition of reflexives and reciprocals: transfer from the learners' L1; innate mechanisms; and L2 input. In order to examine them, she analysed experimental data derived from the learners' judgements, as well as corpus data from Italian, Serbian and English. Her results suggest that these three factors should be looked at in combination rather than in isolation, since they affect the acquisition of argument structure and the associated morphological marking not only to different extents, but also in different ways.

Kraš has been conducting PhD research on age effects in the L2 acquisition of interface and non-interface (i.e. purely syntactic) phenomena, supervised by **Parodi**. She is testing Sorace's (2005) hypothesis (Selective optionality in language development. In L. Cornips & K. Corrigan (Eds.), *Biolinguistic and sociolinguistic accounts of syntactic variation* (56-80). Amsterdam: Benjamins) that, in contrast with

narrow syntax, the interfaces between syntax and other linguistic/cognitive systems may not be completely acquirable in an L2. Kraš compares the L2 acquisition of narrow syntax and the lexicon-syntax interface and investigates whether there is an interaction between age of first exposure to the L2 and the ultimate attainment of phenomena within the two domains. She employs a contrast between auxiliary selection with intransitive verbs and auxiliary change under restructuring in compound tenses in Italian. Whereas the first phenomenon depends on lexical-semantic factors, the second one seems to be determined by purely syntactic factors. In order to minimise the effects of the L1, the study focuses on Croatian-speaking learners of Italian since the phenomena under scrutiny are not instantiated in Croatian. The results of the study suggest the lexicon-syntax interface is less problematic and less susceptible to age effects in L2 acquisition than narrow syntax, at least as far as the phenomena under scrutiny are concerned. This finding does not confirm Sorace's predictions and points to the need to differentiate between different types of interfaces and different types of syntactic phenomena in terms of their instability and susceptibility to age effects.

Han has continued her research into the acquisition of articles by adult Chinese learners of English, under the supervision of **Parodi**. English noun phrases grammaticalise definiteness and articles typically bear the feature of [+/-def]. On the other hand, the Chinese D(eterminer) P(hrase) does not have a grammaticalised [def] feature. Therefore, Chinese learners of English need to learn the syntactic features as well as the discursal properties of English articles. The study looks at possible effects on the use of L2 articles by Chinese learners of English from various sources, including L1 transfer, noun type, discourse type and task type.

Yamazaki-Hasegawa began her PhD research this year on the L2 acquisition of reflexive binding and temporal interpretation by Japanese learners of English and by English learners of Japanese, under the supervision of **Parodi**. Her study examines the English reflexive, which is morphologically complex and requires local binding (i.e., *himself*); the Japanese morphologically complex reflexive, which also requires local binding (i.e., *zibun-zisin*); and the Japanese morphologically simplex reflexive, which allows long-distance binding (i.e., *zibun*). Her study also deals with the interpretation of tense morphology in the complement clauses of English and Japanese. Temporal interpretations in English and Japanese differ in that English involves the sequence-of-tense effect and the obligatory double-access reading. Yamazaki-Hasegawa tests L2 knowledge of reflexive binding, where the difference between local and long-distance binding is suggested by overt morphology (i.e., the morphological complexity of reflexives); and L2 knowledge of temporal interpretation, where each interpretation is not differentiated by overt morphology. She intends to explain the development of L2 knowledge of interpretation focussing on the presence/absence of overt morphology corresponding to a certain interpretation in L1.

In the academic year 2006-2007, **Hendriks** continued her work on the data collected in the joint international project with Dr Maya Hickmann entitled "Grammaticalisation and bilingualism in children and adults: implications for language teaching and language disorders" (see Annual report 2005-2006). The project takes reference to space as its point of departure, and is particularly interested in the expression of Manner, Path and Cause in languages that are satellite-framed and thus express Manner and Cause mainly in the verb but Path in the satellite (like English) versus languages like French that are verb-framed and express Path in the verb and Manner either not at all or in gerundive or other more complex constructions. Thus, French predominantly encodes Path in the verb (e.g., *monter* 'ascend') and expresses Manner less often, even though, in complex expressions they

can express Manner in the periphery of a Path verb (e.g., *Il a traversé la route en courant* ‘he crossed the road running’). The research focussed on three areas, the results of which have been or will soon be disseminated.

The first area of attention concerns the expression of voluntary and caused motion as found in the above-mentioned database for children of 4 years and 6 years and for adults (French and English) and in a comparison of these experimental data with longitudinal data for children from an even younger age (2;0-3;6) from the MacWhinney et al’s CHILDES database. The overall prediction for this study was that typological properties should influence the semantic density of children’s utterances. The more specific hypothesis was that utterance density should be higher in English than in French, irrespective of age, event type (voluntary or caused motion), or situation (experimentally induced versus early spontaneous productions). Three main findings emerged from this study. First, as predicted, typological constraints on the locus of motion information determine the semantic density of children’s utterances. Thus, regardless of age and in all of the discourse situations examined, speakers express denser information in English than in French, which results from the availability in English of easily accessible verb+satellite constructions. Second, despite this cross-linguistic difference, the overall semantic density of children’s utterances increases with age in both languages. This probably reflects the development of children’s general cognitive capacity to simultaneously process multiple information components. The third finding is that there are different developmental patterns in the encoding of Manner on the one hand and Path on the other in children’s discourse across languages. Although Manner is always more frequent in English than in French, it increases with age in both languages. By contrast, regardless of age, children encode Path equally frequently in the two languages, expressing this component earlier and more systematically than Manner. Therefore, in both languages, the increasing semantic density of children’s utterances actually reflects their increased encoding of Manner. These findings suggest that Path is more basic as a meaning to be expressed probably as a result of ontology than Manner in the “Basic Motion Scheme”, which corresponds to Leonard Talmy’s assumptions. General and presumably universal factors can account for the second and third finding, but only language-specific factors can account for why Manner is more systematically encoded and why utterance semantic density is therefore higher in English than in French at all ages. The results therefore provide support for the overall prediction that typological properties influence the semantic density of children’s utterances (as argued also by Dan Slobin). These results were presented at a workshop on space at the conference organized by the *Association Française de Linguistique Cognitive* in Lille, May 2007. This workshop brought to a successful conclusion the international research project funded by the CNRS (the Lemmens Project, cf. Annual report 2005-6). These results are also reported in the following paper in press: (Hickmann, Hendriks & Champaud, in Lieven et al. *Crosslinguistic approaches to the study of language: research in the tradition of Dan Slobin*, Erlbaum, 2008).

A second area of Hendriks’ research concentrates on gestures that accompany speech in the experimental French child data (voluntary motion). This research has been conducted in collaboration with Dr. Marianne Gullberg of the Max-Planck Institute for Psycholinguistics in Nijmegen. As mentioned above, French predominantly encodes Path in the verb (*monter* ‘ascend’) and expresses Manner less often. One major question in this area concerns the role of the gestures: Are they used by speakers to express information that they are not expressing in speech? This

question is of interest for child language acquisition since one hypothesis is that children might compensate for a lack of expression in speech by the addition of gestural information. In this study we therefore examined 1) how French adults and children aged 4 and 6 encode Path and Manner in speech and in iconic gestures and 2) whether gestures are co-expressive with speech or are recruited to express other information, especially by children. For this study, data from the above mentioned database were used (half of the data are not only audio- but also videotaped). The results indicate that when Path and Manner are equally relevant (as is the case in all elicitation material) French children and adults chiefly talk and gesture about Path, even if some variation was found across items. Verbal expressions simultaneously encoding Path and Manner (conflated) increased with age in speech - through lexicalization for upward motion (*grimper* 'climb up') or subordination - but their analogues in gesture decreased with age.

Gestures are predominantly co-expressive with speech at all ages, therefore, suggesting that children do not use gestures to encode information absent from speech. However, when modalities are not co-expressive, adults gesture about Path while talking about Manner, whereas children gesture about both Path and Manner while talking about Path. The increase of conflated Path-Manner in speech and the decrease of conflated expression in gestures across age groups suggests that children's representations undergo some reorganization as they try to gauge how to weigh the semantic components - and in which modality to express them. A paper discussing this research has been accepted for publication (Gullberg, Hendriks & Hickmann, in *First Language*, special issue on gestures and communicative development. Guest editors: Guidetti and Nicoladis).

Finally, preliminary data from adult second language learners are being analysed. These data are from English/American students learning French. The learners come from a satellite-framed language and have to find suitable means of expressions in a verb-framed language. Several hypotheses will be tested, regarding 1) the role of the L1 (transfer) in L2 acquisition; 2) the role of general, possibly universal cognitive principles (such as the overall importance of Path information); and 3) the role of discourse. This initial stage of analysis has looked at caused motion rather than voluntary motion. Results seem to indicate that English learners of French tend to create utterances with a similar level of density to utterances in their L1. In order to do so, they have to use more complex constructions in French, which they manage partially at an advanced level, but which they have serious trouble with at a lower proficiency level. The advanced learners make use of a variety of interesting non-native structures that mainly express Manner in the main verb, and Path in other devices, contrary to what one would expect among French native speakers. A keynote lecture on this topic is to be presented at the conference on "Language Learning and Teaching in Multilingual and Multicultural Contexts"/"Apprendre et enseigner une langue dans un contexte multiculturel et multilingue" in Paris (October 2007).

As announced previously in the 2005-2006 Annual Report, the database for this research programme has now been extended by the addition of one more language, Mandarin Chinese. The data have been collected by one of RCEAL's PhD students, Yinglin Ji and a transcription in Chinese characters is also being given.

Ji has been conducting her PhD research on the expression of motion events by Chinese native speakers, supervised by **Hendriks**. The thesis investigates issues regarding the typological frameworks proposed by Leonard Talmy (i.e. verb-framed vs. satellite-framed) and Dan Slobin regarding the expression of spatial information in languages around the world and it explores the impact of universality and language specificity on first language acquisition.

Ji's thesis focuses on the expression of voluntary motion and caused motion in Chinese native speakers in a cartoon-based production task, and compares those with findings regarding English. A preliminary analysis has been carried out on Chinese native adults in the caused motion task, thereby verifying some typological issues. Whereas Talmy proposes a two-way typology, Slobin suggests that we are actually dealing with a continuum from verb-framed to satellite-framed languages. Four aspects have been examined in detail: the expression of the CAUSE component; the devices encoding MANNER and PATH of motion; the selection of information components; and the density of information overall. The first finding is that the CAUSE component is highly frequent in both languages, but that it is expressed via different devices: (a) serial verbs and (b) the *ba*-construction in Chinese (a construction indicating the affectedness of the object) whilst predominately (c) main verbs are used in English.

- (a) Qiu *gun-jinle* shandong.
Ball roll-enter-ASP cave.
The ball rolled into the cave.
- (b) Hopi *ba qiu gun-shang* shan.
Hopi BA ball roll-ascend hill.
Hopi rolled the ball up the hill.
- (c) Hopi rolls the ball up the hill.

English also demonstrates a clear pattern of placing the components CAUSE and Action together in main verbs (push, pull) and the Path component within other structural devices. On the other hand, Chinese, with its distinctive serial-verb form, frequently encodes up to 3 components in its verbs, such that both Action and Path can be expressed simultaneously. Finally, where the distribution of information in English seems to be quite homogenous within and across subjects, Chinese tends to distribute motion components across devices with more variety. The preliminary findings regarding caused motion show that, from a typological view, Chinese is better described as an 'equipollent' language in Slobin's terms, i.e., it is best placed midway along the verb-framed/satellite-framed continuum.

Ivana Vidaković finished her PhD in 2006. Her thesis, supervised by **Hendriks**, explores second language acquisition of dynamic spatial relations by English learners of Serbian and Serbian learners of English. Within Talmy's typology (1985), English is classified as a satellite-framed language, whereas Serbian is a mixed language type, midway on the continuum between satellite- and verb-framed languages, as documented by recent research. Serbian differs from English as to where Manner and Path are typically expressed (locus of information) and as to the frequency of mention of Manner and Path (focus of information). The data analysis reveals that, during the acquisition process, learners undergo reorganization in terms of the use of linguistic means for the expression of dynamic spatial relations and in terms of the degree of attention to Manner, as reflected in the frequency and variety of Manner distinctions expressed in speech. The thesis further investigates a) whether universal inter-language features persist beyond the early stages of acquisition or whether only language-specific influences hold sway at later stages of language acquisition; b) how such features manifest and c) what their scope is.

Previous available research on L2 acquisition of dynamic spatial relations has mostly attested language-specific influences beyond the early stages. In contrast to previous studies, the present thesis shows that the inter-language of learners beyond the early stage exhibits similarities across source and target language pairs, which have to therefore be unrelated to the first or second language. Results also indicate

that the acquisition process is influenced by a *rich* interplay of *both* language-specific and universal factors of cognitive nature (e.g. non-linguistic world knowledge, problem-solving abilities).

Besides the theoretical implications regarding inter-language features and the location of Serbian in Talmy's framework, this study also has practical implications for the teaching of the linguistic devices expressing dynamic spatial relations in the two languages.

Sankaran continued her PhD research on *The influence of verb semantics on children's acquisition of temporal-aspectual inflections in Tamil*, supervised by **Hendriks**. In all languages there is a close relationship between the semantic properties of verbs and the inflectional markers associated with them, as argued by Maya Hickman (in 'Discourse organisation and the development of reference to person, space and time', *The Handbook of Child Language*, Blackwell, Oxford, 1995). Sankaran's research examines the influence of verb semantics on Tamil children's acquisition of tense and aspectual markers focussing particularly on the emerging past and present tense markers as well as perfective and imperfective aspectual markers. Studies in first language acquisition have shown that children associate past and perfective inflections with telic verbs and progressive inflections with durative verbs (see Shirai, Y & Anderson, R. *Discourse Motivations for Some Cognitive Acquisition Principles*, Cambridge University Press, Cambridge, 1994:135). These findings have led to the formulation of the *aspect hypothesis* which posits that verb inflections in early interlanguage systems are predominantly used as markers of lexical aspect. Closely related to the aspect hypothesis is the *defective tense hypothesis* which postulates that "emerging tense morphology is defective in its function since it does not mark deictic relationships" but aspectual ones (Weist et al 'The defective tense hypothesis: On the emergence of tense and aspect in child Polish', *Journal of Child Language* 11:347-374).

Sankaran's research tests the predictions of both the aspect hypothesis and the defective tense hypothesis by analysing children's emerging temporal-aspectual inflections in Tamil. Although empirical research has been conducted in a variety of languages to test the claims of the aspect and defective tense hypotheses, Tamil is especially suited to do so because tense and aspect are separately coded in this language. The fact that tense marking is obligatory and aspect marking is optional in Tamil also has interesting consequences for the order in which early tense and aspect markers emerge in this language.

Three experiments, a production task, a comprehension task and an imitation task, were carried out with three different groups of subjects. The first group comprised 8 adult native speakers of Tamil, the second group was made up of 20 Tamil children whose mean age was 4;1 and the third group consisted of 16 Tamil children whose mean age was 3;0. The results from the experiments support the aspect hypothesis but invalidate the defective tense hypothesis. The data seem to indicate that tense markers emerge earlier than aspect markers and though they do convey aspectual viewpoints, they are in no way 'defective'.

Seneviratne has been conducting PhD research on the development of the use of connectives in English first language acquisition, supervised by **Hendriks**. Her thesis investigates the pragmatic inferencing skills that children need to acquire in order to master the full range of uses found in adult language. Through experimental work conducted with adults and children she is arguing that understanding and producing different uses of a single connective expression, or different instantiations of a particular type of semantic relation such as *causal* or *adversative*, involve a great deal of variation in the amount of pragmatic processing that is required. Results so far confirm that L1 learners go through a developmental stage in which only basic

generalisations and inferences are made, to gradually arrive at pragmatically enriched and more sophisticated levels of reasoning. These findings are linked to contrasting accounts of the meaning and processing of connectives given within coherence and relevance theoretic frameworks.

C. English Profile Project

The English Profile Project has made significant progress during 2006-07 and now involves extensive collaboration among RCEAL's research staff in the area of English second language acquisition, with considerable assistance from the administrative and technical staff as well. The project is a joint one with the Cambridge ESOL group of Cambridge Assessment led by Mike **Milanovic** and Nick **Saville**, with Cambridge University Press, and with the British Council and English UK. A vital further contributor is the Cambridge Computer Laboratory whose computational linguistics section is headed by Professor Ted **Briscoe**.

The basic goals of the project were described in last year's annual report and will be summarized briefly here. They are to identify and define criterial features of each of the six proficiency levels that are currently assigned in Cambridge English language examinations throughout the world, namely: A1 Breakthrough; A2 Waystage; B1 Threshold; B2 Vantage; C1 Effective Operational Proficiency; and C2 Mastery. The proficiency levels provide theoretically interesting developmental benchmarks that have emerged after several decades of practical work on the testing and teaching of English. Attempts to describe the grammatical and lexical characteristics of each stage have so far been rather general or have been couched in functional terms (the 'can-do' statements of the Common European Framework of Reference) that are compatible with numerous grammatical and lexical exponents. Greater precision can be achieved through an empirical examination of electronic corpora of learner English, beginning with the Cambridge Learner Corpus, and to this end the accessibility of items in this corpus has been enhanced through part-of-speech tagging and syntactic parsing using Briscoe's Robust Annotated Statistical Parser (RASP). Paula **Buttery** has played a key role in implementing this, helped by Caroline **Williams** who was initially funded by the Project as a research assistant and whose PhD is now being funded by Cambridge Assessment. The English Profile Project is financed by Cambridge Assessment and Cambridge University Press, with additional assistance from the British Council.

The English Profile Project differs from earlier 'profiling' studies in three ways: (a) it is empirically based, using corpora; (b) it incorporates psycholinguistic metrics of complexity in addition to the more traditional linguistic (grammatical and lexical) features; and (c) it controls for different first languages and hence for 'transfer' effects. An empirically based study can identify criterial features and developmental sequences that cannot currently be predicted by acquisition theories alone (given the number of contributing factors involving grammar, learning and processing, and the complexity of their interaction). A more broadly based analysis of the proficiency levels, incorporating grammatical and psycholinguistic measures, can also be more precise and more revealing than one based on grammar alone. And the typological dimension permits a detailed examination of transfer effects in differential attainment patterns by different learners of English.

The part-of-speech tagging and the parsing of words into phrases permits searches to be conducted that go beyond individual word searches. New codes have been entered into the data that facilitate these searches for hypothesized criterial features and transfer effects. The features and transfers include errors, but they also involve the greater or lesser exploitation of structural and lexical properties in response to complexity, identifying properties that have been successfully learned at

each stage, properties avoided, and so on. The data are both gradient (and statistically analyzed), and discrete. Once criterial features and transfer effects have been identified for these different stages they can be incorporated into a core curriculum and reference document for English that will be useful for teaching and testing purposes, and they can have further practical benefits as well, e.g. for 'foreign market-specific' publishing of English language teaching materials.

RCEAL's contributors to the project during 2006-07 included **Buttery**, **Hawkins**, **Hendriks**, and **Parodi**, with the assistance of Dora **Alexopoulou** (Marie-Curie Fellow Lille III, France) and PhD student Caroline **Williams**. Presentations of ongoing work were made by members of the team at the January 2007 seminar of the English Profile Project held at Hughes Hall, Cambridge, and then at July and September 2007 workshops for mostly outside participants and stake-holders, from academia, education and government ministries, again held in Cambridge. Buttery also made a presentation about the project at the Linguistic Society of America Summer Institute meeting in Stanford University in July, highlighting the new corpus search tools she had built. The title of her LSA talk was: 'English Profile: Reference Level Descriptions for English'.

The second half of the academic year was devoted to consolidating the preliminary research findings and especially to defining the way forward. A number of research grant proposals were written by members of the RCEAL team for submission to Cambridge Assessment in order to compensate the Research Centre for staff time and other expenses that will be incurred during 2007-08 in the pursuit of the English Profile Project. These proposals were all accepted and next year's research phase begins on 1st October 2007.

The first funded project continues current activities on the Cambridge Learner Corpus in collaboration with Ted **Briscoe**. **Hawkins** is the overall principal investigator (PI). It comprises three subprojects: (1.1) continues the current hypothesis testing and the search for criterial features at each proficiency level and for L1 transfer effects; subprojects (1.2) and (1.3) expand on the results discovered so far with more detailed follow-up projects (Alexopoulou, PI for (1.2) and Parodi, PI for (1.3)). Hawkins has identified a set of 20 lexical and grammatical areas that are promising initial candidates for criterial feature identification and transfer effects at different proficiency levels. These properties are searchable, given the CLC in its current tagged, parsed and error-coded form. Some of these hypotheses have been tested already. The findings have led to further hypotheses that must be tested. The next phase of this project will incorporate these and prior results into a revised set of hypotheses and predictions for the English Profile Project.

Alexopoulou's subproject (1.2) on Specificity and Determiners will examine the effect of L1 on the acquisition of the English nominal system, with particular reference to definite and indefinite articles. Preliminary investigation has confirmed the general hypothesis that learners with L1s lacking a definite article have more difficulty in acquiring the distribution of English articles and produce a higher rate of errors involving articles. Despite the correctness of this general hypothesis, the results indicate that the existence or absence of a definite article in L1 can only partially predict L2 production. First, speakers with L1s that have a definite article do produce article omission mistakes (though at a lower rate than speakers with L1s lacking a definite article). Second, there are significant differences in the error rates for L2 learners whose L1s lack a definite article. This project will investigate further the source and nature of these differences by focussing on the effect of finer interpretative distinctions in the use of the English determiner system. In particular, the project focuses on the interaction between specificity and the use of determiners in English.

The goal of **Parodi's** subproject (1.3) will examine finiteness in the morphology and syntax of English verbs. There is a developmental aspect to this: when do learners acquire certain morphological properties of verbs and their syntactic properties in the clauses in which they occur? There is also a crosslinguistic dimension: since languages differ in the specification of these properties, predictions can be formulated as to how learners with different first languages (L1s) are likely to develop. Parodi pursues a formal grammatical approach to acquisition, looking at it in a rule-based and organic way. This enables her to formulate predictions for developmental stages and to capture differences among languages. It can also shed light on cases in which learners give evidence of strategies which do not follow in a straightforward way either from their L1 or from the target L2.

A second funded project (**Hendriks**, PI) makes use of Cambridge Learner Corpus data but goes beyond it with a more functionally-oriented study involving discourse structure and style. This project is of special significance for the higher proficiency levels B2 to C1 and is complementary to project 1 in that it examines linguistic forms at the discourse level (verbs, prepositions, temporal markers, referential means), whereas project 1 mainly concentrates on morphology, grammar and lexis up to the sentence level. This project will look at three of the domains that are traditionally considered to be of principal significance for discourse: *space*, *time* and *person*. The project will give an overview of form-function mappings at all levels of proficiency, thereby showing how these mappings become more and more appropriate in the context of the English language, and how learners become more and more native-like as a result of acquiring them.

Project 3 (with co-PIs **Hawkins**, **Hendriks** and **Parodi**) funds activities that are designed to enhance the visibility of the English Profile Project. A key component of the project is to disseminate the results of its research, to engage with those who test English worldwide using the Common European Framework of Reference, and more generally to be visible nationally and internationally within the fields of Applied Linguistics, Language Testing and Teaching, Linguistics, Psycholinguistics and Corpus Linguistics. It is important for Cambridge Assessment and for Cambridge University Press not only to incorporate the findings from the English Profile Project in its testing services and publishing, but also to be seen to be a leader worldwide in these research areas. Dissemination requires a regularly updated website, presentations by project members at major conferences in these fields, workshops specifically for EPP participants and stakeholders, and high-profile and high-prestige academic events organised by project members, of the kind that took place during 2006-07 and that are in preparation for 2007-08.

Project 4 (PI, **Alexopoulou**) will initiate the search for additional corpus data from English learners, without which many current hypotheses cannot be properly tested. There is a consensus within all research groups of the English Profile Project that more data should be obtained. There is further a shared view that new data should go beyond the current exam scripts. As a result, plans are being drawn up for the collection of new data primarily through contacts at British Council centres worldwide. The primary aim of this project is to contribute to a comprehensive plan of action for the collection of data and for the extension of the current database.

Caroline **Williams'** PhD research on An automatic text-classification approach to developmental profiling, supervised by **Hawkins**, is being funded by Cambridge Assessment and is being conducted within the general umbrella of the English Profile Project. In 2006-07 Williams completed her first year and presented the goals of her dissertation at her registration interview in September 2007. She is investigating the acquisition of verbal subcategorisation frames by learners of English, using the

Cambridge Learner Corpus to look at the use of verb complementation patterns by learners of different proficiencies and different L1s.

D. Language Processing

An active research area pursued by **Williams** is second language sentence processing, described in section B. He has made further contributions to language processing in collaborative work with students and other collaborators.

With his former student Ernest **Lee** (now a lecturer in psychology at London Metropolitan University) **Williams** has conducted research on the role of grammatical constraints in L1 sentence processing. There have been conflicting reports concerning the question of whether grammatical constraints are applied in the early stage of NP pronoun resolution. Employing the experimental logic advanced by Sturt (2003, *Journal of Memory and Language*, 48, 542-562) in his work on reflexives, this study found an early effect of a gender stereotype match/mismatch manipulation between an NP pronoun and an NP in a structurally accessible position (as defined by Chomsky's Binding Principle B), but no early effect of a gender match/mismatch manipulation between the pronoun and an NP in a structurally inaccessible position. A sub-experiment on possessive pronouns served to rule out alternative explanations, confirming the relevance of structural accessibility to the major finding of the main experiment. Taken together, these results lend support to the idea of an early processing role for grammatical constraints like Binding Principle B. This work has been submitted for publication.

Angeliki **Salamoura** and **Williams** have published a number of articles based on Salamoura's doctoral work completed under Williams' supervision at RCEAL in 2005. Although the organisation of L1 and L2 lexico-semantic information has been extensively studied in the bilingual literature, little evidence exists concerning how syntactic information associated with words is represented across languages. The study reported in Salamoura & Williams (in press, 'Processing verb argument structure across languages: Evidence for shared representations in the bilingual mental lexicon', *Applied Psycholinguistics*) examines the shared or independent nature of the representation of verb argument structure in the bilingual mental lexicon and the contribution of constituent order and thematic role information in these representations. In three production tasks, Greek (L1) advanced learners of English (L2) produced an L1 prime structure (Experiment 1: prepositional (PO) and double object (DO) structures; Experiment 2: PO, DO and intransitive structures; Experiment 3: PO, DO, locative and 'provide (someone) with (something)' structures) before completing an L2 target structure (PO or DO only). Experiment 1 showed L1-to-L2 syntactic priming; participants tended to reuse L1 structure when producing L2 utterances. Experiments 2 and 3 showed that this tendency was contingent on the combination of both syntactic structure and thematic roles up to the first postverbal argument. Based on these findings, we outline a model of shared representations of syntactic and thematic information for L1 and L2 verbs in the bilingual lexicon. The model assumes that cross-language syntactic priming is the result of residual activation of syntactic features which encode the verb's structural preferences and are linked to verb lemmas. As further support for this model, Salamoura & Williams (2006, 'Lexical activation of cross-language syntactic priming', *Bilingualism: Language and Cognition* 9(3), 299-307) showed that syntactic priming can be triggered by the presentation of single Dutch verbs that could take either the PO structure only (e.g. *schreeuwen* 'scream') or the DO structure only (e.g. *kosten* 'cost'). In an oral sentence completion task we obtained syntactic priming from L1 Dutch to L2 English with Prepositional Object (PO) and Double Object (DO) datives. These findings support a feature-based explanation for cross-language syntactic priming.

In a second strand of research, Salamoura & Williams (in press, 'The representation of grammatical gender in the bilingual lexicon: Evidence from Greek and German', *Bilingualism: Language and Cognition*) report an investigation of the shared or independent nature of grammatical gender representations in the bilingual mental lexicon and the role word form similarity (as in the case of cognates) plays in these representations. In a translation task from Greek (L1) to German (L2), L1-L2 nouns with the same gender (*gender-congruent*) were translated faster than L1-L2 nouns with a different gender (*gender-incongruent*) when the L2 target utterance required computation of gender agreement (adjective + noun). This tendency held for both cognates and noncognates. Unlike noncognates, however, gender-incongruent cognates yielded more errors than gender-congruent cognates. These results are interpreted as evidence for a shared L1-L2 gender system with L2 cognates relying more heavily on the L1 gender value than noncognates. In general, this research points to shared representations of equivalent syntactic concepts across languages, and hence provide strong support for views of SLA that stress transfer, i.e., the incorporation of L1 linguistic knowledge into the L2 grammatical system wherever possible.

In a similar vein, Kerrie **Elston-Guttler** (Max Planck Institute, Leipzig) and **Williams** have written up work from Elston-Guttler's doctoral dissertation (completed under Williams' supervision in 2001) relating to transfer of lexicalisation patterns across languages (Elston-Guttler & Williams, in press, 'L1 polysemy affects L2 meaning interpretation: Evidence for L1 concepts active during L2 reading', *Second Language Research*). They investigated the influence of L1 lexicalization patterns on the processing of L2 words in sentential contexts by advanced German learners of English. The focus was on cases where a polysemous word in the L1 is realised by independent words in the L2, e.g. German *Blase* realised by English *bubble* and *blister*. An anomaly detection task was used in which participants had to indicate whether a target word formed an acceptable completion to a sentence. The critical condition was where the other sense (blister) of the translation equivalent *Blase* was appropriate, but the word (*bubble*) did not complete the sentence meaningfully, e.g. "His shoes were uncomfortable due to a bubble". This was compared to a control condition in which neither sense of the L1 translation made sense, e.g. "She was very hungry because of a bubble". Factors of word type (noun vs. verb) and degree of relatedness of L1 senses (high vs. moderate) were also manipulated. Relative to native speakers of English, advanced German learners made more errors and displayed longer correct response times in the critical condition compared to the control condition. An effect of meaning relatedness was obtained for nouns but not verbs. The results are discussed in terms of the role of lexical-level translation connections in activating L1 concepts from L2 words, even in highly proficient learners and in all-L2 tasks.

Frey has nearly completed her PhD research on *Cognitive mechanisms of suppression in reading comprehension by both native speakers of English and Estonian learners of English as a second language*, under the supervision of **Williams**. According to the 'structure building theory' of Gernsbacher, comprehension is understood as a process of building mental representations on-line and it has been suggested that central to this process is the general cognitive mechanism of suppression, the efficiency of which is responsible for individual differences in comprehension skill. Poor comprehenders have an inefficient suppression mechanism as a result of which they are unable to inhibit irrelevant information. Frey's dissertation argues for a limited-capacity account of suppression, according to which poor comprehenders' difficulties in ignoring irrelevant information reflect a more general problem of controlling information in working

memory. Inefficient suppression is attributable to processes which drain resources, such as inefficient decoding. Response-time experiments, following Gernsbacher's methodology but making L1-L2 comparisons, have been carried out to test these possibilities.

Chi has been conducting PhD research, supervised by **Williams**, on bilingual lexical processing, focusing on the impact of number of word senses on word recognition. Others have demonstrated that masked translation priming can be obtained in the L1-L2 direction, but not in the L2-L1 direction, and it has been suggested that this is because of small overlap in the number of word senses activated by L2 primes and their L1 translation equivalent targets. Previously Chi showed that this theory is incorrect because L2-L1 priming is still not obtained when the L2 prime only has one single sense, and so overlaps completely with that of the L1 target. In his recent work he has produced what is perhaps the first demonstration of masked L2-L1 translation priming using primes with a large number of senses that were familiar to the nonnative participants (as established by a prior rating task). This suggests that for the materials typically used in these experiments, the nonnatives did not have sufficient knowledge of the range of senses of the words. Consistent with this, Chi has also found that multiple related word senses facilitate native speakers' visual word recognition but do not affect that of non-native speakers despite the fact that the two groups demonstrate comparable lexical knowledge of these words. He hopes the findings will help us understand how polysemous words are represented and processed in the bilingual lexicon.

Post continued her research on the auditory processing of English inflections with William Marslen-Wilson (MRC Cognition and Brain Sciences Unit), Billi Randall and Lorraine K. Tyler (both Centre for Speech, Language and the Brain, University of Cambridge). In previous work, Marslen-Wilson and Tyler have argued that the comprehension and production of regular inflected forms (e.g. *filed*) require processes of morpho-phonological assembly and disassembly, analysing these forms into a stem plus an inflectional affix (e.g., {file} + {-ed}). Such processes do not apply to irregular forms (e.g. *caught*), which do not have an overt stem + affix structure and must be analysed as full forms. Findings for regular forms in a set of empirical studies that tested this account led Post and colleagues to hypothesise that the attempt at segmentation into stem and affix is automatically triggered by any input that has the diagnostic properties of an inflection, that is, coronality of the final consonant and voicing agreement in the rhyme (Post, Marslen-Wilson, Randall & Tyler, accepted, 'The processing of English regular inflections: Phonological cues to morphological structure' *Cognition*). The results of a speeded judgement task showed slower responses across the board for items that can be interpreted as inflected forms, whether or not they were real regular inflections (*filed*), monomorphemic words (*mild*), or nonwords (*nild*). Stimuli that did not show the critical diagnostic properties did not elicit slower responses. Post and colleagues interpret this as evidence for a basic morpho-phonological parsing process that applies automatically whenever a candidate string with the critical properties is encountered. Data collection is about to start for a follow-up experiment which further explores the effect of the diagnostic properties.

Hawkins continued his collaboration with Elaine **Andersen** (University of Southern California, USA), Laura **Gonnerman** (Lehigh University, USA), and with other colleagues at their respective universities, in putting together experimental processing projects that develop and test some of the principles in his book *Efficiency and Complexity in Grammars* (Oxford University Press, 2004). One project focuses on English and tests Hawkins' complexity ideas on different populations of users, specifically older versus younger adults, and patients with Alzheimer's dementia. The

constructions used involve different kinds of verb-particle alternations in English (e.g. *look up the number* vs *look the number up*) and alternative prepositional phrase orderings in post-verbal position (e.g. *count on my father in my youth* vs *count in my youth on my father*). The non-adjacent positioning of lexically dependent verbs and prepositions, such as *count* and *on*, and of verbs and particles like *look* and *up* causes greater processing difficulty in older adults than in younger adults and in impaired populations compared with normal controls. The precise interaction of this effect with syntactic weight effects is currently under investigation.

E. Semantics and Pragmatics

Katsos has been further developing his research at the semantics - pragmatics interface and expanding its interdisciplinarity. His goal, at a very general level, is to show how developmental and experimental evidence can inform linguistic theory and, conversely, how a deeper theoretical-linguistic understanding can be beneficial for investigations into the psychology and pathology of language. He has been involved in two strands of research during the past year: investigating the semantic and pragmatic skills of adult populations; and examining typically and atypically developing children.

In collaboration with **Richard Breheny** (University College London), Katsos has been investigating how *adults process semantic and pragmatic inferences* in real time. Until very recently, presuppositions and conversational implicatures were investigated almost exclusively using the traditional methodologies of theoretical linguistics - employing reflective intuitions and conceptual arguments. As a result, theoretical positions in semantics-pragmatics had to rest on very subtle reflective judgements about truth or felicity and on meta-linguistic intuitions about what may or may not be a default interpretation. Consequently, as theoretical accounts of implicatures and presuppositions have become more and more sophisticated, covering an ever greater array of intricate data, the ground on which the accounts stand has become increasingly unstable. By contrast, experimentally oriented research in language processing has relied on relatively crude accounts of semantic-pragmatic phenomena - where it has looked at language interpretation at all. Despite this, the data which are gathered by experimental methods - particularly on-line studies - are more reliable and less prone to reflective biases. It seems clear that progress in theoretical semantics-pragmatics can only be enhanced by recruiting the sounder experimentalists' methodology in order to test theoretical positions and to give some idea of the overall architecture of the semantics-pragmatics interface. But it is only in the last few years that researchers interested in theoretical questions have looked to the experimental disciplines for alternative methods. This experimental research has focussed on common quantity implicatures, specifically the so-called 'scalar implicatures' (SIs).

Since April 2007, Katsos and Breheny have been working on an *AHRC* funded grant to extend their previous work on SIs and to broaden its scope into the domain of presuppositions. The broad research questions motivating these investigations are the following:

- Ia: What is the source of the time-course for generating SIs?
- Ib: What is the relation between common scalar implicatures and particularised implicatures?
- II: What is the role of the interlocutors' state in the generation of inferences?
- III: Are presuppositions required to be present in all utterance contexts - i.e. do they have to be accommodated?

Research on this grant will be carried out until 2009 in collaboration with Heather **Ferguson** who recently joined the team as a post-doctoral researcher.

With respect to research on *typical and atypical language development*, Katsos has been working in collaboration with Dorothy **Bishop** on the semantic and pragmatic skills of typically- and atypically-developing children. Katsos visited the Oxford Study of Children's Communication Impairments lab in the Department of Experimental Psychology at Oxford University for nine months in 2007. During this period, data from five age groups (5-, 7-, 9-, 11-year old schoolchildren as well as adults; overall more than 250 participants) were collected on preferred versus plausible interpretations of quantified sentences, and on so-called generalised and particularised implicatures. Besides charting the developmental pattern of typical acquisition, several methodological findings have been highlighted, such as the difference between tasks where participants are asked to evaluate a quantified sentence uttered by another character, and tasks where participants have to act out the scenario described by a quantifier sentence using props and toys, without having to accept or reject another character's utterances.

These investigations have led to a further joint project between Katsos and Bishop on the *linguistic-pragmatic skills of atypically developing children*. This project is being funded initially by a *British Academy Small Projects Grant*, and aims:

- I: to identify distinct types of 'pragmatic' impairment at a theoretical level;
- II: to investigate whether linguistic-pragmatic impairment is a corollary of general low-language level or not; and
- III: to investigate whether linguistic-pragmatic impairment is part of autistic symptomatology or not.

Data collection will be completed in early 2008, and the project is expected to lead into further collaborative and interdisciplinary investigations on the pragmatic skills of populations with autistic spectrum disorders and specific language impairment.

In a similar strand of research, Katsos has been focussing on a broad range of semantic and pragmatic phenomena that can be used to reveal the competence of five-year old children *cross-linguistically*. Katsos is part of COST Action A33 'Crosslinguistically Robust Stages of Children's Linguistic Performance', a *European Science Foundation project* which started in 2006 and which will continue until 2010. Working on this project, Katsos has been collaborating with Ira **Noveck** (CNRS-Lyon), Heather **van der Lely** (University College London), Spyridoula **Varlokosta** (University of the Aegean, Rhodes), Maria-Teresa **Guasti** (Milan), Uli **Sauerland** (ZAS-Berlin) and Ken **Drozd** (Aarhus), among others, in order to identify areas of cross-linguistic uniformity that can then be used to develop cross-linguistically comparable tests of language impairment.

In April 2007, Katsos completed a project on '*Experimental Rhetoric: litotes and quantification*' funded by the *Wingate Foundation*. Litotes is a figure of speech related to understatement, where the assertion of two negative expressions is used instead of the contrary or contradictory affirmation. Litotes is not uncommon in everyday conversation, yet exactly what the linguistic factors are that affect the interpretation of a double negative is not currently well understood. For example, in the previous sentence "not uncommon" can be understood literally as 'it is not the case that it is uncommon', or with additional strengthening 'in fact, it is quite common'. In this short project Katsos proposed an account that builds on the pragmatic theories of Grice and Searle, and he suggested ways to experimentally test his predictions. This is a first step towards developing a psychologically-informed account of some well-known figures of speech.

Kriempardis has been conducting PhD research on context-dependent utterance meaning and communication, in particular their non-Gricean aspects, supervised by **Breheeny**. This involves three directions of study. Firstly, she has investigated the

compatibility of the notion of ‘intention’ across languages (English, French and German) and across disciplines (developmental studies, theory of mind, linguistics and philosophy) and has proposed that the study of communication would benefit from a narrow technical notion of ‘intention’. Secondly, she has been developing a speaker-centred concept of context-dependent utterance content, which aims to capture a level that is less reflective than the traditional notion of speaker meaning. Thirdly, she has been refining her classification of speech acts, which gives particular weight to the way in which a given utterance is embedded in the participants’ non-cognitive needs and motivations.

F. Computational Linguistics

For RCEAL’s computational linguists (**Korhonen** and **Buttery**) the theme of this year’s research programme has been one of interdisciplinarity. Investigations have continued into the automatic extraction of lexical information from child speech and child directed speech. This work is already able to replicate that of some traditional, manual, small-scale child language studies (such as the analyses by Eve Clark and her colleagues) and future experiments hope to augment the empirical resources required to investigate acquisition theories.

In order to promote similar research endeavours Korhonen and Buttery, in conjunction with Aline **Villavicencio** (Universidade Federal do Rio Grande do Sul, Brazil), organised a workshop on Cognitive Aspects of Computational Language Acquisition at the 2007 meeting of the Association of Computational Linguists in Prague. The intention of the workshop was to bridge the gap between the computational and cognitive communities, promote knowledge and resource sharing, and help initiate interdisciplinary research projects. With Professor Ted **Briscoe** (Computer Laboratory, Cambridge), Korhonen and Buttery have worked on a joint project proposal on creating tools for empirical research on language acquisition.

Further collaborative steps have been taken with the departments of Experimental Psychology at Cambridge (Professor Lorraine **Tyler**) and the MRC Cognition and Brain Unit (Professor William **Marlsen-Wilson**). A proposed project will integrate research in cognitive neuroscience, experimental psycholinguistics and natural language processing (NLP) with the aim of providing the infrastructure for more realistic models of language structure for input into theoretically-driven empirical studies of language in the mind and brain. The project will involve a series of neuro-cognitive experiments which focus on the processing of the core components of language at the levels of morphology, syntax and semantics, using linguistic input automatically extracted from relevant spoken language data. NLP techniques including text processing (e.g. tagging, parsing) and lexical acquisition will be modified and extended to deal with a wider range of constructions, domains and text types as required. Techniques will also be developed for presenting the large quantity of annotated data in a transparent and useful manner.

Independently, **Korhonen** has continued her work on ‘Developing Lexical Resources for Natural Language Processing Applications’ as part of her University Research Fellowship, funded by the Royal Society. She has also continued her dual affiliation with Cambridge’s Computer Laboratory and has been working with Ted **Briscoe** and Judita **Preiss** on ‘Accurate and Comprehensive Lexical Classification for Natural Language Processing Applications’, a project funded by the EPSRC. She has undertaken collaborative research and/or worked on joint grant proposals with researchers at the University of Haifa (Israel), the National Institute of Informatics (Japan), the University of Colorado (USA), Universidade Federal do Rio Grande do Sul (Brazil) and the Université Paris 13 (France). During May and July 2007, she was an invited professor at the Université Paris 13. November 2007 will see Korhonen

embark on a new project “Using Text Mining to Aid Cancer Risk Assessment” funded by the MRC in collaboration with Ulla **Stenius** and Johan **Hogberg** at the University of Stockholm. During the academic year 2006-2007, Korhonen has served in all the main conference programme committees in the field of computational linguistics (e.g. ACL, EMNLP, CoNLL, NAACL, HLT, among others) and in several UK and international grant proposal panels.

Korhonen gave numerous conference and workshop presentations during the year, including: ‘Current and future challenges in research on multiword expressions’ (Conference on Linguistic, Psycholinguistic, and Computational aspects of idioms and collocations. Berlin-Brandenburg Academy, Berlin, November 2006); ‘Automatic classification of verbs in biomedical texts’ (The National Centre for Text Mining, Manchester, March 2007); and ‘Subcategorization acquisition’ (Université Paris 13, May 2007). Full details of her presentations and publications are given in chapters 7 and 8 of this report.

In January 2007, **Buttery** was awarded a London Technology Network Business Fellowship, a role designed to acknowledge and extend her own and RCEAL’s collaborations with industry. The fellowship has provided her with business training at the London School of Economics and she has represented the university at a number of industry events. She has also continued to play a major role in the English Profile Project (see section 3C for details): carrying out corpus investigations; aiding with the supervision of PhD student Caroline Williams; and disseminating the project and making it more visible (for example at a major presentation she gave at the Linguistic Society of America Summer Institute at Stanford University).

Further presentations by Buttery during the year included: ‘Automatic analysis of verb constructions in child speech and the possible implications for first language acquisition models’ (Journée Acquisition du Langage: Observations et Modèles, Université Charles de Gaulle-Lille 3, June 2007); several presentations within the context of the English Profile Project to collaborators in Cambridge and from abroad demonstrating the RASP parser and its capabilities and usefulness for the goals of this project; and (with Ted **Briscoe**) ‘The influence of prosody and ambiguity on English relativization strategies’ (Conference on Interdisciplinary Approaches to Relative Clauses, Cambridge, September 2007). A full listing of her presentations and publications can be found in chapters 7 and 8 of this report.

4. OTHER RESEARCH ACTIVITIES

A. RCEAL Tuesday Colloquia

Seminars were held in the Faculty of English Lecture Room G-R06 at 4 pm. Seminars were lively and well-attended. Presenters included both outside speakers, many very distinguished indeed, as well as members of RCEAL. The list of speakers and topics is summarised here.

10 October 2006, Ms Tihana Kraš (RCEAL).

‘Instability and age effects at the lexicon-syntax interface’.

17 October 2006, Professor Torben Thrane (Aarhus School of Business, Denmark).

‘Language and the Flow of Information’.

31 October 2006, Ms Maja Miličević (RCEAL).

‘Transfer, innate mechanisms and input in L2 acquisition of Italian reflexive and reciprocal constructions’.

- 14 November 2006, Dr Napoleon Katsos (RCEAL).
‘Experimental investigations on the interpretation of scalar terms’.
- 7 December 2006, Professor Bill Badecker (John Hopkins University, USA).
‘Agreement resolution from the perspective of Optimality Theory’.
- 23 January 2007. Prof John Hawkins, Professor Ted Briscoe, Dr Paula Buttery, Ms Caroline Williams and Mr Oeistein Andersen (University of Cambridge, The English Profile Project).
‘The English Profile Project: upgrading the Cambridge Learner Corpus and future directions for research’.
- 30 January 2007. Dr Boping Yuan (Oriental Studies, Cambridge).
‘Behaviours of wh-words in English speakers’ L2 Chinese wh-questions: variability at different L2 interfaces’.
- 13 February 2007. Dr Gorazd Kert (RCEAL).
‘Outstanding questions on morphological processing’.
- 6 March 2007. Professor Harriet Jisa (Laboratoire Dynamique du Langage (UMR 5596, CNRS & Université Lyon 2, France).
‘Later language development: How literacy impacts grammar’.
- 13 March 2007. Ms Lavanya Sankaran (RCEAL).
‘The influence of verb semantics on children’s acquisition of verbal inflections in Tamil’.
- 24 April 2007. Dr Paula Buttery and Dr Anna Korhonen (RCEAL).
‘Automatic Lexical Acquisition from the CHILDES Database’.
- 1 May 2007. Professor Doug Saddy (University of Reading UK).
‘Perceiving grammatical regularities’.
- 15 May 2007. Professor Peter Culicover (Ohio State University, USA).
‘Syntactic nuts, Core and Periphery, and Universal Grammar’.
- 29 May 2007. Mr Patrick Rebuschat (RCEAL).
‘Implicit and explicit learning of syntactic rules’.
- 12 June 2007. Mr Daniel Weston (RCEAL).
‘Language contact and shift: a comparison of the peninsular societies of Hong Kong and Gibraltar’.

B. CamLing Conference

Many of RCEAL’s students and staff contributed to the running of the successful Fifth Cambridge Postgraduate Conference in Language Research (CamLing), in association with the Cambridge Institute of Language Research (CILR) on Tuesday 20th and Wednesday 21st March 2007. This year the conference took place over two days, instead of one day, and was linked with the 10th Annual Computer Laboratory UK (CLUK) Research Colloquium. There were 124 delegates, 38 of whom gave oral presentations and 7 gave poster presentations. Once again CamLing attracted

international interest, with 19 delegates from abroad, principally Germany, Spain, and Greece, as well as large contingents from other UK universities, particularly the University of Essex and Birkbeck College London. As in previous years, the standard of papers presented was high, provoking much fruitful debate. The keynote speech by Professor Peter Austin on 'Endangered Languages and Language Documentation' was particularly popular.

The Camling organisers expressed their gratitude to the sponsors: the English Profile Project, the Department of Linguistics, Cambridge University Press, the Research Centre for English and Applied Linguistics, and Abebooks. More information is provided at the conference website <http://www.srcf.ucam.org/camling/>.

C. Looking at Language Acquisition (LALA) VIII Conference

RCEAL has been hosting an annual one-day workshop, in which PhD students from Essex and from RCEAL present their work, since 1999. Presentations centre around linguistic and psycholinguistic subjects. The workshop, organised by Professor Teresa Parodi (RCEAL) together with Professor Roger Hawkins (University of Essex) took place on 8 May 2007. The presentations were as follows:

Bettina Beinhoff (RCEAL), 'Accent and Identity – Do Non-Native Speakers (NNS) of English Identify with their NNS Accent of English?'

Amanda Cheung (RCEAL), 'The integration of new foreign vocabulary into the bilingual's lexicon at the early stages of learning'.

Carol Jaensch (University of Essex), 'L3 Acquisition of German adjective declension by L1 Japanese speakers – evidence of L2 English influence'.

Ghisseh Sarko (University of Essex), 'Accounting for indefinite article *a* drop in L2 English of L1 Syrian Arab speakers'.

Yinglin Ji (RCEAL), 'Adults' Expression of Caused Motion in Chinese'.

Tae Yamazaki-Hasegawa (RCEAL), 'Interpretation in second language: Reflexive binding and temporal interpretation in L2 English and L2 Japanese'.

D. Language and Music as Cognitive Systems

The conference took place in Cambridge between 11th and 13th May 2007. It brought together major contributors from linguistics, musicology, experimental psychology, cognitive neuroscience, and evolutionary anthropology in order to assess the progress made, and future directions to take, in the comparative study of music and language as cognitive systems, and in order to provide researchers and graduate students from diverse backgrounds with a unique forum for discussion. The conference was structured around four core areas in which the collaboration between music and language has proven to be particularly fruitful: (i) structural comparisons between language and music, (ii) evolution of language and music, (iii) learning and processing of language and music, and (iv) neuroscience of language and music.

The initial plan for the conference envisaged a workshop-style meeting involving between 70 and 100 participants, with something of a tutorial dimension so as to enhance cross-disciplinary understanding and provide graduate student participants with overviews of the fields of study. The event was focused around four keynote presentations and panel responses, with around twelve slots for presentations of submitted papers as well as a poster session. Funding was sought and

received from the AHRC and from CRASSH, and a call for papers was issued. In the event, the response to the call for papers produced 140 abstracts, most of extremely high quality. The plans for the conference were rapidly scaled up, and a new and larger main venue (the Lady Mitchell Hall) was arranged and facilities previously booked in RCEAL and in the CMS were retained for parallel sessions. Funding was also received from SEMPRE (Society for Research in Music, Psychology and Education) to assist graduate student attendance at the event.

The conference eventually involved over 260 participants from a wide range of countries, six keynote presenters, thirteen discussants, thirty-three paper presentations and a musical performance, as well as forty-four posters. The event vastly exceeded our expectations in terms of quality both of presentations and of dialogue between contributors from different disciplines. The 'keynote-panel discussion' format worked excellently to focalise debate, and many participants (including all the keynote speakers and discussants) informed the organisers that they had been impressed by the intellectual quality of the proceedings and had gained personally from participation in the conference. Several key areas identified themselves as showing promise for future research in the course of the event: these included (but were not limited to) the need for re-evaluation and co-ordinated cross-disciplinary empirical exploration of the notion of syntax in both language and music; the possibility of achieving a degree of consensus on concepts for framing, and methods for exploring, ideas of rhythm in music and in language; and the emergence of methods potentially providing quantitative ways of exploring musical diversity.

It is planned to establish a conference website to provide reference material and links for conference participants (including abstracts of all presentations and posters). Publication of an edited book that would provide a representative overview of the proceedings is also being planned, focusing on keynote contributions and responses. Many of the papers and posters presented lend themselves readily to special issues of journals dedicated to cutting-edge research in e.g. processing experiments, structure and neuroscience, under the editorship of different pairs of conference organizers, and this possibility will also be pursued.

E. Interdisciplinary Approaches to Relative Clauses (REL07)

The conference took place between 13th and 15th September 2007. It focused on a single linguistic structure, the relative clause, and brought together researchers approaching the properties of relative clauses from different perspectives. Relative clauses are complex constructions grammatically, yet very frequent and highly productive crosslinguistically. Understanding their properties is, thus, fundamental for theories of grammar, linguistic typology, language acquisition and processing. Many of their structural and interpretive properties have now been investigated and there is a growing body of work on their acquisition and processing. However, there have been insufficient efforts to integrate insights and results across different subdisciplines. Building on the success of the preparatory "Workshop on the Typology, Acquisition and Processing of Relative Clauses" (Leipzig 2005, Max Planck Institute for Evolutionary Anthropology), the conference brought together researchers investigating relative clauses from different subdisciplines: linguistic typology, grammatical theory, processing, first and second language acquisition, computational/corpus linguistics and historical linguistics.

The call of papers attracted a high number of good quality submissions. After rigorous reviewing by an international scientific committee a broad and interesting program was compiled with contributions from internationally acclaimed scholars. The conference opened with a focus on the theoretical and typological challenges involved in the study of relative clauses with the contributions of the first day tackling

empirical challenges raised by an unusually wide range of languages and also addressing questions of diachronic change. The second day extended and challenged theoretical generalisations with contributions on the reality of processing and acquisition of relative clauses, bringing to light fascinating quantitative corpus data and results from sophisticated psycholinguistic experiments investigating adult and child grammars from a wide range of languages (East Asian languages, Turkish, Hebrew, Italian Sign Language to name a few). The final day shifted focus on exciting recent work from the area of computational and corpus linguistics. The conference was generously sponsored by the Max Planck Institute for Evolutionary Anthropology as well as Cambridge Assessment (ESOL) and the Scandinavian Studies Fund. The University of Cambridge, Centre for Research in the Arts Social Sciences and Humanities (CRASSH), provided invaluable administrative support.

F. Other Workshops and Activities

December 2006: Cambridge Institute of Language Research Workshop on Pragmatics in Interfaces

RCEAL hosted the CILR workshop ‘Pragmatics in Interfaces’ in the English Faculty Building, organised by Kasia **Jaszczolt**, (Department of Linguistics), Napoleon **Katsos** (RCEAL) and Gea **de Jong** (Department of Linguistics/ Cambridge Institute of Language Research). The main aim of the workshop was to bring together researchers who are interested in pragmatics from a theoretical, computational and cognitive perspective and to discuss their approaches. Three leading researchers presented their work, and afterwards discussed themes concerning the commonalities and incompatibilities evident in their approaches in a panel discussion.

The invited speakers were:

Deirdre Wilson (University College London).
‘Pragmatics and Cognitive Science’

Ruth Kempson (King’s College London).
‘Ellipsis, Dialogue Modelling, and the Grammar-Pragmatics Interface’

Alex Lascarides (Edinburgh University).
‘A Formal Semantic Analysis of Gesture’

In total, there were about 60 participants, many from outside Cambridge. The workshop was opened by John Hawkins, Director of RCEAL, and after the presentations by the invited speakers, a lively discussion involving members from the audience followed, debating topics such as the syntax/semantics/pragmatics interface, compositionality in linguistic and non-linguistic modalities, and the role of experimental evidence in theoretical investigations. The workshop was universally agreed to have been very successful, particularly in reaching its aim to provide an opportunity for dialogue between researchers from different intellectual contexts, which encourages greater interpretability of results and theories across approaches. In this respect it was an ideal continuation of the very successful CILR Research Workshop on ‘Intonation: Crossing boundaries’ which was organised in December 2005 by Brechtje **Post** (RCEAL) and Francis **Nolan** (Department of Linguistics).

May 2007: Sound to Sense opening workshop

RCEAL hosted the *Sound to Sense* opening 14th to 17th May 2007 workshop in the English Faculty Building, organised by Brechtje **Post** (RCEAL), Sarah **Hawkins**

(Department of Linguistics) and her assistant Naomi **Hilton**. *Sound to Sense* is a €3M EC Marie Curie Research Training Network in which 38 researchers in linguistics, acoustics, language acquisition, computational linguistics, engineering and psychology from 13 European Universities collaborate in order to strengthen European research capacity in our knowledge of fine phonetic detail, its production and perception. The main aim of the opening workshop was to bring these researchers together for the first time to discuss the aims and objectives of the network and how we propose to achieve them, to arrange administrative matters, and to interview candidates for the 18 Fellowships that will be funded by the Network grant. In addition, two leading researchers presented their work to open up the discussion of common themes in the project that recur across the disciplines. The invited speakers were Roger Moore (Professor in Spoken Language Processing, University of Sheffield) and John Local (Professor in Phonetics, University of York). The workshop was funded by the EC Network grant.

June 2007: Association of Computational Linguists 2007 Workshop on Cognitive Aspects of Computational Language Acquisition.

Workshop chairs: Anna **Korhonen**, Aline **Villavicencio** and Paula **Buttery**.

The past decades have seen a massive expansion in the application of statistical and machine learning methods to natural language processing (NLP). This work has yielded impressive results in numerous speech and language processing tasks including speech recognition, morphological analysis, parsing, lexical acquisition, semantic interpretation, and dialogue management. Advances in these areas are generally viewed as engineering achievements but recently researchers have begun to investigate the relevance of computational learning techniques to research on human language acquisition. These investigations could have double significance since an improved understanding of human language acquisition will not only benefit cognitive sciences in general but may also feed back to the NLP community, placing researchers in a better position to develop new language models and/or techniques. Success in this type of research requires close collaboration between NLP and cognitive scientists. The aim of this workshop was thus to bring together researchers from the diverse fields of NLP, machine learning, artificial intelligence, linguistics, psycho-linguistics, etc. who are interested in the relevance of computational techniques for understanding human language learning. The workshop was intended to bridge the gap between the computational and cognitive communities, promote knowledge and resource sharing, and help initiate interdisciplinary research projects.

The programme committee selected 12 papers for publication that are representative of the state-of-the-art in this interdisciplinary area. Each full-length submission was independently reviewed by three members of the program committee, who then collectively faced the difficult task of selecting a subset of papers for publication from a very strong field. Among the accepted papers we saw proposed techniques for creating, analysing and annotating data resources for research on language acquisition. We also saw presentations of computational models for first and second language acquisition. These models investigate the acquisition of both syntactic and semantic phenomena, adopting different linguistic theories and formalisms, using varying levels of supervision.

July 2007: Introduction to morphology. LSA Institute, Stanford University.

Pattern-based models of lexical knowledge (with F. Ackerman, F. Moscoso del Prado Martín and M. Tomasello).

At the Linguistic Institute hosted at Stanford in July, Jim **Blevins** taught an advanced introduction to Morphology and co-taught a course on Pattern-based

Models of Lexical Knowledge (with Farrell Ackerman, Fermin Moscoso del Prado Martin and Mike Tomasello). The Morphology course provided an outline of current research paradigms and results in linguistic morphology for advanced undergraduate and beginning graduate students. The Lexical Knowledge course reviewed a recent convergence between approaches that treat language as a type of complex system, and suggested ways in which complex system analyses lend insight into the patterns that emerge in language structure, acquisition and use.

5. COMPLETED PHD DISSERTATIONS

Kyungchul (Leo) Chang (supervised by **Blevins**).
Complex Predicates in English.

Vassiliki (Vicki) Chondrogianni (supervised by **Parodi**).
The acquisition of clitics and determiners by child and adult L2 learners of Modern Greek.

Milja Djurković (supervised by **Parodi**).
First language acquisition of argument structure alternations. A comparative study of passives and impersonals in Serbian and Croatian.

Napoleon Katsos (supervised by **Williams**).
Psycholinguistic processing of pragmatic inferences.

Gorazd Kert (supervised by **Blevins**).
Mechanisms in the mental processing of English derivation.

Janny Leung (supervised by **Williams**).
Implicit learning of form-meaning connections.

Ivana Vidaković (supervised by **Hendriks**).
Second language acquisition of dynamic spatial relations.

6. MPhil PROGRAMME

The MPhil in English and Applied Linguistics is a nine-month (three terms) master's scheme taught in the Centre between October and June. It is an intellectually demanding programme which provides a sound theoretical foundation for Applied Linguists. The programme is particularly suitable for those interested in undertaking research in English and first and second language acquisition, and has always attracted numerous university lecturers, teacher trainers, and experienced language teachers as part of the student body. The programme is widely recognised internationally as a professional qualification for teachers of English as a second language. The M Phil consists of four core courses: Paper 1: English Language (English phonology, and orthography – with practical phonetics, English morphology and syntax), Paper 2: English Language (Semantics and pragmatics, Discourse analysis), Paper 3: Language Acquisition and Development (Social and functional approaches to language acquisition, Principles and parameters approach to second language acquisition), Paper 4: Psychology of Language Processing and Language Learning (Monolingual and bilingual language processing, Psychological mechanisms of language learning). All students also follow a course in Research Methods during the first two terms. In addition to the core courses, candidates select at least one of a

range of option courses. The option courses offered in 2006-7 included: Assessment of Language Proficiency, Contrastive Linguistics, Language Acquisition Seminar, Psycholinguistics (Connectionist perspectives), Statistics Seminar, and Translation and Linguistics.

This year, the course benefited considerably from additional teaching by visiting lecturers. We thank Alastair **Pollitt** for teaching sessions on the Research Methods course and the ESOL, Cambridge Assessment group, convened by **Lynda Taylor**, for teaching the Assessment of Language Proficiency option course.

Ten students, listed below, were awarded the degree of MPhil. The external examiner, Richard **Towell** (University of Salford), expressed satisfaction with the way the programme was run. He read a large number of essays and student examination scripts, and thought that the quality of the work was very high, and that marks had been awarded appropriately.

Miss Rodanthi CHRISTOFAKI	Greece	St Catharine's
*Mr Jeffrey HANNA	USA	Darwin
Mr Masahiro KODERA	Japan	Wolfson
*Miss Milena KOZIĆ	Serbia	Newnham
Mr Chung Hang LEUNG	China	Wolfson
Ms Mary LOVE	USA	Trinity Hall
Mr Wei REN	China	St Edmund's
Mrs Erin SANCHEZ	USA	Wolfson
Miss Azlin ZAINAL	Malaysia	Darwin
*Miss Margaret ZELLERS	USA	Clare

* students accepted to undertake research for a PhD at RCEAL in subsequent years.

A total of 73 enquiries were received from students interested in applying for admission to the MPhil programme in 2006-7. Seventy students applied and of these 24 students were accepted.

7. CONFERENCE/WORKSHOP PRESENTATIONS (including invited talks).

Alexopoulou, T., Parodi, T. and Vilar-Beltrán, E. (July 2007). 'Variables and resumption in child Spanish'. 30th Child Language Seminar, Reading, UK.

Blevins, J. P. (Dec 2006). 'The lexicon-morphology interface'. Alliance Project Workshop: Interface Issues in Constraint-Based Grammar, Department of Linguistics, University of Essex, UK.

Blevins, J. P. (Oct 2007). 'Inflection classes in Estonian'. Tallinn University.

Blevins, J. P. (Oct 2007). 'Building blocks of grammar. Tallinn University.

Blevins, J. P. (Nov 2007). 'Inflectional economy. Linguistic Society, University of Cambridge.

Briscoe, T. and Buttery, P. (Sept 2007). 'The influence of prosody and ambiguity on English relativization strategies'. Interdisciplinary Approaches to Relative Clauses, Cambridge, UK.

Buttery, P. (July 2006). 'Searching the Cambridge Learner Corpus'. Computer Laboratory, University of Cambridge UK.

Buttery, P. (Jan/May 2007). 'RASP and the Cambridge Learner Corpus'. English Profile Project January Seminar, Hughes Hall, also presented at University of Cambridge ESOL Examinations.

Buttery, P. (June 2007). 'Automatic analysis of verb constructions in child speech and the possible implications for first language acquisition models'. Journée "Acquisition du langage: observations et modèles", Université Charles de Gaulle-Lille3.

- Buttery, P. (June 2007). 'Automatic analysis of verb constructions in child speech and the possible implications for first language acquisition models'. Journée 'Acquisition du langage: observations et modèles', Université Charles de Gaulle Lille, France.
- Buttery, P. (July 2007). 'English profile: Reference level descriptions for English'. Linguistic Society of America Summer Institute, Stanford University, USA.
- Buttery, P. and Korhonen, A. (June 2007). 'I will shoot your shopping down and you can shoot at my tins'. Automatic Lexical Acquisition from the CHILDES Database. ACL-2007 Workshop, Cognitive Aspects of Computational Language Acquisition, Prague, Czech Republic.
- Cheung, A and Williams, J. N. (Sept 2007). 'The integration of new foreign vocabulary into the lexicon at the early stages of learning'. The European Second Language Association (EuroSLA) Conference 2007, Newcastle upon Tyne, UK.
- Chondrogianni, V. (June 2007). 'Internal and external factors in L2 acquisition'. 6th International Symposium on Bilingualism. Hamburg, Germany.
- Chondrogianni, V. (July 2007). 'Asymmetrical patterns in the acquisition of D-elements by child L2 learners of Modern Greek: internal and external factors'. 30th Child Language Seminar. Reading, UK.
- Durković, M. (July 2007). 'First language acquisition of the passive and impersonal constructions in Serbian'. 30th Child Language Seminar, Reading, UK.
- Hawkins, J. A. (Oct 2006). 'An asymmetry between VO and OV languages: The ordering of oblique phrases'. 8th International Forum on Language, Brain and Cognition, Linguistics in Cognitive Science: Contributions from East Asian Languages, Tohoku University, Sendai, Japan.
- Hawkins, J. A. (Feb 2007). 'Performance and grammatical variation in the ordering of verb, direct objects and obliques'. Key-note presentation at the Annual Meeting of the German National Linguistics Association (Deutsche Gesellschaft für Sprachwissenschaft), University of Siegen, Germany.
- Hawkins, J. A. (Apr 2007). 'An efficiency theory of complexity and related phenomena'. Conference on Complexity as an Evolving Variable, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.
- Hawkins, J. A. (June 2007). 'Nouns and noun phrases: Grammatical variation and language processing'. Symposium on Nouns Cross-linguistically, sponsored by the Max Planck Institute for Evolutionary Anthropology, Leipzig, and the University of Molise, Campobasso, Italy.
- Hendriks, H. (Mar 2007). 'Introducing spaces in child discourse: a comparison of Chinese and Dutch'. Workshop on Information Structure, Universität Tübingen, Germany.
- Hickmann, M. and Hendriks, H. (Oct 2006). 'Typological constraints on the acquisition of spatial language in French and English'. Second International Conference of the German Cognitive Linguistics Association, München, Germany.
- Hickmann, M. and Hendriks, H. (Mar 2007). 'Marking of information status in child L1 and adult L2'. Workshop on Information Structure, Max-Planck Institut für Psycholinguistik, Nijmegen, the Netherlands.
- Hickmann, M. and Hendriks, H. (May 2007). 'Motion in French and English child language'. Workshop on Reference to Space, AFLiCo Conference, Lille, France.
- Ji, Y. (Mar 2007). 'Reference to space in Chinese and English poster descriptions'. The Fifth Postgraduate Conference in Language Research (CamLing). University of Cambridge, UK.

- Katsos, N. (Aug 2006). 'On the acquisition and processing of implicatures'. Panel on 'Pragmatics and the Interfaces' organised by Napoleon Katsos, ISCA Tutorial and Research Workshop on Experimental Linguistics, Athens, Greece.
- Katsos, N. and Breheny, R. (Oct 2006). 'On the cost of accommodating contrast sets.' Poster presented at the Workshop on Presupposition Accommodation, Ohio, USA.
- Katsos, N., Bishop, D. V. M., and Breheny, R. (July 2007). 'Is pragmatics hard?' Panel on 'Pragmatic Interfaces' organised by Didier Maillat and Louis de Saussure, 10th Conference of the International Pragmatics Association, Gothenburg, Sweden.
- Katsos, N. (December 2007). 'XPrag - Experimental Pragmatics 2007'. Centre for General Linguistics, Typology and Universals Research (ZAS), Berlin, Germany.
- Korhonen, A. (Nov 2006). 'Current and future challenges in research on multiword expressions'. Conference on Linguistic, Psycholinguistic, and Computational Aspects of Idioms and Collocations. Berlin-Brandenburg Academy, Berlin, Germany.
- Korhonen, A. (March 2007) 'Automatic classification of verbs in biomedical texts'. The National Centre for Text Mining, Manchester, UK.
- Korhonen, A. (May 2007). 'Subcategorization acquisition'. Université 13 Paris, France.
- Korhonen, A. (May 2007). 'Automatic verb classification'. Université 13 Paris, France.
- Leung, J. and Williams, J. N. (July 2006). 'Implicit learning of form-meaning connections'. 28th Annual Conference of the Cognitive Science Society, Vancouver, Canada.
- Post, B. (Jan 2007). 'Is French a language without accents after all?' Invited speaker, French linguistics seminar, Cambridge, UK.
- Post, B. (May 2007). 'Intonation contours: State of the art'. Invited speaker, Séminaire ANR, Université de Paris VII, France.
- Post, B. (May 2007). 'Metrical structure and the prosodic hierarchy'. Invited discussant, Language and Music as Cognitive Systems, Cambridge, UK.
- Post, B. (Aug 2007). 'Fine phonetic detail and intonational meaning' (with Mariapaola D'Imperio and Carlos Gussenhoven). Invited speaker, International Congress of the Phonetic Sciences S2S special session, Saarbrücken, Germany.
- Post, B. (Sept 2007). 'Constructing an intonational grammar for French'. Invited speaker, Romanistentage, Vienna, Austria.
- Rebuschat, P. and Williams, J. N. (Mar 2007). 'Implicit learning of natural language syntax'. Biannual meeting of the Gesellschaft für Kognitionswissenschaft (KogWis 2007), Saarbrücken, Germany.
- Rohrmeier, M. and Rebuschat, P. (Mar 2007). 'Implicit learning of melodic structure'. Biannual meeting of the Gesellschaft für Kognitionswissenschaft (KogWis 2007), Saarbrücken, Germany.
- Rohrmeier, M. and Rebuschat, P. (Mar 2007). 'Implicit learning of melodic structure'. 49. Tagung experimentell-arbeitender Psychologen (TeaP 49), Trier, Germany.
- Rohrmeier, M. and Rebuschat, P. (July 2007). 'Implicit learning of melodic structure'. Annual meeting of the Society for Music Perception & Cognition (SMCP 2007), Montreal, Canada.
- Sankaran, L. (April 2007). 'The influence of verb semantics on children's acquisition of temporal aspectual inflections in Tamil'. The International Linguistic Association (ILA), 52nd Annual International Linguistic Conference. Hunter College, City University of New York, New York, USA.

- Seneviratne, S. (Nov 2006). 'From simple to complex causal relations: Pragmatic development of the connective *so*'. The 31st Annual Boston University Conference on Language Development (BUCLD), Boston, USA.
- Seneviratne, S. (July 2007). 'Rethinking the acquisition of connectives: complex uses and the development of pragmatic skills'. The 30th Child Language Seminar (CLS), Reading, UK.
- Williams, J. N. and Kuribara, C. (Sept 2007). 'Incidental learning of word order: Statistical patterns or abstract linguistic knowledge?' The European Second Language Association Conference (EuroSLA), Newcastle upon Tyne, UK.
- Williams, J.N. (May 2007). Alignment in verbal communication. Invited discussant, Language and Music as Cognitive Systems, Cambridge, UK.

8. PUBLICATIONS

- Blevins, J. P. (2006). Word-based morphology. *Journal of Linguistics* 42.3, 531-73.
- Blevins, J. P. (2006). English inflection and derivation. In B. Aarts and A. M. S. McMahon (eds), *Handbook of English Linguistics* (507-36). London: Blackwell.
- Blevins, J. P. (2006). Passive and impersonal constructions. In E. K. Brown (ed.), *Elsevier Encyclopedia of Language and Linguistics* 2nd edition. Vol. 9 (236-39). Oxford: Elsevier.
- Blevins, J. P. (2006). Syntactic features and feature structures. In E. K. Brown (ed.), *Elsevier Encyclopedia of Language and Linguistics* 2nd edition. Vol. 12 (390-93). Oxford: Elsevier.
- Blevins, J. P. (2006). The Post-Bloomfieldians. In E. K. Brown (ed.), *Elsevier Encyclopedia of Language and Linguistics* 2nd edition. Vol. 9 (783-84). Oxford: Elsevier.
- Breheny, R., Katsos, N. and Williams, J. N. (2006). Are generalised scalar implicatures generated by default? An on-line investigation into the role of context in generating pragmatic inferences. *Cognition*, 100/3, 434-63
- Brown, K. (2006). Editor in Chief, *Encyclopedia of Language and Linguistics* 2nd edition (12 volumes). Oxford: Elsevier.
- Buttery, P. (2006). *Computational Models of First Language Acquisition*. PhD thesis published as Technical Report. Computer Laboratory, University of Cambridge, UK.
- Buttery, P. and Korhonen, A. (2007). I will shoot your shopping down and you can shoot all my tins. Automatic lexical acquisition from the CHILDES database. In *Proceedings of ACL-2007 Workshop, Cognitive Aspects of Computational Language Acquisition*. Prague.
- Buttery, P., Villavicencio, A. and Korhonen, A. (eds) (2007). *Proceedings of the ACL 2007 Workshop on Cognitive Aspects of Computational Language Acquisition*. Prague.
- Chondrogianni, V. (2006). The acquisition of clitics and determiners by child L2 learners of Modern Greek. In A. Belletti, E. Bennati, C. Chesi, E. Di Domenico and I. Ferrari (eds), *Language Acquisition and Development: Proceedings of GALA 2005* (142-7). Cambridge: Cambridge Scholars.
- Delais-Roussarie, E., Post, B. and Portes, C. (2007). Annotation prosodique et typologie. *Travaux de l'Institut Phonétique d'Aix-en-Provence*, 61-96.
- Durković, M. (2007). Structural vs. frequency effects in L1 acquisition of the passive and impersonal in Serbian. In P. Jordens (ed.), *Frequency Effects in Language Acquisition, SOLA Series*. Berlin: Mouton de Gruyter.
- Hawkins, J. A. (2006) Gradedness as relative efficiency in the processing of syntax and semantics. In: G. Fanselow, C. Féry, R. Vogel and M. Schlesewsky (eds),

- Gradience in Grammar: Generative Perspectives* (207-26). Oxford: Oxford University Press.
- Hawkins, J. A. (2007). Acquisition of relative clauses in relation to language universals. *Studies in Second Language Acquisition* 29, 337-44.
- Hawkins, J. A. (2007). Processing typology and why psychologists need to know about it. *New Ideas in Psychology* 25, 87-107.
- Hickmann, M. and Hendriks, H. (2006). Static and dynamic location in French and English. *First Language*, 26/1, 103-35.
- Ji, Y. (2007). 'Reference to space in Chinese and English poster descriptions'. In *Proceedings of the Fifth Postgraduate Conference in Language Research (CamLing)*. Cambridge, UK.
- Ji, Y. and Shen, D. (2006). Transitivity, indirection and redemption in Sheila Watson's *The Double Hook*. *Style* 39.3.
- Kipper, K., Korhonen, A., Ryant, N. and Palmer, M. (2006). A large-scale extension of VerbNet with novel verb classes. In *Proceedings of EURALEX*. Turin, Italy.
- Kipper, K., Korhonen, A., Ryant, N. and Palmer, M. (2006). Extending VerbNet with novel verb classes. In *Proceedings of the 5th international conference on Language Resources and Evaluation*. Genoa, Italy.
- Korhonen, A., Krymolowski, Y. and Briscoe, T. (2006). A large subcategorization lexicon for natural language processing applications. In *Proceedings of the 5th international conference on Language Resources and Evaluation*. Genoa, Italy.
- Korhonen, A., Krymolowski, Y. and Collier, N. (2006). Automatic classification of verbs in biomedical texts. In *Proceedings of ACL-COLING 2006*. Sydney, Australia.
- Korhonen, A., Krymolowski, Y. and Collier, N. (2006). Automatic classification of verbs in biomedical texts. In *Proceedings of ACL-COLING 2006*. Sydney, Australia.
- Kraš, T. (2006). Age effects in the L2 acquisition of the lexicon-syntax interface. In D. Bamman, T. Magnitskaia and C. Zaller (eds), *Proceedings of the 30th Annual Boston University Conference on Language Development* (316-27). Somerville, MA: Cascadilla Press.
- Kraš, T. (2007). The status of the unaccusative/unergative split in Croatian-English interlanguage. In L. Agathopoulou, M. Dimitrakopoulou and D. Papadopoulou (eds), *Proceedings of the 17th International Symposium of Theoretical and Applied Linguistics* (422-32). Thessaloniki: Aristotle University of Thessaloniki.
- Kraš, T. (2007). Instability and age effects at the lexicon-syntax interface. In S. Baauw, F. Drijkoningen and M. Pinto (eds) *Romance Languages and Linguistic Theory 2005* (199-210). Amsterdam/Philadelphia: John Benjamins.
- Kriempardis, E. (2006). Interpersonal effects on primary propositions. In C. Chang, E. Dugarova, I. Theodoropoulou, E. V. Beltrán and E. Wilford (eds), *Proceedings of the Fourth University of Cambridge Postgraduate Conference in Language Research (CamLing)* (115-22). Cambridge: CILR.
- Kriempardis, E. (2007). Semantic complementarity vs pragmatic enrichment: a corpus study of implicit objects. In P. Cap and J. Nijakowska (eds), *Current Trends in Pragmatics* (152-81). Cambridge: Cambridge Scholars Publishing.
- Leung, J. (2007). Implicit learning of form-meaning connections. Doctoral dissertation, University of Cambridge, UK.
- Leung, J. and Williams, J. N. (2006). Implicit learning of form-meaning connections. In R. Sun and N. Miyake, (eds) *Proceedings of the Annual Meeting of the Cognitive Science Society* (465-70). Mahwah, N.J.: Lawrence Erlbaum.

- Miličević, M. (2006). L'influenza della morfologia di L1 nell'acquisizione di forme riflessive in italiano L2. In M. Boria and L. Risso (eds), *Laboratorio di nuova ricerca. Investigating Gender, Translation and Culture in Italian Studies*. Leicester: Troubador.
- Miličević, M. (2007). Modularity in SLA: Transfer, innate mechanisms and input in the L2 acquisition of Italian reflexive and reciprocal constructions. In L. Roberts, A. Gürel, S. Tatar and L. Martı (eds), *EuroSLA Yearbook 7* (89-120). Amsterdam: John Benjamins.
- Miličević, M. (2007). Set relations in the transfer of L1 morphology: Acquisition of reflexive and reciprocal forms in L2 Italian and L2 English. *Proceedings of the Fourth University of Cambridge Postgraduate Conference in Language Research (CamLing)* (139-46).
- Parodi, T. (2006). Functional categories. In E. K. Brown (ed.), *Elsevier Encyclopedia of Language and Linguistics* 2nd edition (666-68). Oxford: Elsevier.
- Post, B. and Delais-Roussarie, E. (2006). Transcribing intonational variation at different levels of analysis. In R. Hoffmann and H. Mixdorff (eds), *Speech Prosody* (CD ROM). Dresden: TUDpress.
- Post, B. and Delais-Roussarie, E. (2006). Vers un système multinéaire de transcription des variations intonatives. *Actes des 26èmes Journées d'Études sur la Parole (JEP)*, Dinard, France, 345-48.
- Post, B., Delais-Roussarie, E. and Simon, A. C. (2006). IVTS, un système de transcription pour la variation prosodique. In A.C. Simon, G. Caelen-Haumont and C. Pagliano (eds), *Bulletin PFC* 6, 51-68.
- Post, B., D'Imperio, M. and Gussenhoven, C. (2007). Fine phonetic detail and intonational meaning. *Proceedings of the International Congress of the Phonetic Sciences*.
- Preiss, J., Briscoe, T. and Korhonen, A. (2007). A system for large-scale acquisition of verbal, nominal and adjectival subcategorization frames from corpora. In *Proceedings of the 45th Annual Meeting of the Association of Computational Linguistics* (912-19). Prague.
- Rajakulendran (Sankaran), L. (2006). Verifying the distributional Bias Hypothesis: An analysis of Tamil. In *Proceedings of Space and Time in Language and Literature Conference (STLL)*.
- Rebuschat, P. and Williams, J. N. (2006). Dissociating implicit and explicit learning of natural language syntax. In R. Sun and N. Miyake (eds), *Proceedings of the Annual Meeting of the Cognitive Science Society* (2594). Mahwah, N.J.: Lawrence Erlbaum.
- Salamoura, A. (2007). Grammatical gender in the bilingual lexicon: A psycholinguistic approach. In I. Kecskes and L. Albertazzi (eds), *Cognitive Aspects of Bilingualism* (99-151). Dordrecht: Springer Verlag.
- Salamoura, A. and Williams, J. N. (2006). Lexical activation of cross-language syntactic priming. *Bilingualism: Language and Cognition* 9, 299-307.
- Blevins, J. P. (2006). Word-based morphology. *Journal of Linguistics* 42.3, 531-73.
- Salamoura, A. and Williams, J. N. (2006). Lexical activation of cross-language syntactic priming. *Bilingualism: Language and Cognition*, 9 (3), 299-307.
- Unsworth, S., Parodi T., Sorace A. and Young-Scholten M. (eds) (2006). *Paths of Development*. Amsterdam: John Benjamins.
- Williams, J. N. (2006). Associationism and connectionism. In E. K. Brown (ed.), *Elsevier Encyclopedia of Language and Linguistics* 2nd edition Oxford: Elsevier.

- Williams, J. N. (2006). Incremental interpretation in second language sentence processing. *Bilingualism: Language and Cognition* 9.1, 71-88.
- Williams, J. N. and Kuribara, C. (2007). Comparing a nativist and emergentist approach to the initial stage of SLA: An investigation of Japanese scrambling. *Lingua*.