Let the Children Speak

Learning of Critical Language Skills across 28 Languages

A European-wide initiative on Language Acquisition and Language Impairment

22 - 24 January 2010
London

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Let the Children Speak:

Learning of Critical Language Skills across 28 Languages

Background to the Conference

Two children in every classroom across Europe have problems learning language. They suffer from Specific Language Impairment (SLI), and this is costing Europe more than 250 billion Euros – or £200bn – a year. That's 1% of GDP, enough to bail out a few medium-sized banks.

This conference presents the results of the 4 year COST A33 project, in which scientists from 25 EU countries and beyond, covering 28 languages, have collaborated in a ground-breaking European-wide initiative to address the problem of SLI in children.

The ability to use a language is one of the most important abilities a child has to acquire before he or she can join modern society. Children are born with a capacity to acquire a language, but the ability to speak or sign one or more particular languages develops in the first 5 or so years of a child's life. The process is shaped both by environmental factors and by factors that are part of human biology. Therefore to understand how language impairments arise, and how they can be identified and treated, we need to disentangle the effects of environmental and genetic factors. Cross-linguistic research helps us to tease apart language-specific (environmental) from language-universal (genetic) factors.

A core part of language concerns the grammar – the rules that govern how words in sentences are related to one another. Grammar impairment is a central problem in children with SLI. Therefore understanding what parts of grammar are language-specific or language-universal, and which of these are impaired in SLI, is key to furthering our knowledge of how to identify and treat SLI.

The COST A33 project has investigated five key areas which relate to: (1) being able to refer to people and things using pronouns (e.g., *he/she/it; him/he*r); (2) talking about things with a time reference, or "tense" (*go, went, will go*), and whether an event or action is complete or on going (*I walked home* vs *I was walking home*); (3) being able to ask and understand simple questions (*Who did you catch?*) and more complex sentences (relative clauses *Would you like to be the student who won the prize?*); (4) being able to understand who does what to whom in sentences even when the order is not the typical one, as in passive sentences (*John was pushed by Mary*); and (5) understanding the differences between words (quantifiers) that are needed for number understanding (*some, most, all*) and what these words imply when we use them.

The conference will present results from both typically developing children and children with SLI. The work provides a common template to help children regardless of the language they speak. This is the first time scientists have come together from across Europe to find better solutions for identifying and remediating SLI and facilitating language acquisition more generally. The findings offer a platform to identify the needs of children earlier and provide the detail needed for targeted remediation. This will help children to reach their potential, thereby improving their lives.

Heather van der Lely

Let the Children Speak
Local Organising Committee
Heather van der Lely (Chair)
Chloë Marshall
Victoria Joffe
Michael Thomas

Programme

Friday 22nd January 2010

12.00 - 14.00 Registration

Chair: Daniel Glaser (The Wellcome Trust)

13.45 - 14.15 Welcome: **Uli Sauerland** and **Heather van der Lely**

14.15 - 14.45 **Representative from** Department for Health or Children, Families and Schools
Introduced by **Linda Lascelles**, CEO Association for all Speech Impaired Children

14.45 - 15.05 **Abby Beverly** The perspective of an adult with SLI
Living with a language impairment
In discussion with **Victoria Joffe** (City University London, UK)

15.05 - 15.55 **Stephen Crain,** Professor of Cognitive Science MACCS Macquarie University, Australia
Investigating child language from a 'biolinguistic' perspective

15.55 - 16.50 Coffee Break
Poster Session I
Interactive Sessions
Demonstrations and participation in the COST A33 language experiments

16.50 - 17.00 **Jo Eddings**
The perspective of a parent of a child with SLI

17.00 - 18.30 ***Panel Discussion***
Also open to those attending the Reception
Moderated and chaired by **Daniel Glaser** (The Wellcome Trust)

Panel Members:

1. **Heather van der Lely**, COST A33 Vice Chair (Harvard University, USA)
   The scientific perspective

2. **Virginia Beardshaw,** CEO I CAN: *The children's communication charity*

3. **Helga Nowotny**, Vice President European Reseach Council

4. **Hazel Roddam,** Deputy Chair of the Royal College of Speech and Language Therapists, UK

   Panel Discussion
   General Discussion and Audience Participation

18.30 - 21.00 **COST A33 Reception**
At The Wellcome Trust Medicine Now Gallery
Conference participants plus Ambassadors from 25 countries involved in COST A33, and other professionals and politicians from the EU

Saturday 23rd January 2010

08.30 - 09.00 Registration

Chair: **Michael Thomas**, (Birkbeck, University of London, UK)

09.00 - 10.15 **Symposium 1**: Coordinator **Spyridoula Varlokosta** (Athens University, Greece)

Children's production and comprehension of pronouns across languages

João Costa (Universidade Nova de Lisboa, Portugal)
Production of pronouns - designing a crosslinguistic experiment and crosslinguistic findings

Maria Teresa Guasti (University Milano-Bicocca, Italy)
Production of partitive pronouns across languages

Maria Teresa Guasti (University Milano-Bicocca, Italy)
Children's comprehension of pronouns in European languages

10.15 - 10.30 **Susan Edwards** (Reading University, UK)
Discussant: a scientific perspective

10.30 - 11.00 Coffee Break
Poster Session II

11.00 - 12.00 **Symposium 2**: Coordinator **Angeliek van Hout** (University of Groningen, Netherlands)
Acquiring tense and aspect

Angeliek van Hout (University of Groningen, Netherlands)
Learning to understand aspect across languages

Bart Hollebrandse (University of Groningen, Netherlands)
Acquiring tense crosslinguistically: comprehension and production

12.00 - 12.15 **Jane Stokes** (MRCSLT University of Greenwich, UK)
Discussant: a professional perspective
End of Symposium

12.15 - 14.30 Lunch
Interactive session
Poster Session II (continued)

Chair: Kleanthes Grohmann (University of Cyprus)

14.30 – 16.00 **Symposium 3**: Coordinator **Naama Friedmann** (Tel Aviv University, Israel)
Children's questions about questions

Naama Friedmann (Tel Aviv University, Israel)
Introduction: on wh questions and relative clauses in typically developing and language-impaired children

Heather van der Lely (Harvard University, USA)
How do 5 year olds understand questions? Differences in languages across Europe?

Petra Schulz (Goethe University, Frankfurt am Main, Germany)
Who answered what to whom? On children's understanding of exhaustive questions

Naama Friedmann (Tel Aviv University, Israel)
The production of relative clauses by 5 year olds across multiple languages: "They prefer to be the children who do not produce object relatives"

15.45 - 16.00 **Susan Ebbels** (Moor House School for language impaired children, UK)
Discussant: a professional perspective

16.00 - 17.00 Coffee Break
Poster session III
Interactive Session

17.00 **Maria Kambanaros** (European University, Cyprus)
Linking research findings to educational and clinical practice of language learning in children.

17.30 - 17.45 General Discussion: Led by **Daniel Glaser**

17.45 - 18.30 Management Meeting: MC COST members only

19.15 **Conference Dinner**
The Crypt in Ely Place (off Holborn Circus)
(Bleeding Heart Yard Restaurant)

Sunday 24th January 2010

Chair: Ineta Dabašinskienė (Vytautas Magnus University, Lithuania)

09.00 - 10.15 **Symposium 4**: Coordinator **Sharon Armon-Lotem** (Bar-Ilan University, Israel)
Understanding passive sentences

Sharon Armon-Lotem (Bar-Ilan University, Israel)
An introduction – why study the acquisition of passive sentences?

Kazuko Yatsushiro (ZAS, Berlin, Germany)
Short and long passives in 5 year olds: a crosslinguistic perspective

Sari Kunnari (University of Oulu, Finland)
The *development of the passive*

Kristine Jensen de López (Aalborg University, Denmark)
Understanding passive sentences by children with specific language impairments: a cross-linguistic comparison

10.15 - 10.30 **Julie Dockrell** (Institute of Education, UK)
Discussant: an educational perspectiv*e*

10.30 - 11.00 Coffee Break
Poster session III (continued)

11.00 - 12.15 **Symposium 5:** Coordinator **Ken Drozd** (Hanze University, Groningen, Netherlands)
Quantifiers and implicatures

Ken Drozd (Hanze University, Groningen, Netherlands)
Some ambassadors attended the conference: Understanding quantifiers and implicatures

Napoleon Katsos (Cambridge University, UK)
What can the acquisition of quantification tell us about assessing language development? Evidence from crosslinguistic, bilingual and SLI research

Arve Asbjørnsen (University of Bergen, Norway)
Challenges in test development: some psychometric properties of the quantification tasks

12.15 – 12.30 **Hilary Gardner** (Vice-Chair: Association of SLT in Independent Practice & Sheffield University UK)
Discussant: an educational and professional perspective

12.30 - 13.00 **Tom Roeper** (University of Massachusetts, USA)
Conference Discussant

13.00 – 13.05 **Presentation of Poster Prize**

13.05 - 14.00 Lunch
Conference Close

Speakers’ Abstracts

Friday 22nd January

Investigating child language from a 'biolinguistic' perspective

Stephen Crain
Macquarie University, Australia

No one would deny that human languages are shaped by environmental factors. After all, children exposed to Basque acquire Basque, and children exposed to Mandarin acquire Mandarin. However, an ever-growing body of research findings points to the influence of biological factors on the development of language. Evidence that language is to a large extent determined by the human genome comes from (a) cross-linguistic studies of child and adult languages, (b) developmental language disorders (including SLI), (c) experiments using brain imaging techniques, and (d) research showing that children sometimes appear to speak 'foreign' languages, rather than the language that is spoken to them.

In this talk, I will briefly summarize some of the research findings from each of these areas. Despite the obvious diversity of human languages, and the clear relevance of social and environmental factors, a compelling case can be made for the conclusion that languages are largely the product of human biology.

Saturday 23rd January
Symposium 1

Children's production and comprehension of pronouns across languages

Workgroup Coordinator: Spyridoula Varlokosta
Athens University, Greece

Children's ability to produce and comprehend pronouns is normally considered a robust marker of linguistic development. Yet, there are crosslinguistic differences that may cast doubt on the crosslinguistic validity of this marker, depending on the types of pronouns, on the languages or on the linguistic contexts used in the experiments. In this symposium, we present the results of the working group. Three experiments were developed in order to assess children's knowledge of pronouns at the age of 5, controlling for the linguistic environment, for the form of pronoun and in such a way that the test is valid crosslinguistically. The general conclusion is that pronouns are a robust marker of linguistic development, since they are well produced and comprehended at the age of 5 for most of the languages under examination.

Production of pronouns: designing a crosslinguistic experiment and crosslinguistic findings

João Costa
Universidade Nova de Lisboa, Portugal

Studies conducted for many languages reveal that the production of pronouns is a critical marker of linguistic development. In many languages, it was found that children omit pronouns in contexts in which they are obligatory, unlike adults do.

The result of crosslinguistic research reveals that the phenomenon of pronoun omission is not universal. On the one hand, it appears to depend on the type of pronoun: whether it is a weak non stressed form (clitic) or a full pronoun – the latter appear to be produced at higher rates. On the other hand, it appears to depend on the language. For instances, it appears to be the case that children acquiring Spanish omit much less pronouns than children acquiring Catalan.

Some subtleties in the methods used for eliciting pronouns make the comparison between languages sometimes hard to establish, which justifies the existence of some debates in the literature regarding issues like the age at which the production of pronouns is considered adult-like, the right contexts to test or the rates of omission found for different languages.

For this reason, it became necessary to develop a test that could be easily run on a variety of languages, in order to assess whether 5 year olds are able to produce pronouns independently of the language they are acquiring, and independently of the type of pronoun in each specific language (clitic or full pronoun).

This presentation focuses on the following aspects:

a) Presentation of the test designed to elicit pronouns: choice of contexts, decisions made in order to account for crosslinguistic differences.
b) Presentation of the criteria to code the results.
c) Presentation of the results for 14 or 15 languages.

In a nutshell, the results of the working group suggest that, at the age of 5, children are able to produce pronouns, except in languages in which null complements are a valid option. This result is an important one, since it provides evidence for treating pronoun production as a robust crosslinguistic marker of linguistic development.

Production of the clitic ne

Maria Teresa Guasti
Università di Milano-Bicocca, Italy

Many studies have shown that the acquisition of direct object clitics is characterized by an initial omission (around age 3), a gradual improvement and the attainment of an adult like competence at the age of 5 years. It has been claimed that the production of direct object clitics in several languages is a clinical marker of Specific Language Impairment (e.g., Bortolini et al. 2006) at the age of 5 years. Although some studies have also pointed out that not all clitics are acquired at the same pace, very little is known about the acquisition of indirect object clitic or of the partitive clitic "ne". In this presentation, we report the investigation of the production of the clitic "ne" (of+it/of+them) in three Romance languages (Catalan, French and Italian), and one Germanic language (Dutch), as exemplified in (1):

1) Gianni ha comprato molte mele ma ne ha vendute poche/tre

   Gianni has bought many apples but of+them has sold-FEM-PL few/three

Two tasks were employed, an elicited production task and a repetition task. The results show that the clitic "ne" is produced at the age of 5 and in this respect no difference seems to emerge with respect to the production of direct object clitics. Second, the repetition task is more effective than the elicited production task, because in the last case, children revert to other legitimate answers and many irrelevant responses are found.

Comprehension of reflexive and non-reflexive pronouns

Maria Teresa Guasti
Università di Milano-Bicocca, Italy

In sentences like (1) and (2) himself and him refers respectively to John and to someone else. Studies on the comprehension of these sentences across several languages have shown that while (1) is interpreted correctly already by age 4 years by children speaking very different languages, (2) is sometimes/often mistakenly understood as having the same meaning as (1), even at the age of 5.

1) John washes himself
2) John washes him

Interestingly, a split is observed among languages. The erroneous interpretation of (2) is not observed in languages in which the pronoun is a clitic. For example, in Italian or Spanish, children interpret (2) correctly at the same age in which they interpret (1) correctly. These results were gathered on several languages with different methods. Although the result is robust, some subtleties in the methods used and the lack of results from other clitic languages call for a careful comparison among languages using the same method. This is particularly important given that the production of clitics is not uniform across clitic languages. This presentation focuses on the previous results and presents the test designed to investigate the comprehension of pronouns.

Saturday 23rd January
Symposium 2

Introduction to Symposium 2
Workgroup Coordinator: Angeliek van Hout

Workgroup 2 on Tense and Aspect researches children's knowledge of the central role of the verb in determining the temporal interpretation of a sentence. Tense provides the grammatical way for anchoring events in time (past vs. present vs. future). Grammatical aspect (or view point aspect) establishes a certain perspective on an event (e.g., an internal or external perspective). Our workgroup compares the comprehension and production of tense and aspect in 5-year-olds, and establishes which tense and aspect forms are understood and produced target-like, and which are not. Our results contribute to the COST-A33 goal of determining what 5-year-olds know about tense and aspect, in particular, which of these properties are universal, and which are specific for certain languages or language families.

Learning to understand aspect across languages
Angeliek van Hout, Natalia Gagarina, et al.
University of Groningen, ZAS

In a crosslinguistic study we investigate how the structural expression of aspect across languages impacts the comprehension of aspect in 5-year-olds. Our study includes twelve languages from various language families: four Slavic languages (Croatian, Polish, Russian, Serbian), two varieties of Greek (Cypriot Greek, Modern Greek), three Romance languages (Italian, Romanian, Spanish), two Germanic languages (Dutch, English), and Estonian. Our hypothesis is that for languages with grammaticized aspect (English, Greek, Slavic, and the past tenses in the Romance languages) children acquire the entailment completion of perfective aspect vs. lack of such entailment for imperfective aspect at an earlier age than for languages where aspect is not or less grammaticized (Dutch, Estonian).

Our method focuses on the question: given a certain aspect form, does the child assign it the target meanings? For each language the experimental design included two past-tense forms which carry perfective and imperfective meanings: past perfective vs. imperfective in Slavic and Greek; present perfect vs. past-imperfective in Romance; simple past vs. past progressive in English; present perfect vs. past periphrastic progressive in Dutch; and genitive vs. partitive case on the object in Estonian. There were two types of telic verbs: three incremental theme verbs (*make, build, draw*) and three change of state verbs (*open, close, blow out*).

In a truth-value judgment task participants had to judge whether or not the aspectual forms matched complete and incomplete situations, which were presented in six movies with a clown. The clown performed each activity four times (with four different objects) playing the so-called statue game. When the music stopped the clown had to freeze; twice an action was completed and twice is was incomplete. The target question was asked right after the freezing moment: *While the music was playing did the clown open the bottle / was the clown opening the bottle?* Preliminary results indeed reveal an effect of language.

List of authors (so far)

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Saturday 23rd January
Symposium 3

Introduction: on wh questions and relative clauses in typically developing and language-impaired children

Workgroup Coordinator: Naama Friedmann
Tel Aviv University, Israel

When looking at the sentences *I heard the parrot that Anne likes* and *Which parrot does Anne like?*, it is clear that one is a declarative sentence, and the other is a question. However, they share an important syntactic property: they are both derived by a syntactic movement of the object, *the parrot*, to the beginning of the clause. This type of movement is called Wh-movement. Syntactic movement is a core construct in the description of language acquisition and impairment. In recent years, it has become evident that this specific type of syntactic movement, Wh-movement, is not fully mastered at the outset of sentence production, but rather develops at around ages 4-6, and that impaired comprehension and production of Wh-movement forms an important clinical marker for the detection of SLI. It was therefore the aim of our working group to explore the acquisition of this type of movement across languages, and to assess at which ages the impaired comprehension and production of structures derived by this type of movement can already indicate a syntactic impairment.

How do 5 year olds understand questions? Differences in languages across Europe?

Heather van der Lely, and COST A33
Harvard University, USA

Competence in asking and understanding simple who/which (wh) questions is an important and robust linguistic milestone in children's language development. The language skills needed for wh-questions are some of the key areas of linguistic knowledge that children need for education and social development. Most children by 5 years have such competence, but children with specific language impairments (SLI) wh-questions are typically impaired in wh-questions. These difficulties have been found in diverse languages such as English, German, French, Hebrew, Greek by Hamann; Friedmann; Stavrakaki and Jakubowicz and colleagues, using different behavioural and also imaging techniques. Thus, wh-questions could be a robust clinical marker of SLI across languages (Computational Grammatical Complexity hypothesis; van der Lely, 1998; van der Lely, 2005).

However, language-specific differences can make cross-linguistic comparisons difficult to interpret. For example, what happens when the context rather than syntax is normally used to disambiguate object from subject questions (e.g., as in Dutch and Italian)? Does having a wh-word with subject or object case marking facilitate comprehension (e.g., as in Greek or Estonian)? What happens if every word is case marked (e.g. Croatian and Serbian)? What happens in languages which can vary the position of the wh-word (e.g., French, Maltese, Arabic)?

We investigated the comprehension of 24 questions balanced for wh-words (who and which) and subject and object questions in 5 year olds from 12 languages. The lexical content of the sentences were carefully controlled. We discovered that few verbs (6 only!) provided the same translation across languages and had a similar syntactic structure in questions. To avoid gender cues in some but not other languages, all the characters were female. Number cues were used in the questions: e.g., Who [singular] did the princesses [plural] push? Some languages require such cues in order to disambiguate subject from object questions.

We will present the results from the languages and show how cross-linguistic differences can be explained by attention (or not) to different syntactic cues in a language-specific way. Whereas for subject questions most 5 year olds showed a high level of performance across languages, for object

questions performance was generally high but varied according to the syntactic or morphological cues (e.g., case marking) that are typically used for interpretation. These findings provide insight into the range of mechanisms available for language acquisition and the way different languages might use this finite set. We will discuss the implications of our findings for cross-linguistic assessment of questions; identification of children with SLI and how attention to linguistic details can inform remediation in clinical and educational settings.

Who answered what to whom? Children's understanding of exhaustive questions

Petra Schulz
Goethe University Frankfurt am Main, Germany

Based on findings from 11 languages of different language families, this talk addresses the question of how 5-year-old children interpret wh-questions that require an exhaustive answer. In a semantic account, exhaustivity is regarded as an inherent and language-universal property of the question meaning. Wh-questions can contain a single wh-word as in (1) and (2) or multiple wh-words as in (3) and (4).They all require an exhaustive answer in certain contexts:

(1)	*Wer hat alles einen Fußball?* Who has all a soccer ball?	single wh-*alles*-question
(2)	*Wer hat einen Fußball?* Who has a soccer ball?	single wh-question
(3)	*Wer füttert wen?* Who feeds whom?	paired wh-question
(4)	*Wer schenkt wem was?* Who gives whom what?	triple wh-question

Previous studies in English and German indicate that exhaustive readings for single and paired wh-questions emerge between ages 4 and 6 (Roeper & deVilliers, 1993; Penner & Schulz, 2002; Heizmann, 2008). Moreover, 5-year-olds performed significantly better on single wh-questions than on paired wh-questions, and even better on wh-*alles*-questions (Reckling, 2005; Schulz & Roeper, under review).

To explore whether our findings hold cross-linguistically, a new question-with-picture-task was developed testing children's comprehension of exhaustive single and multiple wh-questions. 220 monolingual children (age range=5;0-5;11), 20 in or each of the 11 languages (Basque, Catalan, Cypriot Greek, Danish, Estonian, German, Greek, Hebrew, Polnish, Portugese, Romanian), participated in the study. Using a block-design, each subject saw pictures and heard a wh-question as in (2) to (4); (1) was presented with an overt marker like 'all' or with plural marking if possible in that language. There were 28 test items (8+8 single, 8 paired, 4 triple wh-questions) and 14 controls (name one individual/pair/triple).

The results show that across languages children's performance was near ceiling for single wh-*alles*-questions (85%-100%). Across all languages, performance on single wh-questions (68%-99%) was better than on paired wh-questions (21%-83%), and performance on triple wh-questions (21%-78%) was on a par with paired wh-questions.

In sum, these cross-linguistic findings provide first evidence that at age 5 children are able to give exhaustive answers to wh-questions. Mastery of exhaustivity does not emerge simultaneously across all wh-question types, as indicated by children's better performance on single wh-questions and single wh-*alles*-questions, compared to multiple wh-questions. This asymmetry between question types was found in typologically different languages, suggesting a universal pattern of acquisition.

The acquisition of relative clauses: They prefer to be the children who do not produce object relatives

Naama Friedmann
Tel Aviv University, Israel

In this cross-linguistic study we used a preference task to assess children's production of subject- and object-relative clauses. The participants were five-year-old children acquiring 16 languages, including Austrian-German, Basque, Catalan, Cypriot-Greek, Danish, Dutch, English, French, German, Greek, Hebrew, Italian, European-Portuguese, Romanian, Serbian, and Swedish. The experimenter presented two short descriptions of a child, and asked the participant to say which of these children she would prefer to be, starting with the child…. (There are two children, one child gives a present, and one child receives a present, which child would you rather be?"). The results indicated a very clear preference to produce subject relatives over relative clauses, and that in some languages, the children preferred to use structures other than relative clauses, such as passive. The error pattern in the various languages and the implications of the results for language acquisition and language impairment diagnosis will be discussed.

Sunday 24th January
Symposium 4

An introduction – why study the acquisition of passive sentences?

Workgroup Coordinator: Sharon Armon-Lotem
Bar-Ilan University, Israel

The non-canonical word order and the unique morphology of passive, as well as the crosslinguistic variations in the way it is manifested, have led to extensive interest in this structure. The passive is used first and foremost as a means for perspective taking (Keenan & Dryer, 1985) -- the choice of a passive sentence in (1b) over an active sentence in (1a) foregrounds *Mary*, the patient, while sending *John*, the agent to the background:

(1) a. John kissed Mary
b. Mary was kissed (by John)

Turner and Rommetveit's (1967) finding that children find the passive difficult initiated the growing interest in the way children acquire passive. In their pioneering study of English-speaking children, Turner and Rommetveit showed that children's, imitation of passive constructions preceded their comprehension and production. Baldie (1976) further reported that though children can use and comprehend passive by the age of three, full passives and passives with nonactional ("mental") verbs are not acquired until school age (see also Bowerman, 1982; Marchman, Bates, Burkardt, & Good, 1991; Pinker, Lebeaux, & Frost, 1987, Gordon & Chafetz, 1990; Maratsos, Fox, Becker, & Chalkley, 1985). Passive is also known to be delayed in children with SLI (van der Lely 1996, Dick et al. 2004, Pearson & Roeper 2004), and is consequentially used in standardized tests (van der Lely 1996, Kauschke & Siegmüller 2000, TROG, DELV). The present paper presents an overview of pervious studies of children's acquisition of passive constructions focusing on comprehension of passives and discussing the motivation for studying the acquisition of passive comprehension crosslinguistically as well as the challenges that such a crosslinguistic study presents.

Short and long passives in 5 year olds: a crosslinguistic perspective

Kazuko Yatsushiro
ZAS, Berlin, Germany

Although the acquisition of passive construction has been investigated by many researchers, there doesn't seem to be a consensus about the exact nature of the difficulties and what causes these difficulties. In this talk, we present data from two experiments comparing the acquisition of passives in different languages, using the same experimental material. Understanding how typically developing children acquire the passive construction is particularly important, as we are motivated to identify a potential marker for diagnosing children with SLI cross-linguistically.

Experiments--picture selection task: We presented children with four pictures for each experimental item on a computer monitor. Pre-recorded audio stimuli were played to the child from a computer. The child's task was to point to the picture that is best described by the audio stimuli.

Items: 11 reversible verbs were chosen that could be used naturally to form passives. In some languages, however, less number of verbs was used because the verb could not be used in passive in natural context.

Subjects: 258 subjects from 11 languages (5;0-5;11, mean: 5;6) for experiment 1 and 203 subjects from 9 languages (5;0-5;11, mean: 5;6) for experiment 2 participated in this study so far. None of the children participated in both experiments.

Results: As previous researches have observed, short passives seem to be acquired earlier than long passives. There is some language variation even for the short passives, but overall, children chose the correct picture in more than 80% of the trials. For the long passives, however, the

differences among languages are larger. For those languages where children perform less well, there was a strong correlation between age and percentage of correct responses when we analyze children's individual scores.

Implication: At age 5, passive morphology seems to have been acquired by typically developing children, specifically for short passives. We should therefore proceed to investigate when and how SLI children acquire short passives, as this may serve as a marker for diagnosing this population of children.

The development of the passive

Sari Kunnari
University of Oulu, Finland

Developmental studies have provided conflicting results about the actual age when children commonly comprehend short and long passives and about the nature of linguistic typology in the acquisition of passive constructions. Studies of English-speaking children with SLI have revealed special difficulties in comprehension of passives when compared to typically developing children (e.g., Bishop, 1979; van der Lely, 1996; Leonard et al., 2003). Thus, it is important to determine the acquisition path that typically developing children follow, in order to determine whether children with specific language impairment (SLI) exhibit special difficulties in comprehending passive constructions of their ambient language.

In the present study, the development of comprehension of the active and passive constructions (i.e. short and long passives) by typically developing children was studied in five typologically different languages: Estonian, Finnish, Lithuanian, Hebrew and Polish. Children's (aged 4;0 – 6;11 years) comprehension of active and passive constructions was tested using a pre-recorded picture selection task with four pictures. Different children were tested on short and long passive experiment. 10 core verbs were tested in all languages, and a subset of 12 other verbs were tested in some languages when suitable. Each verb appeared once in the active and once in the passive construction.

Looking at the performance of different age groups, we find that five-year-old children show good control of the short passive demonstrating adult-like behavior across languages, although they find the long passives more difficult in the majority of these languages. The performance of four-year-olds on short as well as long passives was however less well developed. The analysis of long passive constructions revealed that even by the age of 6, long passives are not fully acquired in some languages, while short passives have already been acquired. The implications of cross-linguistic differences will be discussed.

Understanding passive sentences by children with specific language impairments: a cross-linguistic comparison

Kristine Jensen de López
Aalborg University, Denmark

Studies of English-speaking children with Specific Language Impairment (SLI) have revealed weakness in comprehension of passives (Bishop, 1979; van de Lely, 1996). Several factors have been in focus for explaining why English passives are difficult for children with SLI. One explanation is that the word order followed for passives is non-canonical with the grammatical subject representing the patient and the agent expressed in the by-phrase (e.g. The boy was hugged by the mom), while another explanation is that the verb morphology of passives is more complex than that of active sentences. These factors have been accounted for by Leonard and colleagues' in their surface account. A second account, the representational deficit for dependent relations account suggests that children with SLI have general problems executing movement and hence are confused by "who-does-what" in passive sentences (van der Lely, 1996).

Until now no study has examined whether this weakness in comprehension of passives is robust across different languages (although for production see Leonard et al., 2006). The present study investigates the comprehension of passives by children with SLI when employing the same design adapted to five different languages: Danish, Hebrew, Finnish, Polish and Slovak.

The children, aged 5 to 8 years, were tested on either short or long passives. Preliminary results suggest that comprehension of passives is delayed in the development of language impaired children compared to non-language-impaired children across different languages. However the magnitude of the difficulty within the individual language seems attributed to the specific way the language expresses passive constructions.

Sunday 24th January
Symposium 5

Quantification and Implicatures

Workgroup Coordinator: Ken Drozd
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Symposium 5 concerns logical expressions that are not only important for communication but also for mathematical skills. Data is now available from 25 languages on the children's comprehension of such expressions. We observe that implicatures are generally more difficult that the core meaning, but there is also some degree of variation between languages.

Universal quantification figures prominently in every model of how language learners represent and evaluate logical expressions and relations in context. Although the differences between how English-speaking children and adults, in particular, evaluate universally quantified sentences are well-known, no study has compared how children and adults process universal quantification across languages. In this paper, I present the results of an experimental study systematically comparing how 5-year-old children and adults select quantificational domains and establish distributive relations for universal quantifiers in over 12 European languages. Consistent with previous studies in English, the results show that children across languages consistently appeal to a wider range of referential cues than adults to determine the intended domain of quantification for a universal quantifier. Our results also showed that unlike adults, children typically match distributive universal quantifiers with non-distributive contexts. Differences across languages and referential contexts had a significant impact on participants' accuracy on both domain selection and distributive quantification tasks. These results indicate that children's competence with domain selection and distributive functions of universal quantifiers are still developing at age 5 but that typological differences across languages may play an important role in the acquisition of these functions.

What can the acquisition of quantification tell us about assessing language development?: evidence from crosslinguistic, bilingual and SLI research

Napoleon Katsos
Cambridge University, UK

Semantic and pragmatic competence with the entailments and implicatures of quantified sentences is underpinned by principles of natural language logic as well as conversational maxims for optimizing communication efficiency. These principles are predicted to hold for each and every language independently of the specific grammar. In this presentation we explore whether the development of these aspects of linguistic competence follows the same pattern across languages. This was tested by administering an experiment on the comprehension of quantified sentences to 5-year-old monolingual children speaking one of 21 languages representing different sub-groups of the Indo-European, the Afro-Asiatic, and Uralic language families, as well as language-isolates. Within each language, we report significant differences with different types of quantifiers and meaning. Crosslinguistically, we find that the pattern of differences exhibits some robust regularities. We further investigate whether competence with the entailments and implicatures of quantifiers can be used as part of the assessment of language development. To do so, we report the findings of two studies where the task was administered to a group of Spanish-speaking children with Specific

Language Impairment and a group of Polish-English bilingual children. We discuss the implications of all three studies for human cognitive development as well as for establishing crosslinguistically valid benchmarks for assessing language development.

Challenges in test development: some psychometric properties of the quantification tasks

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As experimental tests and diagnostic assessment approach the issue of individual variation differently, several issues regarding psychometric of test properties has to be addressed if an experimental test procedure should be used with the purpose of clinical assessment.

The issues of internal consistency, validity and reliability of the measurements and scales used are overlapping. In addition, typical variation of performance and the ability to correctly classify individuals with a deviant development must be explored in clinical measures.

The presented work represents analyses of some test characteristics of a quantifier test developed for the COST A33 initiative exemplified with the performance of a normative sample of 50 Norwegian speaking children from 3:9 to 6:5 of age as they were tested with the Quantifier Test in addition to the Test for Reception of Grammar (TROG, Bishop, Norwegian edition, 2009) and measures of memory span.

The analyses yielded acceptable measures of internal consistency and validity for the Norwegian version of the test material, but the results suggests that the procedure may need refinement when it comes to sensitivity and specificity if it should be used to identify children with an atypical language development.

The results will be discussed towards specific or general developmental trends. As the different quantifiers seem to be mastered differently with age, it is assumed that the comprehension of the different quantifiers develops at different pace. The performance on the quantifiers share variance with the TROG and it is therefore also assumed that the quantifier test is related to general language development, but further research is needed to document of the tasks included are valid as markers of language impairments.

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POSTER SESSION I

Friday 22nd January 15.55 – 16.30

Standardized tests for nonstandard groups? Assessment and the use of language profiling for migrant children with SLI: Evidence from Turkish

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SLI is a genuine language disorder affecting the acquisition of language, especially grammar, whereas other cognitive domains remain unaffected. The grammatical deficits caused by SLI predominantly refer to tense and/or agreement (morphology), but case and/or case morphology have also often been discussed as to be vulnerable in SLI. The lack of linguistic evidence for Turkish children with SLI, however, influences the possibilities of assessment. Furthermore, clinicians in European immigrant countries, such as France, Germany, Great Britain or the Netherlands, question whether the use of monolingual assessment or profiling tools such as T-SALT (Acarlar et al. 2006) is suitable for the diagnosis of SLI in the first language of migrant children. Considering these questions, three major hypotheses coexist:

(1) Bilingual children (bTD) score lower than their monolingual peers in language production (for Turkish bilinguals: Backus, 2004; cf. also Penner, 2003).
(2) Bilingual children with SLI (bSLI) perform worse than their monolingual peers with SLI and/or bilingual children with SLI perform worse than their normally developing bilingual and monolingual peers (e.g. Steenge, 2006).
(3) Language assessment tools for monolinguals are sensitive for the detection of SLI in (successive) bilinguals.

In our study, we will firstly present recent linguistic findings on the outcome of SLI in Turkish and secondly on the question of assessing bilinguals with tools for monolingual Turkish children.

Our data basis of four successive-bilingual Turkish German children and four successive-bilingual Turkish German children with SLI (AO 3-4; age range 2;5-6;5) reveals not only deviations in the production of Turkish case morphology, but also strong evidence for SLI showing up in the area of Turkish verbal morphology.

We furthermore evaluate the language-profiling tool T-SALT with the data of our successive bilingual migrant children. Our results reveal the following:

(1) Bilingual TD children that have acquired Turkish as their first language in the German migration setting up to the age of three may score equivalently to monolinguals. (2) Even though T-SALT includes no data of SLI children yet, the bilingual children with SLI perform worse than their normally developing bilingual and monolingual peers both quantitatively and qualitatively. (3) The language assessment tool SALT for monolinguals allows the profiling of language samples both in bilinguals and in monolinguals, even though the basis of comparison has to be complemented with further data of heterogeneous groups of migrant children.

Developmental Dyslexia: ERP correlates of anomalous morphosyntactic processing

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The linguistic nature of Developmental Dyslexia (DD) is still the object of an open debate, based on the frequently reported overlap with Specific Language Impairment (Bishop and Snowling, 2004). While phonological difficulties have been definitely demonstrated and semantic ones basically excluded, there is no agreement concerning morphosyntax, as limited evidence has been found suggesting dyslexics' difficulties in this domain. To better investigate these aspects of language, particularly sensitive measures should be used, such as event-related potentials (ERPs). According to recent neurocognitive models (Friederici, 2002), a biphasic electrophysiological pattern (LAN/P600) is normally expected in response to morphosyntactic violations, while a N400 component is expected in response to semantic violations. Differences in these electrophysiological patterns have been sporadically reported in Dyslexic participants (Rispens et al., 2006), even if linguistic difficulties did not emerge from standardized tests of language comprehension.

In the present study, 168 sentences including subject-verb agreement violations were auditorily presented to 16 Italian speaking adults with DD without any history of language impairment (aged 20-28 years) and 16 unimpaired control participants matched on age and sex, while ERPs time-locked to the critical morpheme were recorded. Grammaticality (correct or incorrect) was the manipulated variable, while the variable Subject Number was controlled, as shown in table 1.

Grammaticality	**Subject Number**	**Examples**
Correct	Singular	La bimba bionda (S) gioca (S) con la palla (The blond child (S) plays (S) with the ball)
Correct	Plural	Le bimbe bionde (P) giocano (P) con la palla
Incorrect	Singular	*La bimba bionda (S) giocano (P) con la palla
Incorrect	Plural	*Le bimbe bionde (P) gioca (S) con la palla

Table 1: Examples of stimuli

Partially in line with expectations, agreement violations evoked in the control group a broad positive wave (P600) between 450-850 ms, but no Left Anterior Negativity. Dyslexic participants showed a different pattern, characterized by a delayed P600. Moreover, differently from control participants, dyslexics had a statistically significant early negativity (peaking around 300 msec) broadly diffused all over the scalp that cannot be functionally interpreted as a LAN (reflecting the detection of the morphosyntactic error), but rather as a N400 component (reflecting the involvement of semantic processing). A partially compensation for the syntactic deficit by using neural circuitry associated with semantic processing was also found in previous studies on children with language impairment (Fonteneau and van der Lely, 2008; Sabisch, 2007) and in adults learning a second language (Weber & Lavric, 2008).

On the whole, these results support the hypothesis of different language processing modalities in dyslexic participants. Further investigations concern the involvement of dyslexic participants with a concomitant language impairment, in which morphosyntactic difficulties are established by standardized tests and a grammaticality judgement task.

Subject-verb-agreement and verb placement in monolingual and successive bilingual German-speaking children with Specific Language Impairment

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Assessing bilinguals with SLI in migration settings presents clinicians and speech and language therapists with multiple challenges. First, little is known about SLI in many migrant languages, such as Vietnamese, Turkish or Farsi. Second, clinicians and speech and language therapists often lack expertise in assessing the first language of these children. Third, there is often a need to concentrate on the diagnosis of SLI in the second language only. Fourth, little is known about SLI in successive bilingual migrant children. Fifth, there are no adequate assessment tools for SLI in successive bilingual migrant children.

This study aims at identifying clinical markers for both monolingual and successive bilingual children with SLI. We compare seven monolingual German children with SLI and seven Turkish-German successive bilingual children who started to learn German early (before or at around the age of 3 years) and were independently diagnosed with SLI in both their German and their Turkish. Examining longitudinal data from both participant groups using large samples of spontaneous speech data, we analysed two sets of linguistic phenomena that have been argued to represent core grammatical deficits in monolingual German children with SLI, (i) the finiteness cluster (e.g. Clahsen, Bartke & Göllner 1997; Eisenbeiss, Bartke & Clahsen 2005/2006; Rothweiler & Clahsen 1994), and (ii) the CP-domain (e.g. Hamann, Penner & Lindner 1998).

We found similar patterns of impairment in both participant groups. In contrast to what is known for typically developing (monolingual and bilingual) children, even those children with SLI who produced syntactically complex sentences were still limited in reliably producing finite verb forms. Both monolingual and bilingual SLI children produced main clauses with non-finite verb forms (infinitives) in V2 position, a pattern that is very rare in typically-developing children (cf. 1,2):

(3)	*der*	*suchen*	*die mutti.*	SLI_L1
	[he	search-INF	the mother]	
(4)	*und*	*der*	*fahrn*	*das auto.*	SLI_L2
	[and	he	drive-INF	the car]	

We argue that impairments in agreement marking are common to both monolingual and bilingual German-speaking children, even to those without any concurrent deficit in the CP-domain. We show that is possible to identify (grammatical) SLI from a successive bilingual child's performance (with an age of onset before or at around the age of 3 years) in the domain of agreement marking.

Comparing language performance in children and adolescents with Mild-to-Moderate Hearing Loss and in participants with Specific Language Impairment: Not so similar patterns?

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Comparing language performance in children with mild-to-moderate hearing loss (MMHL) and in children with SLI is particularly pertinent because, for both of these populations, conditions of language acquisition are similar: for each, there is absence of a bilingual context (with a sign language) and absence of associated impairment (Tuller & Jakubowicz, 2004). Previous studies comparing children with MMHL and SLI showed quantitative differences, children with SLI having more severe impairment, but similar profiles in terms of the nature of impairment, even if in adolescents (Delage & Tuller, 2007).

Within the theoretical framework of generative grammar, we focused on the analysis of syntactic complexity of oral language, and particularly on the production of relative clauses which differ according to their degree of computational complexity. Indeed, we have argued, in previous work, that "genuine" relatives differ from "pseudo"-relatives in depth of embedding (Delage et al., 2008).

One of the hypotheses explored considers that an atypical context of language development could lead a subject to use compensatory strategies to avoid syntactic complexity. Comparing linguistic profiles of participants with MMHL and SLI, we expected to find many similarities, but we wondered about possible dissimilarities in the use of compensatory strategies. We particularly assumed that SLI participants, who present more severe impairment than MMHL ones, could display more difficulties in the use of efficient compensatory strategies.

We explored this hypothesis by analysing language performance via two contexts of production: an experimental probe of pronominal clitics and an analysis of spontaneous language samples. We compared 29 children and adolescents with MMHL aged 7;9 to 13;11 (*M*=11;2) to 32 participants with SLI aged 8;0 to 14;1 (*M*=11;3) for the experimental probe, and to 21 participants with SLI aged 9;3 to 13;7 (*M* = 11;6) for analysis of spontaneous language samples.

The results indicated similar profiles for the production of pronominal clitics (i.e. the same hierarchy: nominative > reflexive > accusative clitics, and the same patterns of unexpected answers), with more severe difficulties for SLI subjects. Analysis of spontaneous language samples also showed similar profiles, but some slight qualitative differences: whereas MMHL participants displayed an increase of syntactic complexity and approached the performance of control subjects on some measures (as the use genuine relatives, the most complex relative clauses), SLI subjects remained lower than control subjects on all measures; they also avoided syntactic complexity more often than MMHL participants, using more compensatory strategies. They avoided, for example, the production of a relative by using juxtaposition ("*It's a gorilla it's nice*", SLI 11;8) or even omitted the complementizer ("*I want* 0*to *play computer*", SLI 10;11) or the matrix verb ("*the last I have seen* 0*was *King Kong*"), SLI 11;8), then resulting in ungrammatical utterances.

In conclusion, avoiding complexity could be linked to severity of impairment. While participants with MMHL tended to avoid complexity less, participants with SLI, who had more severe language impairment, did not show this pattern. This developmental difference should be further explored, notably for possible orientation of language therapy to be carried out with these subjects.

Both procedural and declarative memory systems are impaired in SLI: evidence from learning an artificial morphological rule

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Specific language impairment (SLI) is characterized by delayed language development despite normal intelligence and no clear evidence of hearing impairment, autism, or a frank neurological deficit. Recent studies, however, indicate that SLI can co-occur with cognitive, motor, and perceptual dysfunctions (Schwartz, 2009). The cause(s) of SLI is still not clear. One major unresolved issue is whether SLI stems from a specific language-learning problem or from a more general learning deficit. Recently it was suggested that the significant linguistic and non-linguistic impairments that tend to appear in SLI can be explained by deficits in procedural memory, which is one of the two memory systems subserving learning and memory (Ullman & Pierpont, 2005).

The purpose of this study was to characterize the learning process of a new linguistic skill and the subserved procedural and declarative memory systems in CSLI (children with SLI) as compared to children with typical development (CTD). The aim was to identify, typify, and tape the difficulties of CSLI in learning a language task with the intention of recognizing what underlies the disorder, especially regarding the above controversy, and to test Ullman & Pierpont's hypothesis.

We followed the learning processes of an artificial morphological rule (AMR) in eight 10-year-old CSLI as compared to eight age-matched CTD. The AMR required a specific phonological change in Hebrew verbs depending on a semantic distinction whether the subject was animate or inanimate (Ferman et al., 2009). Each participant was individually trained in the application of the AMR to repeated items (item-specific learning) and new items (generalization), using judgment and speech production tasks without explicit instruction on the nature of the AMR. CTD were trained in 10 consecutive daily training sessions and re-tested after an interval of two months. CSLI received five additional training sessions. We measured accuracy (% correct) and speed (RT) and elicited verbal reports (to explore implicit vs. explicit knowledge).

The results showed that CSLI were inferior to CTD in all task parameters including those that were clearly explicit (declarative memory). All participants learned to apply the AMR to repeated items and to generalize its phonological patterns to novel items, exhibiting key characteristics of procedural memory. Nevertheless, CSLI were slower and less accurate than CTD in judging and producing repeated items of the AMR and in generalizing the phonological aspect. The generalization of the semantic aspect however, required the explicit discovery of its requisite role, and demonstrated characteristics of declarative learning. All CTD uncovered the semantic aspect (animate-inanimate distinction) during sessions 1-8, and subsequently generalized the rule accurately and fluently to novel items. However, only 4/8 CSLI discovered the semantic aspect during sessions 7-12. Moreover, only 2/4 of these CSLI achieved scores above chance-level in the generalization of the AMR to new items.

Altogether, the results suggest that CSLI have deficits in both the procedural and declarative memory systems that may underlie their diffuse difficulties in learning a new morphological task, including its phonological and semantic aspects. These results may provide an empirical basis for planning affective treatment for CSLI by changing the focus from *what* to treat to *how* to treat.

Personalised Outreach to Children with Speech, Language and Communication Needs in Mainstream Schools from Non-Maintained Special Schools

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This poster describes a multi-agency project funded by the DCSF's Children and Young People Fund 2008-2009 that enabled I CAN's two non maintained special schools to share expertise and experience in relation to SLCN with staff in local mainstream schools in two very different areas of England.

The schools identified pupils with SLCN who had previously failed to make satisfactory progress through traditional clinic based services; however none of the children had received a school-based speech and language therapy (SLT) service prior to the project. Children were offered a package of intervention, over an eight to sixteen week period. It was hoped that the intervention would be able to improve speech, language and communication skills, enable access to the curriculum and develop the skills and confidence of the teaching staff to support children with SLCN. Individualised, curriculum linked targets were developed for each child and shared with the host school teaching staff. Intervention was delivered through a mix of multi-disciplinary assessment, direct intervention by the specialist teacher and SLT, professional development for school staff and parent support. Extensive liaison took place between I CAN and the local SLT services.

Although there was variation between the two localities, positive outcomes were achieved for children, parents and school staff. Pupils made progress against their targets and began to use an increased repertoire of communication strategies within the classroom. Both I CAN staff and the staff from the host schools reported that children gained in skills and confidence and this had impacted on their classroom behaviour. The project team noted positive changes in the behaviour of school staff leading to adaptations to the classroom environment and curriculum approaches that enhanced access for children with SLCN.

At a time when special and mainstream schools are encouraged to work together to support the needs of children, this project yielded useful learning points:

- A shared understanding of the aims of the project at the outset is crucial
- Formal agreement of targets with both sets of staff meant that staff engagement with the project was good. They were able to support children's SLCN and deliver personalised learning for children which resulted in improved pupil outcomes.
- There was agreement that the most appropriate place for intervention was the school setting
- Involvement of parents enhanced the outcomes for children, but a school-based service can offer challenges in ensuring this happens
- Schools felt a positive 'ripple' effect that resulted in adaptations of curriculum delivery for other children in the schools.
- Mainstream staff valued the SLT input and the professional development they received through the project but were, in many cases, aware of their need for more at the end. This professional development is essential in order to ensure the necessary changes in practice.

The project has highlighted the needs of pupils with SLCN and demonstrated an effective model of intervention, through multi-agency working to deliver intervention, training and support.

Language Proficiency and Executive Control in Bilingual Children

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Introduction: Language proficiency (LP) is defined as the bilingual's linguistic competence as determined by standardized measurements - the CELF-2 preschool (2004) for English and Goralnik (1995) for Hebrew. Executive control (EC) is the degree of the ability to perform on cognitive executive functions tasks such as inhibition (filter deliberately distracting information held in Working Memory) and shifting (switch attention back and forth between mental sets; e.g., Baddeley, 1996).

Researchers have shown that children with SLI seem to exhibit some cognitive deficits even when no language is involved (e.g., Ullman & Pierpont, 2005). Moreover, children with SLI have reduced cognitive resources to allocate to ongoing processing (e.g., Johnston, 1994). Bialystok (2001) proposed that a special control mechanism is developed in highly proficient bilinguals, which gives them an advantage in general switching and inhibition.

Method: The current study explored the relationship between LP and EC and compared the performance of 40 (M=5.5) sequential bilingual (English-Hebrew) children on performance on tasks which involve shifting (classification task) and inhibition (embedded figures task). The children were classified as follows: (a) 14 BTD (high-balanced) typically developing bilingual children; (b) 8 HTD (Hebrew dominant) children; (c) 12 ETD (English dominant) children; and (d) 6 bilingual children with SLI (low-balanced).

Results and discussion: A positive relationship between LP and executive function abilities was found, pointing to lower performance in executive function abilities among children with SLI who have lower proficiency in both languages possibly since children with SLI exhibit cognitive deficits even when no language is involved and since highly proficient bilinguals develop a specific language mechanism allowing them to process both languages flexibly. The findings also show that the main cut off point is between children with SLI and all other bilingual children with typical language development, whether highly balanced or not, lending empirical support to the theoretical notion that a bilingual child can be diagnosed with SLI only if he/she is impaired in both languages. The findings also point to a distinction in terms of shifting abilities between bilingual children who already mastered their L2 and those who are still in the process of acquiring the new language, suggesting that the better one is at shifting, the easier it is to master the second language. No relationship was found between language attrition and the executive functions tested, suggesting that attrition is not necessarily related to cognitive abilities, but rather to sociolinguistic factors.

Modification, standardization and validation of the Danish version of Test for Reception of Grammar 2 (TROG-2)

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The following study presents the results from the pilot as well as the final version of the Danish adaptation of Dorothy Bishop's Test for Reception of Grammar 2 (TROG-2). The original British test was modified according to Danish, piloted, re-modified and finally standardized and validated against different linguistic measures.

The pilot study including 102 Danish children in the age range 8-13 years showed an increase in the mean number of correct blocks in TROG-2 with age indicating an improved grammatical comprehension. In addition to TROG-2 the children in the pilot study were tested on the adapted Danish version of the relative clause comprehension test developed by Friedmann (1998). The results from the pilot test showed that the children's performance on the receptive grammar tests correlated significantly ($r = .59$, $p = 0.01$). In addition, results from the pilot study suggested the need for further modifications of the test in order to attain a valid Danish version of TROG-2.

The final Danish version of TROG-2 was standardized with 501 Danish children in the age range 4-15 years. The sample was balanced for gender and data was collected from all geographical areas of Denmark (Jutland, the Island of Bornholm, the Island of Fyn and Zealand). Similar to the results for the pilot study, preliminary analysis of the standardized sample shows a tendency towards an increased comprehension of different grammatical structures with age. The final Danish version of TROG-2 was validated against a standardized Danish vocabulary comprehension test *The Viborg Test* (Pedersen & Skyum Kjøge, 2005) and results show that the language measures correlate strongly ($r = .80$, $p = 0.01$). As a whole we can conclude that the Danish version of TROG-2 seems a reliable and valid test of children's development of receptive grammar.

Developmental speech and language disorders in Russia

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If we are to discuss developmental language disorders in Russia we need to make more accurate definition of terms. The term "specific language impairment" (SLI) which is used in Western countries has no direct terminological equivalent in Russia. It's a result of using slightly different basic classification principals of speech disorders in Russia. A clinical syndrome exactly identical to SLI really doesn't exist in Russian children. Actually, Russian neurolinguists do not separate developmental speech disorder from language disorder[1]. This is follow from A.R.Luria's approach. Therefore in most cases developmental language impairment and speech impairment are recognized as a whole unit. According to the most influential Russian classification there are two main kinds of speech and language disorders (SLD): "The whole speech underdevelopment" (WSU) (in other words "general speech retardation") and "The phonological underdevelopment"[2] (Levina R.E.,1968). Clinically the former represents children with immaturity of all levels of the language system (phonology, lexicon, syntax and morphology). It is primarily expressive SLD. The latter represents children having difficulties in achieving proper pronunciation and/or phonological awareness. This group resembles to some extent the "speech and sound disorders" (SSD) in ASHA classification.

In the mid 80s a new model of SLD was developed (Orfinskaja V.K., Sobotovitch E.F., Kornev A.N.). This model is based on a neurolinguistic approach and implies that the main unit of analysis is syndrome related to specific cerebral mechanisms. During the last two decades in the St.Petersburg State Pediatric Medical Academy the complex multi-disciplinary study of SLD has been carried. The sample of 107 5-8 years old SLD children were evaluated by means of the battery of neurolinguistic and psychometric tests. Experimental group was comprised of children with general form of specific SLD ("general speech retardation"). The term "specific" means that speech and language disorder isn't caused by psychiatric illness or brain damage. The crucial point was existence of the mismatch between nonverbal intelligence and language skills. The term "general" means that all these children have impairments both in phonological and syntactic-morphological productive abilities. A descriptive analysis of main SLD symptoms revealed 2 categories of their combinations: syndromes of phonological disability and syndromes of syntactical and morphological disability. Every child in this group has both kinds of syndromes. Among the phonological syndromes the most prevalent were the following: articulatory dyspraxia, verbal dyspraxia and functional misarticulating syndrome. Another group of syndromes represents developmental grammatical problems. 3 main syndromes of expressive dysgrammatism were distinguished: a) syntactical dysgrammatism, b) morphological dysgrammatism and c) mixed dysgrammatism. The main difficulty of children with syntactical dysgrammatism is the complex syntactical structures producing. They use to form significantly shorter sentences then age appropriate ones. They simplify a structure of their sentences. Children having morphologycal dysgrammatism makes many mistakes in noun inflexions using. Especially often it occurs with case inflexions. Sometimes they mix up morphemes relevant to different cases. In conclusion some merits of syndromological classifications are discussed. The cognitive and linguistic SLD mechanisms are considered in terms of cognitive resource theories.

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[1] It must be noted that some Russian psycholinguist treats term "speech" similar with "language performance"

[2] In Russian – "obshee nedorazvitie rechi" ,"fonetiko-fonematicheskoe nedorazvitie rechi"

Third person singular pronoun is a developmental marker of early grammar: the case of French child language

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Cross-linguistic research has shown that target language influence early grammar. French is a rich language with obligatory use of personal pronouns. However, when children start to combine words in utterances, first, second, or third person singular pronoun is often dropped.

Several theories have been put forward to explain this phenomenon. It remains an open question whether this phenomenon is grammatical in nature or driven by processing constraints. Processing accounts (e.g. Bloom, 1970, 1990; Valian, 1991) usually assume that the probability that a constituent will be omitted increases as a function of the length or complexity of the intended utterance. Alternative views are the metrical account suggested by Gerken (1991), who assumes that metrically weak elements can be omitted, and the constuction islands account suggested by Tomasello (2003) who hypothesize that verbal constructions involve a developmental sequence of frames and slots.

Based on large natural French Language corpora, correlates of Utterance length were investigated in 312 French children aged 2 to 4. Syntactic categories were tagged by POST) a speech tagger allowing calculation of Word Token and Word Type for each syntactic category. Subject pronoun explained 60% of the variance of MLU when Tokens were considered (number of occurrences of personal pronouns) and 66% of the variance when Types were considered (number of different personal pronouns present). Furthermore, when considering the French system of subject pronoun, (i) third person singular pronouns « il/elle/on » (he/she/it) and first person singular « je » (I) were the best predictors of MLU : third person singular was acquired by 100% of children at age 2;9 and « je » was acquired by 97% of children at age 3;9. Third person pronouns (i/il/elle/on) always preceded first person pronoun (je); (ii) subject dislocations of « il/elle/on » (he/she/it) into "i" were very frequent when MLU $\leq$ 3; and (iii) At age 2 years, 55% of children having an average MLU of 1.3 omitted all personal pronouns whereas 45% of children of the same age having an average MLU of 1.7 started to produce subject pronouns. Such results indicate that the mastery of pronouns did follow a developmental sequence: there is a well-defined phase of subject omission, which coincides to an average MLU of 1.3. Beyond this stage, the child use frequent similar constructions that follow always the same developmental sequence for example: *"i dort"* (he/she sleeps) precede the lexical noun *"le papa i dort "* (daddy he sleeps). Such findings support the construction and the metrical account and should be used to assess children's productive early grammar in French preschoolers with typical and atypical language development.

Figure 1a. b Percentage of variance of MLU explained by syntactic categories (Tokens and Type)

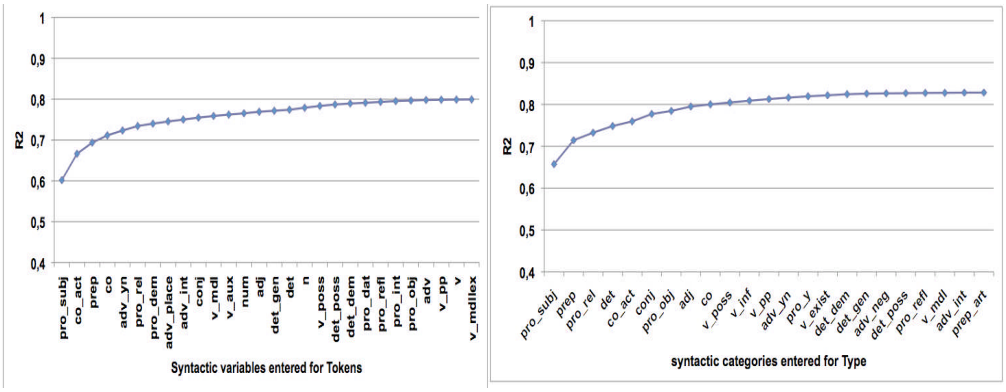
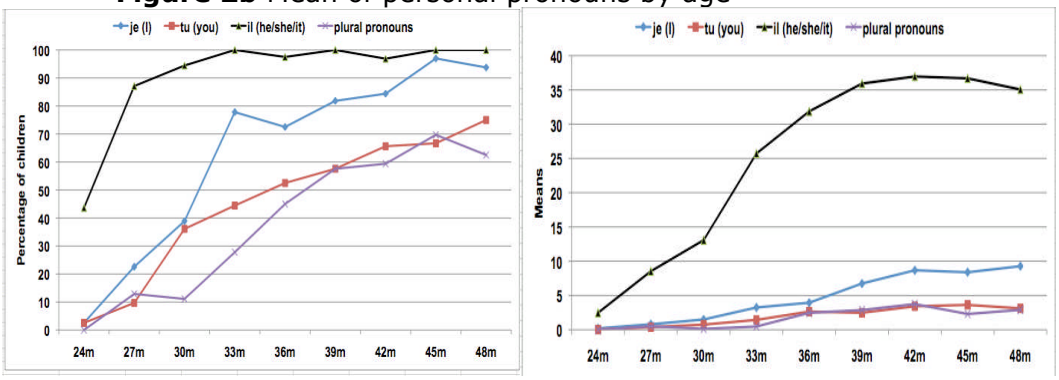


Figure 2a Percentage of children using personal pronouns by age
Figure 2b Mean of personal pronouns by age



Adapting language assessment to different languages

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Speech & language therapists and other professionals commonly use standardised, age-normed assessment as a tool in identifying children with language impairments and in making decisions about intervention. Since such tests provide an instant comparison of the target child with their peers, they can be powerful aids to diagnosing impairment and to estimating severity. However in order to make valid comparisons of this type it is essential that the test is carried out on children who come from a similar population to that on which the test is standardised. As a result, when dealing with children whose first language is different from the standardisation group, it is not acceptable to use translated versions of a standardised test for this purpose. It is however possible to use adaptations from such tests to gain insight into the nature of an impairment (providing age-norms, percentiles and standard scores are not used), or as the starting point for developing new tests that will then be standardised on appropriate populations.

We are currently working on the redevelopment and re-standardisation of a popular children's language test used by professionals in the UK. This assesses both comprehension and production of spoken language in children from 1;06 to 7;06 years, probing a variety of areas including: early vocabulary (nouns and verbs); early sentence structure; noun and verb inflections; complex sentences; pronoun use. In recognition of the increasing need to provide assessment materials in languages other than English, this new version of the assessment will include a *Multilingual Toolkit*; this will be a manual with guidelines on issues that will arise when adapting different sections of the test to other languages. For example, in an SOV language like Mirpuri or Urdu, sections on early sentence structure will need to recognise the differences in word order involved. In highly inflected languages, such as Latvian or Icelandic, decisions will need to be made around which inflections to sample and how.

The trialling phase of this work will be complete by January 2010. In the poster we will present some of the sections and illustrate issues around adaptation to languages other than English, with examples. Specific research questions that arise will be indicated. The intention at this point (and of the *Toolkit* generally) is to provide a starting point for language assessment development in languages where there may be little or no relevant material available.

I CAN Primary Talk package: An evaluation of the pilot phase, with the focus on one Local Authority

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Background: I CAN's Primary Talk (PT) package is an inclusive, whole school training and accreditation programme that highlights the crucial role of speaking and listening across the entire curriculum. It aims to provide communication rich environments for all children (aged 5-11 years); increase school staff's knowledge of the development of speech, language and communication; enable them to identify children with significant difficulties, and provide targeted intervention where indicated. Effective collaboration with the speech and language therapy service and other support agencies, integration of targets into the curriculum, and involvement of parents are also central to the programme.

In the UK, a number of recent policy drivers have supported the need for a whole school programme that places due emphasis on speaking and listening (Bercow, 2008; Rose Reviews: 2009 & 2006). Research by Law et al (2000) and Lindsay et al (2008) indicates that a whole school programme like PT could help to remove some of the barriers for the effective provision of children with speech, language and communication needs (SLCN). The PT programme embraces the concept that a communication rich environment is beneficial to all children, not just those with a significant need/clinical diagnosis.

The PT package consists of:

1. *Specialist advisory support* to assist schools in developing effective strategies to support children's communication.
2. *Professional development and training* to increase the knowledge and skills of practitioners.
3. *Accreditation of settings* at Supportive, Enhanced or Specialist level, to quality-assure schools in their support of children's speech, language and communication development, SLCN and collaborative practice.
4. The *I CAN Primary Talk website,* which publicises new initiatives and good practice in the area of SLCN.

Primary Talk was piloted in three Local Authorities in the UK. I CAN commissioned an evaluation of this pilot phase of the PT package.

The study:

Research questions:

1. What impact does the PT accreditation process have on a) the knowledge and skills of teaching, as well as non-teaching staff, with regard to SLCN; b) their day-to-day practice?
2. How satisfied are staff with the PT training and information resources?
3. How do schools rate PT in terms of:
    - accessibility/ease of use?
    - value of involvement?
4. What are the factors that impact on accreditation?

Study Design: Five schools that took part in the PT accreditation process, and two matched comparison schools that did not (all from the same Local Authority) were included. Questionnaires for both teaching and non-teaching staff together with a classroom observation were used at baseline (before the accreditation process began) and outcome (ten months later). Interviews with key personnel were carried out towards the end of the study.

Results: The data presented will focus on the effects of PT on the knowledge and skills of teaching staff, together with their perceptions of whether, and if so, how the programme has impacted on their day-to-day practice.

This study usefully audits the pilot phase of the PT accreditation process, highlighting key strengths, and identifies ways in which the package could be further enhanced.

Developing a Test for Assessing Contextual Comprehension in Finnish-Speaking Children

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The same expression can have different meaning in different communication situations, and only by exploiting context it is possible to understand the speaker's intention. Being able to engage in contextual processing when taking part in communication is an important ability, yet relatively little is known how it develops and how this development can go wrong. At the moment there are no tests published for pragmatic comprehension in Finnish.

The development of the test material for Finnish children has been started in a previous study (Loukusa, 2007) that examined how 210 normally developing 3- to 9-year-old children and 39 children with Asperger syndrome or high-functioning autism answered questions with different contextual demands. The results indicated that increasing ability to use contextual information in comprehension is related to age and it is possible to measure this with questions with different contextual processing demands. In that study the largest increase in correct answers occurred between the ages of 3 and 5. After that development progressed more gradually. On the basis of this study it was obvious that questions with different contextual processing demands show children's developmental pattern. However, there were some limitations with the material and thus, there was a need to improve the test so that it will detect even smaller differences between groups. Because the test material in the earlier study showed the developmental phases, the earlier data was investigated question by question in order to find out which questions measured the development of pragmatic/contextual language comprehension well. On the basis of this, the most sensitive questions were selected and, in addition, many new more complex test questions were added in order to increase contextual and mental processing load.

In the current test material the contextual and inference demands increase when the test progresses and the order of the questions is based on the information gleaned from the earlier study (Loukusa, 2007) and the pilot test which was carried out with new test material with 15 children. Questions were based on pictures, short scenarios or stories presented in short sections. Emphasis in this material is on the questions which demand an ability to derive an implied meaning. Answering to these questions demand on an ability to connect information from different sources. Contexts of these questions vary from a familiar everyday context to more challenging contexts. In addition, the test material contains questions which demand different level of understanding of mental states of others.

Here the test questions and material will be presented. In addition, preliminary results of the ongoing study of the normally developing children aged from 3- to 5 years and results of some children with SLI will be presented. Also methodological implications will be discussed.

The Monsters and their Animals: A cross-linguistic, standalone multimedia software for language development

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In 1984 Hagit Borer found that cross-linguistic variation in syntax is defined, not on 'lexical items' or 'information carrying words', but on 'functors' or 'functional projections', question words like *what*, *where, how,* pronouns, articles, auxiliaries, *to* as in "to go", *not*, endings, Such variation has to be learnt. Borer's claim, novel in 1984, has not been falsified.
This leads to a paradox which Jamal Ouhalla once set out thus: "The bits of language that the child must pay attention to in learning grammar are precisely the ones that the child does not produce in the early stages." Normally-developing children correctly distinguish functors from lexical items, 'over-generalising' or 'over-extending' extensively, but not with functors, which they just delete. But SLI children not only delete the functors, they seem to overlook the abstract categories, tense, case, agreement, etc.,which the functors represent.

Monsters

Hunky, Punky and the Monsters (HPM) points SLI children's minds towards the lexical / functor distinction in a fun, computer-game environment. The monsters are a 90 percent dysfunctional family with lopsided faces and a talking dog, Biter. They argue, lie, trick, interrogate, challenge. Because they are mainly dysfunctional, their speech is mostly functors. "I did." "You didn't!" "I did!" "How did you?"
Punky, a five-eyed spider, and the user see and understand everything. The monsters see some of it. Hunky, a donkey, mostly looks the wrong way.

Multimedia

For children, HPM has no on-screen text, but sound, animated graphics, non-linear stories – with several threads, with each version having its own specially-recorded conversation, in English, Greek, Polish.... Optionally, all voices can be re-recorded by children.

Testing

One task for gamers is to fix minor, but absurd, problems by making sense of conversations, sequencing the spoken lines, linking functors in a dramatic, meaningful way, so that the conversations can be played back, and the game progressed. As by many computer-games, a sequence is forced. Adapting ideas from Bishop and Edmundson (1987), a separate narrative task is for the gamer to retell the story, recording his / her words. played to class-mates or sent home for parents, also concentrating functors in tenses and pronouns, but in a way less likely than the HPM to involve the vital question words. Both tasks focus on functors. But HPM does so more than the narrative. Children can experience four conditions: both tasks, the first, the second, or neither. There is a non-trivial prediction: from both the HPM and the narrative, there should be improvement in children's sentence structure, as by COST's cross-linguistic tests and the 1988 Renfrew Action Picture Test; the improvement should be greatest with experience of both tasks, less with just the first, less still with just the second, less still or none with no experience of either.

Comparing the knowledge of grammar in Autism Spectrum Disorders and Williams syndrome

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This study seeks to establish whether deficits in the domain of grammar are associated with specific developmental disorders, in addition to language delays and the presence of intellectual impairment. We compare the knowledge of binding in children with Williams syndrome (WS), a population known for their reasonably spared grammar, and children with Autism Spectrum Disorders (ASD), a population known for pragmatic, as opposed to grammatical deficits. Binding has been reported to be intact in teenagers with WS (Clahsen & colleagues, 1998; 2005), although younger children show some difficulties in the interpretation of pronouns (Perovic & Wexler, 2007) - a pattern akin to the Delay of Principle B Effect reported in typical development (TD).

Twenty one children with ASD (CA *M*=10;5; IQ *M*=78) were matched to 24 children with WS on age and IQ. Their comprehension of reflexives vs. pronouns was tested using a sentence-picture-matching task (Table 1).

Our data (Graph 1) reveal considerable difficulties with the interpretation of reflexives in children with ASD, but not WS (p=0.001). The pattern signals a deficit in ASD that is syntactic in nature, since for its interpretation the syntactic relation between the reflexive element and its antecedent is crucial. In contrast, both populations show comparable, albeit slight difficulty with pronouns – whose interpretation is argued to be achieved by invoking processing or pragmatic mechanisms in TD (Chien & Wexler, 1990; Grodzinsky & Reinhart, 1993). While this result calls for further investigation of pragmatic vs. processing constraints in developmental disorders, it is crucial that the pattern of difficulties with reflexives in ASD, but not in WS, cannot be accounted for by a simple language delay or cognitive impairment, since both are present in these populations. Note that our findings do not seem to be influenced by reported concerns about autistic children's perception of 'self' vs. 'others' (Peeters et al, 2003) where they seem to behave similar to their TD peers.

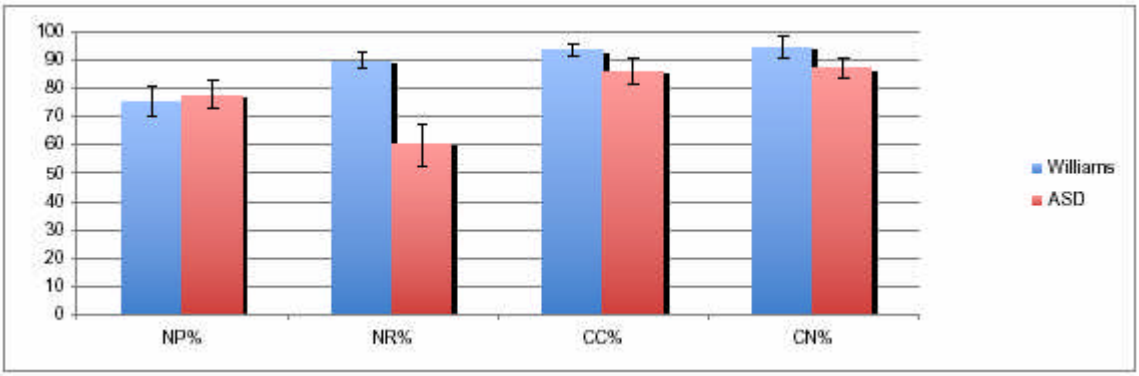
In view of the evident advantage of the WS group on standardized tests of vocabulary and grammar, a follow up analysis was run to determine the role of general linguistic knowledge in the performance of the two populations. Forming a subset from the original two groups, we were able to match 12 children with ASD to 12 children with WS on age, vocabulary and grammar. While the differences between the groups (Graph 2) were only marginally significant, an interesting contrast emerged: a worse performance on reflexives than on pronouns in ASD (a pattern not evidenced at any stage of TD), and a worse performance on pronouns than on reflexives in WS (an 'extended' Delay of Principle B). The findings point to a particular syntactic deficit in ASD, as opposed to WS, independent of their general verbal abilities.

The results reveal important differences in the linguistic profiles of the two developmental disorders, not due to the presence of cognitive impairments, overall language delay, or even general knowledge of vocabulary and grammar, contributing to a more sophisticated picture of language deficits in the populations with ASD and WS.

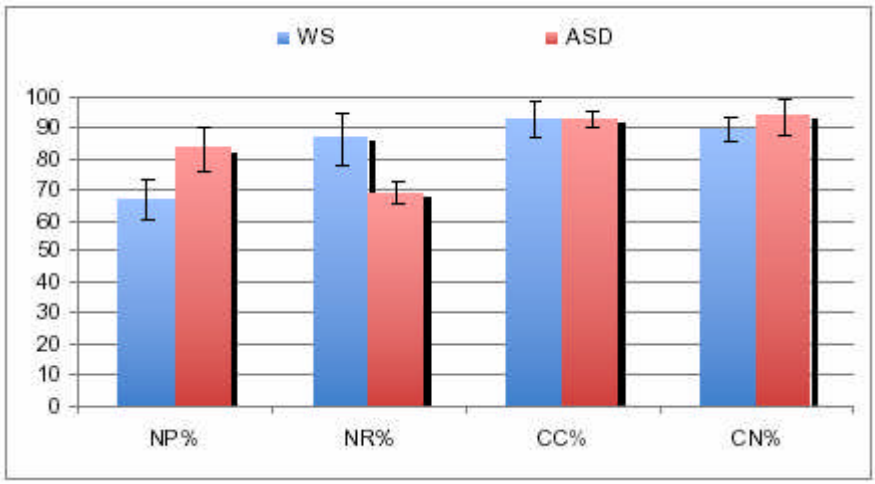
Table 1. Examples of test conditions

	Example
1. Name Pronoun	*Bart's dad is washing him.*
2. Name Reflexive	*Bart's dad is washing himself.*
3. Control Possessive	*Lisa's mom is driving a car.*
4. Control Name	*Lisa is driving a car.*

Graph 1. All participants: WS n=24, ASD n=21.



Graph 2. Participants matched on receptive vocabulary and grammar: WS n=12, ASD n=12.



The role of phonological processing in grammatical deficits: evidence from a Russian-speaking geographic isolate

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The study examines whether phonological short-term memory and/or phonological processing measured by the accuracy on non-word repetition (NWR) is related to grammatical deficits in an isolated Russian-speaking population with a high prevalence of spoken language impairment. Under one theoretical approach, such deficits involve a discrete grammatical liability, either co-occurring with more general extralinguistic deficits or alone. Alternatively, deficient grammar has been viewed as an upstream consequence of nonlinguistic deficits, such as perceptual, memory or processing. We will present evidence from a genetic SLI study of a population from a remote area of Russia's European North (Osh), which has a history of relative isolation due to historical and geographical reasons. It is characterized by genetic homogeneity (approximately 80% of the people are related in varying degrees through a complex 11- generation pedigree with 5954 individuals) and closely shared environment. The ongoing investigation revealed that about 40% of school-aged children have phonological and grammatical deficits in elicited production, with the number reaching 70% in preschoolers and 35% in adults. On a narrative task, 6-12-year-olds exhibited a significantly higher rate of articulation and grammatical errors compared to age-matched controls from a similar environment.

The complex Osh phenotype involves multiple language deficits and varies across the population in severity and manifestation. While some speakers exhibit a combination of deficits, in others weakness is limited to either phonology or grammar. Although specific domains of the impairment in an individual are not readily predictable from the parents' phenotype, the presence of the disorder exhibits vertical transmission suggesting common genetic etiology for the spoken language impairments.

We asked whether individuals with grammatical deficits in the absence of phonological impairment differ from those who have phonological deficits with respect to their accuracy on NWR, widely accepted as a measure of phonological short-term memory and/or phonological processing. We tested 83 participants between the ages 8 and 68 (M=25;6 , Med= 17, SD=17, 66% female), who had to repeat pseudo-words constructed in accordance with Russian phonotactic constraints and pronounced by a native Russian speaker of the same regional dialect. The accuracy of repetition was compared across three groups: phonologically impaired with or without other impairments (PI), grammatically impaired only; i.e. impaired on the measures of wellformedness and/or syntactic complexity (GI), and unaffected controls (CG). The impairment status of each speaker was determined by analyzing speech samples in the form of story narratives for children and personal interviews for adults scored by two native Russian-speaking linguists for phonetic and prosodic characteristics, wellformedness, syntactic complexity and semantic/pragmatic characteristics. We found age not to be related to the performance on the NWR task. Preliminary results indicate the main effect of group status on accuracy of NWR ($F(2,80)=6.91$, $p < .01$). The PI group performed significantly less accurately compared with the CG and GI groups, but there was no significant difference between the CG and GI groups. This suggests that weakness in phonological processing does not underlie grammatical deficits in those whose impairments are exclusively grammatical and supports the theory of grammarspecific deficits for such speakers.

Discovering Language Impairment in British Sign Language

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Specific language impairment (SLI) is a developmental language disorder which can affect both comprehension and production of language and is not linked to any other developmental disorders or neurological conditions such as learning disabilities, autism, Williams Syndrome or brain injury (Leonard 1998). Since hearing loss is an exclusionary criterion in diagnosing SLI, deaf children are not included in studies of SLI. However, whilst previous studies have focused on SLI in spoken languages, this is the first ever group study into the occurrence of SLI in British Sign Language (BSL) users. If 7% of children in the general population have SLI (Tomblin et al, 1997; Bishop 1997) then a similar picture may be expected in the population of deaf children who use sign language and who have had adequate opportunity to acquire language. The discovery of such a population, in the visuo-gestural rather than the oral-aural modality, would have important implications for our understanding of the underlying causes of SLI.

In phase 1 of our study, a language and communication questionnaire was sent out to 72 schools in the UK (to be completed by Teachers of the deaf and speech and language therapists (SLTs)) asking them to identify children for whom they had concerns about sign language development in comparison to their peers. SLTs and teachers referred a total of 44 children to the study. Children with neurological, cognitive or social developmental impairments were excluded.

In phase 2, children selected from the screening questionnaire were assessed using a wide battery of tests, which looked into various aspects of sign language, including syntax, morphology, phonology, vocabulary, and pragmatics. These included two standardised tests of BSL: the BSL Receptive Skills Test (a picture identification task that measures children's comprehension of BSL grammar) and the BSL Production Test (a story telling task that assesses narrative content and structure, and BSL grammar). We also used a standardised non-sign repetition test to assess children's BSL phonological skills. Non-verbal intelligence was assessed using the non-verbal subset of the British Ability Scales, and fine motor skills were assessed using a timed bead-threading task.

The patterns of performance of 13 signing deaf children aged 7 to 16, who show significant language impairment relative to their age-matched peers, will be presented. These children's impairment cannot be explained by a delay in acquiring language, cognitive impairment or problems with motor skills. We look into how it is possible to identify SLI in sign language and discuss the heterogeneity of SLI in sign language and the problems teasing apart language delay and language impairment. Despite the challenges of identifying language impairments this population, we show that it is possible to identify SLI in a signed language, and we consider the implications of this finding.

Phonological complexity and prosodic structure in assessment of Serbian phonological development

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In this research we investigate the relevance of prosodic phonological parameters in acquisition of Serbian language. Implementation of British *Test of Phonological Structure (TOPhS,* van der Lely and Harris, 1999*)* has revealed that prosodic complexity (syllabic and metrical structure) influences accuracy in non-word repetition task and could be used in assessment of phonological development of typically developing children, as well as of children with *Grammatical Specific Language Impairment (G-SLI)* (van der Lely and Harris, 1999; Gallon, Harris & van der Lely, 2007*).*

Having in mind phonological properties of Serbian language (Zec, 2000, 2007), we hypothesized that several prosodic parameters can be used in assessment of phonological development in Serbian: a. onset (consonants cluster at the beginning of syllable; b. rime (consonant at the end of syllable). c. word of three syllables, and d. placement of stressed syllable in a word. Combination of these parameters gave us a list of 96 pseudo words of different levels of complexity.

Participants were 14 adults and 30 children from kindergarten divided into three age groups (3, 4 and 5 years)

Task for the participants was to loudly repeat every pseudo word, and their reproduction was recorded. Transcription of their answers and coding of errors allowed us to analyze impact of prosodic parameters on accuracy of phonological reproduction in children of different ages.

The results indicate that the ability for reproduction of Serbian prosodic properties develops in early preschool period. The most difficult is cluster of consonants at the beginning of syllable, and consonant at the end of syllable. These two parameters are even more difficult for reproduction in three-syllable words or in words that have more then one parameter marked. Placement of stress in a word is acquired even before 3 years. In other words, the results have shown that investigated prosodic features could be good indicators in assessment of early phonological development of typically developing children. Delay in their acquisition could reveal possible developmental difficulties.

Syntax, Semantics And Memory Functioning In School-Age Children With Language Impairments

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Two general lines of argument have been put forward to account for language impairments; one for deficits in linguistic knowledge, and one for deficits in general processing capacities or for processing deficits in specific cognitive mechanisms (Leonard, 1998). The present paper attempts to contribute to this debate by providing evidence in favour of a domain-general account. We constructed and administered a test battery consisting of four language and three memory tasks on two groups of children, a group of 24 children with LI and a group of 24 typically developing children (TDC). To examine memory functioning in relation to semantic knowledge and grammatical comprehension, 24 children with language impairments were matched with 24 typically developing children on nonverbal intelligence and age. Data analysis showed that the lexical and grammatical difficulties experienced by children with language impairment are related to working memory deficits. Our data provide further support to the Baddeley et al's (1998) argument that language acquisition and memory ability are mutually related faculties to build their own subsystems in cooperation with other possibly cognitive and social factors after the first elementary school years.

Phonological and morphosyntactic processing in Specific Language Impairment (SLI), Developmental Dyslexia (DD), Chronological Age (CA) and Reading Age (RA) controls

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Recent studies on Specific Language Impairment (SLI) and Developmental Dyslexia (DD) have raised the question of whether these disorders constitute distinct developmental disorders or not (Bishop & Snowling, 2004; Catts et al., 2005). This study aims at contributing to the characterization of the deficit in SLI and DD.

The spoken and written language abilities of 10 children with SLI (mean CA: 9;0) were compared to those of 10 children with DD (mean CA: 9;2), and the spoken and written language abilities of these two clinical groups were compared to those of two control groups: a CA control group, and a RA control group. Pretests included a standardized non-verbal IQ test (Raven), a verbal IQ test (PPVT), and a standardized reading test (Alouette). Groups did not differ in non-verbal IQ. The SLI, DD and CA groups did not differ in CA, and the SLI, DD and RA groups did not differ in the reading task. Finally, children with SLI obtained the lowest scores in the PPVT test among all groups.

The experimental assessment included the following tasks: (i) word and non-word reading (correct items/minute); (ii) a written and an oral morphosyntactic reception task (accuracy and speed); (iii) an oral expressive morphosyntactic task (accuracy); (iv) tasks assessing phonological processing (accuracy and speed): three phonological awareness tasks (two at the phonemic level, one at the syllabic level), one phonological short-term memory task (STM), and one rapid naming task (RAN).

For the CA comparison, children with SLI performed significantly below controls on all tasks and measures for which a significant group effect has been obtained (N=17/19). Alternatively, children with DD did not performed significantly lower than CA controls on the accuracy scores for 4 tasks (written comprehension, the two phonemic awareness tasks, and the RAN task), plus a marginally significant result in the accuracy scores for phonological STM.

In the RA comparison, children with DD performed at the same level with the controls on all tasks and measures. Alternatively, children with SLI obtained significantly lower scores than controls on two tasks assessing phonological skills (accuracy scores in the phonemic awareness task and the phonological STM task).

For the clinical group comparison, five significant differences were observed. One difference was to the detriment of DD individuals, who obtained significantly lower scores than SLI individuals on the standardized reading test. Four were to the detriment of SLI individuals who obtained significantly lower accuracy scores than DD individuals on two tasks assessing morphosyntactic skills (written comprehension and oral expression), and on two tasks assessing phonological skills (accuracy scores in the phonemic awareness and the phonological STM task).

These results indicate the presence of morphosyntactic and phonological impairments in both clinical groups. They also distinguish the profiles of the two clinical groups. More difficulties are manifested in DD than in SLI when decoding skills are required while morphosyntactic and phonological impairments are more severe in SLI than in DD. These results suggest that the severity of impairment in phonological, morphosyntactic and word decoding skills distinguishes the participants with SLI and DD.

Cross-linguistic Adaptation of the Grammar and Phonology Screening (GAPS) Test

Heather van der Lely, Fabrizio Arosio, Larisa Avram, Ineta Dabasinskiene, Wolfgang Dressler, Bettina Fürst, Teresa Guasti, Jurate Ruzaite, Uli Sauerland, Kazuko Yatsushiro

In an age of high personal mobility and increasing multilingualism in children, cross-linguistically transferable diagnostic instruments for language impairment are desirable. Nevertheless, such instruments are not yet available. In this presentation, we report on the development of a cross-linguistic version of the English Grammar and Phonology Screening (GAPS) test (Gardener, Froud, & McClelland, and van der Lely 2006) for Lithuanian, Italian, German (Northern German and Austrian) Romanian, and English.

GAPS test: The GAPS test has been in use in the UK since 2007. The GAPS is a 10 minute, easy to use screening test for professionals and parents alike to identify language impairment in young children or children at risk for Dyslexia. It focuses on grammar; syntax andmorpho-syntactiax and phonological structurek. The grammar section employs asentence repetition prodedure and targets key syntactic processes like object-extraction, verb-movement, passive, and agreement, found in, for example wh-Questions. Phonological abilities are tested using non-word repetition and focuses on both syllable complexity (e.g., clusters) and stress patterns of words which determine its complexity. The English test has been shown to be highly sensitive and specific for SLI (Payne and van der Lely, 2008).

New Prototype: At this point, we have developed and tested a new prototype test by adjusting the items of the CLAD test to the individual languages. Based on our knowledge of the languages and theoretical knowledge of SLI which abstracts away from language-specific characteristics we have adapted GAPS. For each language, known and/or suspected indicators for SLI in addition to object extraction and the passive were added to the morphosyntactic subtest. In particular, the following phenomena were used:

German: verb second; definite articles, phrasal embedding, tense marking on the verb, simple past vs. german (present) perfect (with copula "be" and "have"), prepositions, topicalization of the direct object, dative construction, subject-verb agreement

Italian: definite articles, prepositional modification of noun phrases, copular constructions, subject-verb agreement on lexical and auxiliary verbs, accusative and dative object clitics, reflexive clitics.

Romanian: articles (in both pre- and post-nominal position), Accusative and Dative object clitics, reflexive clitics, agreement marking on the verb, tense marking on the verb, the use of the subjunctive marker *să*, the use of the perfective auxiliary *avea* 'have', the use of copula *be*, the use of lexical prepositions, the use of the case marking preposition *pe.*

Lithuanian: case endings of nouns and adjectives, partitive use of Genitive, reflexive verbs (with the particle *–si*), tense marking on the verb, phrasal embedding, and pronouns in different cases. Since in Lithuanian auxiliaries are not used to form questions, modals were introduced instead. This posed numerous problems when counting correct and incorrect answers since many children changed the word order in the repeated test sentences. The results thus were counted in two ways: (a) sentences with a modified word order are treated as incorrect (since they differ from the original sentence); (b) such sentences are counted as correct (since they conform to the Lithuanian language rules).

Adaptation of such a test is of special importance in Lithuania, where speech therapists have no uniform testing materials that could be applied to assess whether the child has appropriate linguistic knowledge at the pre-school age.

The prototype was tested along with a battery of standardized texts like the TROG (Bishop, 2003).

Results for German:

Austria:

The translated version (11 test sentences) recognizes 7 out of 8 children (87,5%) in the sentence and nonwords repetition task (aged 5); 3 out of 7 (42,9%) in the sentence repetition and 2 out of 7 (28,6%) in the nonwords repetition task (aged 6); 0 out of 2 (0%) in the sentence repetition and 1 out of 2 (50%) in the nonwords repetition task (aged 7); 4 out of 5 (80%) in the sentence repetition and 5 out of 5 (100%) in the nonwords repetition task (aged 8) and 1 out of 1 (100%) in the sentence and nonword repetition task (aged 9).

The adapted version (12 test sentences) recognizes 6 out of 7 children (85,7%) aged 5; 2 out of 7 childern (28,6%) aged 6; 0 out of 2 children (0%) aged 7; 4 out of 5 children (80%) aged 8 and 1 out of 1 child (100%) aged 9.

The TROG-D recognizes 7 out of 8 children (87,5%) aged 5 (but not the same 7 as the GAPS); 7 out of 7 children (100%) aged 6; 1 out of 2 children (50%) aged 7 (but not the same one as the GAPS-Nonwords task); 5 out of 5 children (100%) aged 8 and 0 out of 1 child (0%) aged 9.

Altogether recognizes the translated GAPS 17 out of 23 children (73,9%), the adapted GAPS 17 out of 22 children (77,3%) and the TROG-D 20 out of 23 children (87%).

Germany:

7 SLI children were matched in age with the control TD children. Both groups were tested on the Peabody lexical proficiency score and a broad grammar test TROG. The results on all three tests differed significantly between the SLI and TD-groups. However, only the GAPS results and the broad grammar test results showed a significant correlation (Spearman's rho =.456, p=.029)

Results for Italian:

10 SLI children were matched to three groups of TD children according to three criteria: (i) age, (ii) z-scores at a standardized lexical proficiency test (Peabody), (iii) z-scores at a standardized grammatical proficiency test (TCGB). GAPS accuracy scores of SLI children were significantly different from GAPS accuracy scores of TD children matched for age ($F(1, 18)=16,15$; p=,0008), of TD children matched for Peabody z-scores ($F(1, 18)=9,6965$, p=,0059) and of TD children matched for TCGB z-scores $F(1, 18)=10,222$, p=,0049. Correlations were found between GAPS and Peabody scores.

Language Development in Children with Specific Language Impairment: Results form a Longitudinal Latent Variable Study

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The language development of children with SLI is multidimensional and dynamic. Deficits at one level of language performance impact other language levels in both children with normal language development and with SLI. For example, lexical and syntactical proficiencies influence one another in language development because a child has to make use of semantics to work out syntax (i.e., semantic bootstrapping) and he or she has to make use of syntax to predict semantics (i.e., syntactic bootstrapping).

In this study, two samples of children with SLI were assessed at three points in time with an interval of 12 months during a period of two years. One sample consisted of 148 six-year-old children at Time 1 and the other sample consisted of 134 eight-year-old children at Time 1. The participants' language proficiency was evaluated using a broad test battery of language and language-related tasks. First, test scores at Time 1 were analyzed using confirmatory factor analyses. Second, the stability of these factors was investigated using Structural Equation Modeling (SEM). Finally, the interrelationships over time between the factors were investigated using SEM.

From the results of this longitudinal study, it can be concluded that the language development in children with SLI between the ages of 6 and 10 years, is represented by four factors: *lexicon*, *syntax*, *auditory conceptualization*, and *speech production*. The language factors were stable over time indicating that the language development in children with SLI can be seen as a multidimensional process. Furthermore, positive relationships over time among factors indicated longitudinal interrelationships, which reflected that the language development is dynamic over time. In the youngest sample, more interrelationships were found than in the eldest sample. *Lexicon* at age 7 had an effect on *syntax* at age 8. *Syntax* at age 6 had an effect on *auditory conceptualization* a year later. *Auditory conceptualization* and *speech production* at age 6 had crossed effects on each other at age 7. Furthermore, *auditory conceptualization* at age 7 had an effect on *speech production* at age 8 and *auditory conceptualization* at age 8 had an effect on *lexicon* at age 9. Finally, *speech production* at age 8 had an effect on *auditory conceptualization* at age 9.

For clinical practice it is more likely that broad language intervention may have greater impact than intervention on one separated language domain.

Oral Language, Word Recognition and Working Memory

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Many studies explored the role played by working memory in language development and in reading acquisition (Adams & Gathercole, 1995 ; 2000 ; Bayliss & al. 2005 ; Daneman & Carpenter, 1980 ; De Jong, 1998 ; Gathercole & Pickering, 2000 ; Hutton & Towse, 2001 ; Mann & Liberman, 1984 ; Willis, 1997). However, the researches that examine the opposite direction of this relationship remain very few. Therefore, our study aims to explore the role that oral language and word recognition play in working memory development. The population of our research is composed of 32 kindergartners, 49 first graders and 44 second graders attending a regular school. The results revealed a progressive increase in working memory capacity as well as a progressive differentiation of this system (WM model of Baddeley & Hitch, 1974) between kindergarten and the second grade. Moreover, the results showed that both oral language and word recognition play a role in working memory development. More specifically, expressive phonology and word recognition predicted significantly working memory development while the associations between receptive vocabulary, expressive vocabulary, sentence comprehension and sentence production on one hand and working memory on the other hand did not seem to be substantial. In fact, they seem to be due to the involvement of phonology in these different abilities.

POSTER SESSION II

Saturday 23rd January 10.30 – 11.00
and 12:15 – 14:30

Acquisition of tense and time adverbs in Estonian

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The poster discusses the acquisition of the category of time by 135 normal Estonian children at the age of 4–7 years. The discussion is based on a psycholinguistic experiment that focused on tense forms and time adverbs. The experiment was designed by Bart Hollebrandse and Margreet van Koert in the project COST A33 "Crosslinguistically Robust Stages of Children's Linguistic Performance". The test was adopted by Reili Argus for Estonian language and consisted of three subtests designed to show at what age children develop a clear distinction between the past and non-past, whether the use of time adverbs helps children to understand the presentation of grammatical tense, and which time adverbs children find easier to understand.

The results of the experiment show that, of the means of grammatical tense marking, present tense forms are already understood by four-year-olds while past and future forms only by six-year-olds. Situationally correct use of present and past tense forms is only acquired at the age of six, and that of future tense forms even later.

The results of the experiment suggest that Estonian children develop a clear opposition between past and non-past, and are able to distinguish between them in comprehension and production tests, only at the age of six. There are no significant gender differences in the acquisition of time: in some tests girls did better than boys and in other tests the other way round, with insignificant differences in the number of correct answers in all tenses and test variants.

Estonian children appear to acquire the division of non-past into present and future only at the age of six, when the number of instances of situationally correct use starts climbing steadily. The initial leap, and the ensuing increase in correct use, was shown the most clearly with respect to the acquisition of future tense. To express future, children most frequently used present tense forms with time adverbs. Next in frequency were negative constructions, which seems to suggests that children begin to express future by way of the past, referring to future events as another form of non-present time. Children also recognise the *hakkama* future but seldom use it themselves.

The results of the experiment suggest that time adverbs help 4–7 year old children to perceive and use tense. Children find the time adverbs *enne* 'before', *praegu* 'now' and *pärast* 'after' easier to understand than those of *juba* 'already', *jälle* 'again' and *veel* 'still, yet'.

Test characteristics of COST material for assessing tense comprehension and production in five year old children.

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The present study addresses test characteristics of an experimental test procedure for assessing children's use of tense developed as a part of the COST A33 initiative. The material was developed to study children's ability to comprehend and produce grammatically correct expressions of past, present and future tens.

Twenty four children between four and six years of age were presented the material in a balanced experimental design. All participants were primary Norwegian speakers with no obvious signs of developmental impairments

The test material yielded acceptable results for internal consistency, but as tasks for present tense gave ceiling effects in this age group, these items did not contribute to the explained variance of the performance in typically developed children. The test as such yielded only modest correlations with age, partly due to substantial increase in the variation among the eldest participating children.

Further research is necessary to document if these items are functional markers of language impairments. The test material also showed acceptable correlations with standardized tests of general language development. The degree of shared variance supports an assumption that the present material can contribute to the understanding of typical and atypical language development.

The Acquisition of the Dutch Quantitative 'Er'

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In Dutch there are four types of the pronoun clitic 'er,' each with their own function. There is the existential 'er' (XR), locative 'er' (LR), prepositional 'er' (PPR), and quantitative 'er' (QR). All types of 'er' have in common that they bind empty positions, subjects (XR), adverbials (LR), nouns in prepositional phrases (PPR), and nouns in quantified noun phrases (QR) (Bennis, 1980).

Acquisition of R in Dutch has not been studied until now. Our study investigates whether 5-year old children are able to produce the QR appropriately. The outcome of our study will set a baseline for the abilities for 5-year olds on QRs that can be used in a bigger, cross-linguistic picture for establishing a measure for the detection of SLI in young children.

Twenty typically developing children aged 5;0-6;0 were tested on a repetition task and an elicitation task (Gavarró et al., 2009). In the repetition task they had to repeat sentences containing a QR construction, whereas the elicitation task was brought as a guessing game in which the experimenter tried to guess how many objects were on some pictures that the child would hold. Here the child needed to correct wrong guesses with a sentence containing a QR, such as:

(1) Nee, hij heeft er twee
No, he has (QR) two
'No, he has two of them'

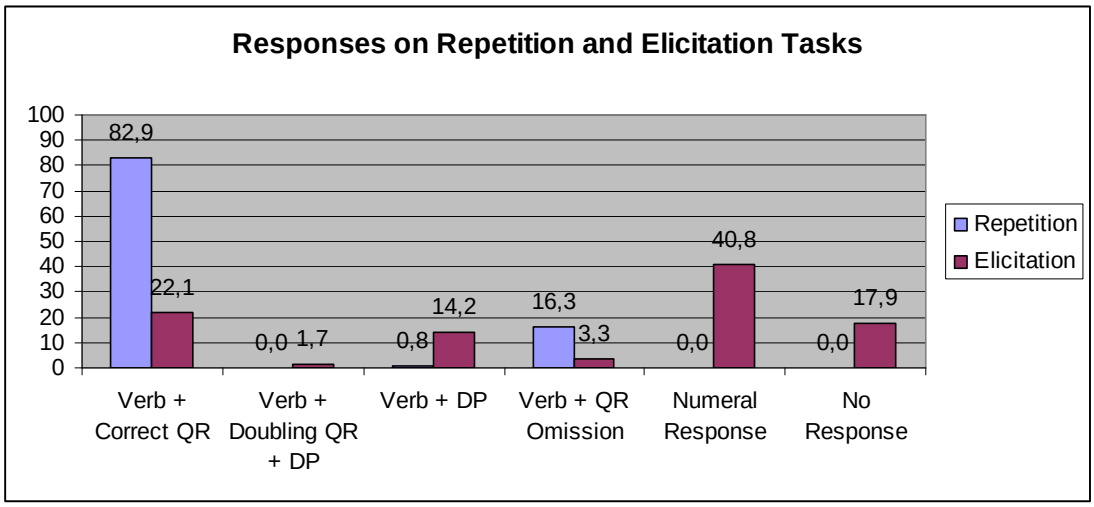
The results show that the children were not at ceiling for either of the tasks. They repeated the QR 83% of the time correctly ($\mu = 9.9$; $sd = 1.9$), and they produced a QR only 22% of the time correctly ($\mu = 2.7$; $sd = 3.5$). Omissions of the QR were present in the repetition task with 16%, and in the elicitation task with 3%, as can be seen in figure 1. We attribute this difference to task demands.

Although the children do not seem to have fully mastered the QR at age 5, analysis of the incorrect answers proves also informative: the elicitation task yielded many numerical responses without a verb, 'no, two,' in which in 82 of 91 times the DP was left out. This indicates that children are familiar with empty heads, but are not yet able to use it in QR constructions. That they know the word 'er' is evident from the other types of R they produced instead of the target QR.

Moreover, individual patterns show that children who produce responses of the numeral without verb type including a DP, also show a difficulty with producing QRs. From this we tentatively conclude that the ability to omit DPs is required before mastering the QR construction.

It seems that not being able to produce QRs at age 5 is not a signal of SLI. However, further, cross-linguistic research is needed to investigate the performance of SLI children and children younger than 5 on these tasks. Similar studies are carried out right now in Catalan, Italian and French, and it would be interesting to see how they can contribute to a better understanding of the acquisition of QR.

Figure 1. The responses on the repetition and elicitation tasks in percentages.



Comprehension and production of tense forms in Berlin and Austrian German

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The final goal of our investigation is to contribute to the development of criteria for the identification of SLI in the domain of grammatical tense. This poster discusses developmental steps, i.e. levels and domains of difficulties which appear in the results of a comprehension and a production test on the relation between time meaning and tense forms developed by the Tense-Aspect working group of the COST A33 action. We will consider two regional variants of German, of Berlin and of Linz (Austria). The comparison of two closely related language variants aims at identifying the impact of even minor language-specific differences on the course of acquisition of grammatical tense, a factor that has to be taken into account when diagnosing SLI.

The experiment investigates the verb phrase forms (absolute tense forms) expressing past, present and future time reference. 20 typically developing children of the age bracket 5;0 – 5;11 have been tested for each of the two language variants.

Data analysis focuses on the scores in meaning - form relations and studies children's ability to identify the correct meaning of a presented form in comprehension and to choose the correct tense form for a presented situation in production.

First of all, the results of the comprehension and production tests converge in respect to the three time references and the three tenses. In the comprehension test, the children interpret best the present tense, worse the past tense and worst the future tense. This fits the expected order of acquisition as derived from theoretical premises: In general, category complexity is increasing from present over past to future. At the same time, frequency of use is decreasing in this order. In the production test, children produce (according to the same hierarchy of complexity) a variety of errors. Only a few of these errors are ungrammatical, most are acceptable or unacceptable substitutions, some of them clearly representing avoidance strategies. Particularly the future is expressed by the present, especially in collocation with time adverbials and more indirect means of indicators of future reference.

Second, while category complexity differences are similar across languages, structural complexity of the tensed verb phrase varies even between the two German variants in question. Thus, whereas in Austrian German there is a one-to-one form-meaning relationship between past time reference and the periphrastic perfect tense (e.g. *er hat ge+tanz+t* 'he has danc-ed'), Berlin German uses two further past tense forms: the synthetic preterit (*er tanz+te* 'he danc-ed') and a semi-grammaticalised imperfective periphrasis (*er war am/beim Tanzen* 'he was dancing'). As expected, Austrian children have higher scores than children from Berlin. A similar difference exists for the future.

Third, we are conducting a subject analysis for past and future responses in both comprehension and production. The goal is to define three qualitatively and quantitatively different levels in 5-year-olds' ability to comprehend and produce grammatical tense forms, i.e. a developmental order that can be used for relating it to test scores of subjects with SLI.

Acquisition of subject and object wh-questions in European Portuguese

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My study aims at testing the comprehension and the production of root subject and object wh-questions in monolingual children with typical language development, being all of them native speakers of European Portuguese (EP).

Subject and object wh-questions include the movement of the inflected verb and of the wh-phrase to C domain through A-bar movement, as well as thematic-role transfer. The main difference between subject questions and object questions is that only in the object questions there is a change in the canonical word order: the element with the thematic-role of theme (object) occupies the typical position of the element with the thematic-role of agent (subject), which is crossed by the former. Hence, the subject intervenes between the object and its trace, creating a crossing dependency.

In this study, I will present the results of three experimental tasks that tested the production and the comprehension of root subject and object wh-questions on monolingual typical developing children acquiring EP (aged 3;0-5;11) and on a control group of monolingual adult native speakers of EP. Experiments 1 and 2 tested, respectively, the production and the comprehension of non d-linked subject and object wh-questions with both reversible and irreversible verbs. Experiment 3 tested the comprehension of d-linked subject and object wh-questions with reversible verbs only.

In acquisition context, if children have problems reaching CP projection or problems with A-bar movement, they are expected to have difficulties with both subject and object questions. If they have problems with thematic-role transfer, we expect an asymmetry between subject questions and object questions characterized by a better performance in subject questions. If this is the case and if they are sensitive to intervention effects they are expected to have more difficulties in d-linked object wh-questions than in non d-linked object wh-questions, because in d-linked questions the subject and the object share the feature [+NP].

The Experiment 1 has shown an asymmetry between the two types of questions, with a poorer performance in object questions. In Experiment 2, three year old children performed very well in subject and object wh-questions with irreversible verbs, and they performed above chance in subject and object wh-questions with reversible verbs. In Experiment 3, all children performed perfectly on subject questions, but they performed at chance in object questions.

Data seem to suggest that: i) object questions are acquired later than subject questions; ii) children are sensitive to intervention effects. It possibly means that children have no problems regarding CP or A-bar movement, but they do have problems with thematic-role transfer. Problems with thematic-role transfer are much more persistent when the verb is reversible and when both subject and object include a lexical-NP restriction.

Comprehension and production of an aspectual distinction in Slavic languages and Modern Greek

Natalia Gagarina, Darinka Andjelkovic, Gordana Hrzica, Dorota Kiebzak-Mandera, Katerina Konstanzou, Melita Kovacevic, Maja Savic

The present experimental study compares how typically developing monolingual children at age 5 comprehend and product perfective and imperfective verbs in several Slavic languages – Russian, Polish, Croatian, Serbian – and Modern Greek (s. Dressler et al. 2009 for the typological peculiarities of these languages).

Most verbs in Slavic languages belong to either imperfective or perfective aspect with a complex system of contextually dependent aspectual meanings. Aspect form an opposition in which its perfective member is marked for the expression of *resultativity/completion*, while imperfective aspect is unmarked for this feature (Jakobson, 1957/1971). Thus, the imperfective aspect may denote both the ongoing and completed events: (s. examples from Russian under (i): imperfectives in the first column denote a process, and in the second column – a general fact of a completed action:

(i)	(a) IPF + processual meaning	(b) IPF – processual meaning
Past	*On stroil zamok* He was building a/the castle	*On stroil zamok* He (had) built a/the castle
Present	*On stroit zamok* He is building a/the castle	*On stroit zamki vesnoj* He builds castles in spring

The examples under (i)-(b) depict the so-called *imperfective paradox* of the Slavic languages and Modern Greek.

Method: Taking into consideration the above-mentioned peculiarity of the aspectual systems we investigated five sets of the experimental data collected within the same design. These data were collected from around twenty 5 year old children from the middle-class families and a control group of adults for each language. The experiments were designed within the COST project and elaborated by van Hout (Van Hout et al. xxx) and included mini-video films with the main protagonists performing various ongoing vs. interrupted actions.

Material: Stimuli were chosen according to the principle of the semantic and pragmatic constraints of the mini-video films situations. Three prefixed aspectual pairs and three pairs with suffixation and stem alternation were taken in the respective Slavic languages. In Greek, all aspectual pairs show the same type of stem alternation, namely, the perfective aspect is formed from the plain verbal root, i.e. imperfective, by a phonological change of its last phoneme (see examples (ii)).

(ii)

English	Russian ipf:past:masc:sg - pf:past:masc:sg	Polish ipf:past:masc:3sg - pf:past:masc:3sg	Serbian ipf:past:masc:sg - pf:past:masc:sg	Croatian ipf:past:masc:sg - pf:past:masc:sg	Greek ipf:past:3sg - pf: past:3sg
open	otkryval – otkryl	otwierał – otwarł? otworzył	otvarao – otvorio	otvarao – otvorio	aniγ-e aniks-e
build	stroil – postroil	budował – z/wybudował	gradio - sagradio	gradio – sagradio	e-htiz-e e-htis-e
blow out	zaduval – zadul	zdmuchiwał – zdmuchnął	gasio – ugasio	gasio – ugasio	e-svin-e e-svis-e
draw	risoval – narisoval	rysował – narysował	crtao – nacrtao	crtao – nacrtao	zoγrafiz-e zoγrafis-e
make	delal – sdelal	robił – zrobił	sklapao - sklopio	slagao – slozio	e-ftiahn-e e-ftiaks-e
close	zakryval – zakryl	zamykał – zamknął	zatvarao – zatvorio	zatvarao – zatvorio	e-klin-e e-klis-e

Results: Comprehension: It has been found that the children perform better in the completed in comparison with the uncompleted situations. In the comprehension of the uncompleted (interrupted) situations the children do not accept the imperfective verbs and estimate the pattern "uncompleted situation-imperfective verb" as incorrect. Not only do children reject the imperfective verbs regularly, they insist on these answers and give such explanations as "because the protagonists didn't have time to finish", "because he was late", "because he didn't manage".

Production: the children use predominantly perfectives for the complete situations. For the uncompleted situations they produce imperfective verbs and a high number of other answers that are acceptable in the given situations. These other answers consist of a high number of negated perfective verbs.

The use of the imperfective with the completed situations is accounted for by the above discussed peculiarity of the aspectual meanings in Slavic languages and Greek, namely the so-called 'imperfective' paradox. The high number of *other answers* in the uncompleted situations is due to the pragmatics referring to the interrupted situations the children perceived.

Methodological issues and the acquisition of perfective/imperfective aspect in Spanish

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Strong correlations between tense-aspect verb morphology and the lexical aspect of predicates have been largely attested in the literature of language acquisition. Research on early production and comprehension of past verb forms has shown that perfective telic predicates are acquired earlier than telic verbs containing imperfective morphological marking (Antinucci & Miller 1976; Bronckart & Sinclair, 1973; Aksu, 1978; Van Hout 2005, 2006, 2007). In contrast, studies on Slavic languages have offered evidence that both perfective and imperfective forms are produced and interpreted target like from the earliest stages (Weist, Wysocka & Lyytinen, 1991; Vinnitskaya & Wexler, 2001). This divergence in the results has been attributed to crosslinguistic differences. However, it has been proposed as well that differences observed across studies could also be due to the existence of some methodological differences such as (i) the presence or absence of discourse context in the task or (ii) the different contrast used to test aspect (complete vs. ongoing situations or complete vs. incomplete situations).

In this poster, results of an experimental study on the acquisition of Spanish aspectual contrast between *perfecto* and *imperfecto* will be presented. The purpose of the experiment was to test the interpretation of telic verbs containing both aspectual markers. In the experiment three kinds of situations where tested -complete, incomplete and ongoing situations- in two different experimental situations: a) in story context and b) out of the blue. Children had to relate the aspectual form of *perfecto* with completed situations and the aspectual form of *imperfecto* with ongoing situations in a picture selection task.

23 five-year old children and 16 adults were tested. Results revealed that the comprehension of both *perfecto* and *imperfecto* was not adult like. In child performance an asymmetry in the comprehension of *perfecto* and *imperfecto* was attested when this grammatical aspect contrast was presented in a story context, but not when the contrast was uttered out of the blue. The differences was only notable when ongoing and complete situations where contrasted. These data show how methodology can affect the results in the study of the acquisition of grammatical aspect. The presence or absence of discourse context in the task and the kind of contrast used can determine the performance of the participants in the experiment. Thus, in the results attested in previous studies can be a reflection of the different methodologies.

The influence of the presence or absence of discourse context also supports the hypothesis that the ultimate cause of the apparent delay in the acquisition of imperfective aspect is not due to a misunderstanding of the aspectual paradigm and the interaction of lexical and grammatical aspect; it's ultimate cause can be due to a nonadult like interpretation of some of the semantic-discourse rules operating in the experimental situation, instead. This conclusion fits in with studies developed in grammatical aspect acquisition (van Hout, 2005, 2006, Kazanina & Philips 2006) and in other domains of language acquisition, in which it has been argued that discourse integration is achieved late in child language (Karmiloff-Smith, 1980; Avrutin and Coopmans, 2000; Krämer, 2000).

Object Clitics in Typically-Developing and Language-Impaired Children

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This study investigates how Greek Cypriot children deal with 3rd person object clitics after acquiring their first language and aims to identify whether clitics can be regarded as clinical markers for preschool children with (potential) Specific Language Impairment (pSLI) in Cypriot Greek, similar to what has been suggested for other languages, such as Italian (Bortolinini *et al.* 2006), French (Hamann *et al*. 2002; Paradis & Crago 2002; Jakubowicz *et al*. 1998), and Spanish (Jacobson & Schwartz 2002).

Cypriot Greek (CG), the variety of Modern Greek spoken on the island of Cyprus, differs in many ways from Standard Modern Greek (SMG). CG follows mixed clitic placement, where object clitic pronouns may either precede the verb (proclisis) or follow it (enclisis). As in SMG, imperatives are among the enclisis-licensing environments, whereas proclisis-licensing environments include negation and *na*-clauses with subjunctive.

The testing materials developed in COST Action A33 (WG1) were adopted (picture-based sentence-completion task) and adapted (into CG, by native testers), but the testing groups were extended. Two groups of typically developing (TD) monolingual CG children and one group of pSLI children participated as well as a control group of 8 CG adults. The first group consisted of 24 children aged 5;0 to 6;0 (mean 5;6), while the second group was made up of 10 younger children, 3;3 to 4;11 years old (mean 3;10), an age at which CG children have been reported to have mastered clitic placement (Petinou & Terzi 2002). The third group were 6 children diagnosed as pSLI by qualified speech-and-language therapists based on clinical observation; due to the absence of any diagnostic tools for SLI in CG, we decided to label them as 'potential SLI'. They ranged in age from 5;6 to 6;11 (mean 6;0) and had received speech-and-language therapy at various length/intensity.

The first group of TD children produced at least 10 out of 12 possible clitics. Interestingly, even though the children's expected answers should involve post-verbal clitic placement, as indicated by the adults' performance, who produced 100% enclisis, the majority of the children mixed pre- and post-verbal clitics. On the other hand, the group of younger TD children performed 97% correct clitic production with 100% enclitic placement. Regarding the group of pSLI children, without considering details concerning agreement errors in their productions, they performed similarly to the older TD group.

Marinis (2000) found that children acquiring SMG start using enclisis and proclisis simultaneously in the contexts where positional restrictions appear. The CG children's behavior is odd given that in the diglossic context in Cyprus, these restrictions are not as strict as in SMG. Clitic placement is correctly acquired by 3 years of age, but an influence from SMG is observed perhaps in association with sociolinguistic or metalinguistic factors; a first factor we suggest is entrance into public schooling where SMG is employed, at around age 5, but we suggest alternative takes as well. Regarding pSLI children, first results do not present clitics as a strong clinical marker for that particular group, yet more in-depth testing is needed.

Questions formation and the effect of interference in local agreement relations

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Italian subject and object wh-questions display the same order of elements: WhVDP. It is agreement on the verb that disambiguates between the two readings: a subject question if the verb agrees with the wh-element, an object question if the verb agrees with the postverbal subject.

Our results, from an elicited production test administrated to 33 Italian-speaking aged 4-5 years and 20 adult controls and analyzed through a repeated measures logistic regression (Dixon, 2008:1), show that (1) object questions are significantly more difficult to produce than subject questions when both the wh-element and the DP refer to animate entities (see De Vincenzi et al. 1999 for comprehension); (2) children partly resolve the difficulties by producing object questions not displaying the expected WhVS order but using alternative legitimate strategies sharing one crucial feature: the subject occupies a preverbal position: S,WhV and (3) who-questions are easier to produce than which-questions.

Building on Franck et al. (2006) we propose that the difficulties children experience in the production of wh-object questions result from the intervention of the object copy in the Agree relation between the postverbal subject and the inflection in the Agr node. The strategies children adopt with the subject in preverbal position are a mean to correct the interference effect and to strengthen the Agree relation between the inflected verb and the subject by raising the latter to a preverbal position checking agreement twice.

We assume that agreement can consist of AGREE, a relation through which the functional node AgrS gets valued by the subject in its base position, and a Spec-Head relation, through which the subject (optionally) moved to Spec AgrSP checks the features on AgrS. Franck et al. have shown that, during adult production, attraction errors in clefts (whereby a DP intervening between the verb and the subject incorrectly values the AgrS feature of the verb) are more frequent in OVS than in OSV configurations and have explained this asymmetry by claiming that in OVS configurations the copy of the moved object interferes in the AGREE relation giving rise to attraction errors. These errors are reduced when the additional agreement checking operation occurs in the Spec-Head configuration. In a similar vein, we claim that the subjet/object asymmetry observed in the production of Italian wh-questions can be reduced to a phenomenon of attraction, whereby the object copy erroneously values the features of AgrS. This can happen when the object and the subject share the same features (animacy, lexical restriction, as in Friedemann et al, in press). The attraction errors are corrected when the subject occurs in a preverbal position and can check agreement for a second time in a spec-head configuration. Evidence for this proposal can be found in Hebrew. According to Friedeman et al. (in press), object wh-questions headed by a wh-word are not problematic for children of a similar age. As opposed to Italian, Hebrew object wh-questions have the structure WhSV: the subject checks agreement twice and the attraction errors originated in the first agreement checking configuration can be corrected.

Object relatives are easier in Basque

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The investigation of the comprehension of relative clauses across different languages has concluded that subject relatives (SRs) (e.g. *the girl who is painting the lady*) are easier and more accurately acquired than object relatives (ORs) (e.g. *the girl who the lady is painting*). Most of this work has been based on SVO nominative-absolutive languages. Here we present data from L1 Basque, a highly inflected, ergativeabsolutive, SOV language with pre-nominal relatives. The results obtained in a binary picture-sentence matching task reveal that object relatives are easier to comprehend than subject relatives.

In this experiment (based on Friedmann and Novogrodsky 2004), we have collected data from two groups of Typically Developing children aged 4 (N=14) and 6 (N=14) and a group of young adult controls. In a binary picture-sentence matching task, three types of structures were tested: 40 simple SOV sentences (1), 20 SRs (2) and 20 ORs (3). The verbs in all the sentences were transitive with animate subjects and objects and the sentences were always semantically reversible. The results show that all subjects obtained better results in the SOV sentence type. Regarding subject and object relatives, the overall performance on object relatives was significantly higher than in subject relatives ($X2=23,11$, $p < 0.003$). That is, the results show that in Basque, ORs are comprehended with more accuracy than SRs. This finding is supported by Carreiras et al (submitted) where two self-paced reading tasks and an ERP experiment showed that Basque adults also have a preference for object relatives. Thus, we conclude that subject relatives are not universally easier to process/acquire and that language specific characteristics must be taken into consideration. This finding has very important implications for crosslinguistic assessments on children's language abilities. .

(1) SOV sentences in Basque:
Emakumeak neska marrazten du
woman.erg girl.abs draw-imperf aux
'The woman is drawing the girl'

(2) subject relative in Basque:
Hau da [emakumea marrazten duen] neska
this is woman.abs draw-imperf. aux-rel.compl. girl.abs
'This is the girl who is drawing the woman'

(3) object relative in Basque:
Hau da [emakumeak marrazten duen] neska
this is woman.erg draw-imperf aux-rel.compl girl.abs
'This is the girl who the woman is drawing'

Genetic influences on variations in language skill increase with age

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Purpose: Previous research suggests that variation in early language development is driven largely by environmental factors, and to a lesser extent by genetic factors. Similarly, the aetiology of specific language impairment (SLI) in preschool children, in the absence speech difficulties, appears to be largely environmental. Little is known about the aetiology of variation in language skills in older children: this is the focus of the current study.

Method: Participants were 12-year old twin pairs (N = 4892) taking part in the Twins Early Development Study (TEDS): a UK-based longitudinal study of language, cognition and behaviour. Children were assessed on four measures of receptive language, administered via the web. We examined individual differences across the range of ability using a latent factor genetic model. We also examined the etiology of SLI (defined psychometrically) in this age-group, using DeFries-Fulker extremes analysis.

Results: The aetiology of individual differences in language skill, as represented by the latent factor, was substantially genetic (a2 = .59), with smaller contributions from shared (c2 = .28) and nonshared environment (e2 = .13). Similarly, SLI in this age-group showed substantial genetic influence (h2g = .48), and smaller shared (c2g = .16) and nonshared environmental influence (e2g = .36).

Conclusion: The finding of substantial genetic influence on variation in receptive language skills at 12 years, as well as on SLI, stands in contrast to findings in younger children. This change parallels the pattern found in other domains, notably 'g', in which the importance of genetic factors increases with age.

Acquisition of Tense in Hebrew Monolingual and Russian-Hebrew Bilingual Children

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Introduction: Tense is a linguistic system with a number of small morphemes which systematically locate situation in time relative to a deictic centre (Allan, 2001). Weist (1983) found that young children, as early as two years old, can process inflectional information. Berman (1981) found that Hebrew monolingual children, as early as three years old, show knowledge of the distinctions between present, past and future. Russian monolinguals also show full acquisition of tense inflections by the age of three (Bar-Shalom 2002, Gagarina 2004). Research regarding tense acquisition in bilinguals is rather rare, thus, the current study explored the question whether tense acquisition in bilinguals is different from monolingual acquisition. More specifically, we check whether the bilingual situation delays the acquisition of tense in L1 or L2 and to what extent we might find crosslinguistic influence.

Method: Subjects are 22 Russian-Hebrew bilingual children (M=5;5) tested both in Hebrew and Russian, 27 Hebrew monolingual children (M=5;7) and 20 Russian monolingual children (M=5;5). Children were tested for comprehension and production of past, present, and future tenses, using video clips which present six verbs: *dance*, *cry*, *cough*, *sneeze*, *roar*, and *snore* (COST A33 Design – B. Hollebrandse).

Results and discussion: Russian-Hebrew bilinguals scored significantly higher on comprehension of Russian-L1 compared to Hebrew-L2, and show a similar trend for production. However, Russian monolinguals significantly outperform the Hebrew monolinguals on both comprehension and production. Thus, the question is whether the difference between L1 and L2 are typologically grounded or rather the result of Hebrew being the L2 of the bilinguals.

A comparison of Hebrew monolinguals and bilinguals shows that Hebrew monolinguals significantly outperformed their bilingual peers on comprehension but not on production. Such effects were not found for the L1 Russian. A more detailed analysis of the Hebrew data shows that the monolinguals significantly outperform the bilinguals on comprehension of past and present, but not future. The difference in the present stems from the use of the morphologically complicated conjugation "hitpa'el" in two of the verbs ("cough" and "sneeze"), whereas the difference in the past is attributed to the less frequent verb "sneeze".

In terms of production, bilinguals significantly outperformed their monolingual peers on production of past, but the monolinguals significantly outperformed their bilingual peers on production of present, with no difference in the future. Hebrew bilinguals often tend to use the past form as the default form following the principle of simplicity, since this form is considered the least inflected form. This can explain the bilinguals' extensive use of past form both in the past and in the present. Moreover, in the past tense, the aspectual system of Russian further contribute to the significant difference since the past perfective in Russian which indicates that an event took place and is over is associated in Russian-Hebrew with the past tense (Gupol et al 2009).

To conclude, our findings show that the difference between L1 & L2 of the Russian-Hebrew bilingual children can be attributed both to the typological differences between the languages and to the bilingual situation.

Activity and Motion Verbs in the L1 Acquisition of Telicity

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This study examines telicity in the L1 acquisition of Greek. The aims are, first, to present the compositionality of telicity in Greek and, second, to identify the developmental stages learners go through. Telicity lies at the syntax-discourse interface and it is determined by the interaction of different factors such as the aspectual class of the verb, morphological aspect, the presence and nature of the object and particles (van Hout 2003). While telicity is not grammaticalized in Greek (Chila-Markopoulou & Mozer 2001), viewpoint aspect is a grammaticalized, interpretable feature which controls argument structure and indirectly affects the characterization of an event as telic or atelic (Tsimpli & Papadopoulou 2009). For the purposes of our research, we will assume that a sentence is telic if the event is represented as having an endpoint beyond which the event cannot continue (Depraetere 2007). This endpoint will be included in a (specific) DP complement for activity verbs (1) and a PP complement for motion verbs (2).

(1) To koritsi efage to milo
the girl ate-PERF the apple
'The girl ate the apple.'

(2) To agori etrekse sti kouzina
the boy run-PERF *s*-the kitchen
'The boy ran to the kitchen.'

This empirical study investigates the role of the aspectual verb form in DP *vs.* PP complements of activity and motion verbs respectively. 150 monolingual Greek learners aged 5 to 8 yrs-old (3 age groups) were tested on the comprehension of activity and motion events. A group of 20 adult native speakers of Greek was also included for control purposes. The experiment consisted of 64 short video stimuli for 18 target verbs (6 intransitive, 6 activities with a DP complement and 6 motion verbs with a PP complement) and 14 filler verbs. For each verb we constructed two videos, the one presenting a telic/completed event and the other an atelic/ongoing one. The task was to match the utterance heard to the event presented in the video. Results show that a) even the youngest children show sensitivity in both activity and motion verbs, b) activities with a DP complement precede motion verbs in development and c) both the adult controls and the oldest children rely on the same criteria for the (a)telic interpretation of an event.

Abstract or Lexically Bound Syntactic Priming: Acquisition of *Wh*-Questions in Cypriot Greek

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Acquisition of *wh*-questions varies between Typically Developing (TD) children and those with Specific Language Impairment (SLI). It is believed children with SLI have impaired representations of syntactic dependencies in general (van der Lely 1998), irrespectively to possible sensitivity for *abstract, structure-based regularities* (Eisenbeiss et al 2005/6), showing a delay in acquisition and possible differentiation in the attainment of abstract syntactic representations. Syntactic priming could provide an insight to the predicament by identifying the abstract (if any) syntactic representations acquired by TD children, which will later be compared to children with SLI.

It is well established that adults are more likely to use particular target constructions (e.g. passives) when primed by a sentence with the same construction (Bock 1986, 1992, Branigan 2000, 2007). Syntactic priming in adults occurs even when sentences contain different lexical material, suggesting that hearing/producing a sentence activates an abstract syntactic representation of this sentence and hence makes the syntactic structure more accessible for speech production. However, it is still debated whether children's early syntactic representations are abstract and adult-like, or lexically bound. It is difficult to answer this question using spontaneous speech samples, as it is often unclear whether children's utterances are productive or (semi-)formulaic. Novel-word studies can provide evidence for productive language use, but involve high task demands, which can lead to low performance, especially for children with SLI. Syntactic priming can offer a new approach: If children show syntactic priming when prime and target involve different lexical items, this suggests abstract syntactic representations. In contrast, if priming only occurs when the same verb occurs in prime and target, this suggests that children's syntactic representations are lexically bound. Studies on English have shown syntactic priming in 3–6-year-olds, but the jury is still out whether children exhibit syntactic priming for different lexical items (Huttenlocher et al. 2004, 2007, Savage et al. 2003).

This study examines Cypriot Greek subject *wh*-questions, which exhibit two main word orders (Subj–Wh–V and Wh–V–Subj). Both orders can be combined with the particle *embu* 'is-it-that', a dialectal constituent, resulting in 4 question types.

(1)	Pco milo (embu) troi i kopela?	**Wh–V–Subj**
	which apple is-it-that eats the woman	'Which apple is the woman eating?'
(2)	i kopela pco milo (embu) troi?	**Subj–Wh–V**
	the woman which apple is-it-that eats	'Which apple is the woman eating?'

88 Cypriot Greek TD children (aged 2;8–6;5) were divided into 4 groups. Each group heard one of the four question types and were primed with *wh*-questions (habituation prime) that they had to repeat (habituation target) in two phases (repetition phase). Finally, the child had to produce a *wh*-question with different lexical items (test target).

Children were more likely to use Subj–Wh–V or Wh–V–Subj following a prime with this word order, independently of the use of *embu* — and *embu* only occurred when primed. These priming effects already occurred at the beginning of the experiment, where children had not yet produced *wh*-questions themselves. And they persisted in the test phase, where new lexical items were introduced. This suggests that young children employ abstract syntactic representations which can be activated independently of lexical items.

The Acquisition of Direct Object Clitics in Bulgarian

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The present research brings new empirical data from Bulgarian in regard to two fundamental issues: (I) The acquisition course of direct object clitics in Bulgarian, i.e. with or without a phase of omission, and (II) The principles of clitic placement once clitics have become part of children's grammar. The latter is particularly interesting in light of the fact that Bulgarian has verb-adjacent clitics that can be proclitics (preceding the host) and enclitics (following the host).

The study included an elicited production task conducted with 37 monolingual Bulgarian children, aged 2;2-4;3, recruited from two Bulgarian childcare centres. Each child was tested on 5 transitive verbs in 4 conditions depending on the elicited object accusative clitic- masculine, feminine, neuter and plural. The youngest children were presented 8 extra test items in order to ensure for a better answer rate across this population. All answers obligatorily included a clitic in enclitic position. In a second trial of the study, 16 of the children were tested on items elicitating clitics in proclitic positions.

An examination of the results leads to several conclusions. First, clitic acquisition in Bulgarian is not characterised by an initial phase of omission as recently suggested in Ivanov (2008) since 2-year-olds in the present experiment produced clitics 51% of the time. As age progresses, the use of clitics becomes even more stable reaching an adult-like proficiency at around the age of 3;8. Second, clitic omission is low and correlates to production limitations. An intraindividual analysis showed that only children whose MLU was less than 2, omitted clitics at high rates. The length of children's utterances turns out to be an important condition that needs to be met for children to produce clitics. Thus MLU rather than age seems to be a reliable and effective measure for grouping children and predicting linguistic performance for various ages. Furthermore, the results of the second task of the experiment indicate that Bulgarian children show an adult-like mastery of clitic syntax obeying the clitic requirements of verb-adjacency and producing both proclitic and enclitic constructions from the clitic onset.

Considering the results of the study in a crosslinguistic context, Bulgarian is shown to pattern with languages such as Spanish, Greek, Romanian and Croatian, for which acquisition of clitics similarly proceeds without a phase of clitic omission. In Bulgarian, no clitic misplacement was found in the data, which is in line with research on other languages like French, Greek and Croatian. If acquisition proceeds in the same manner with both second position and verbal clitics so that object clitics are never misplaced, it then seems that the kind of placement requirement (verbal or second position) to be acquired plays no role in the acquisition of clitic placement across languages.

Do Turkish Preschoolers Pick up on Relative Clauses in Referential Communication?

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The acquisition and use of relative clauses in Turkic languages has been proposed to be relatively late, with mastery taking place later than 4;8 (Slobin, 1986). However, early uses might involve identifying one of two similar objects with one distinctive difference, but such situations do not spontaneously occur frequently in naturalistic contexts. In this paper we will be using an experimental procedure adopted from Matthews, Lieven & Tomasello (2007) to train 2-, 3-, and 4-year-old Turkish learners to use relative clauses in uniquely identifying desired stickers from an array of distracters.

The task involves completing the child's version of a sticker book by requesting stickers from Experimenter 2 in order to match Experimenter 1's sticker book and complete his/her own version. Five picture books are used in total. In each book, three pictures are about intransitive actions (e.g., the dad dancing) while three pictures are about transitive actions (e.g. the girl eating cake). In the pretest phase, the participant goes through one picture book by requesting six stickers. In the training phase, Experimenter 1 models relative clauses (e.g. *ağlayan palyaçoyu seçtin*, 'you chose the clown crying'; *kek yiyen kızı seçtin* 'you chose the girl eating cake') while going through two additional picture books. In the posttest phase, the child is asked to request stickers from Experimenter 2 in completing two additional picture books. In the two comparison conditions, the participants were trained with demonstrative plus noun constructions (e.g., *o kızı seçtin*, 'you chose that girl') and with general positive feedback (e.g., *güzel seçtin*, 'you chose right').

The verbal constructions and the nonverbal behaviors of the children are analyzed to determine (a) whether they will increase the rate of uniquely identifying expressions, generally, and (b) whether they will increase the rate of usage of the relative clause construction. Results show significant effects of training in 3- and 4-year-olds, and some less robust effects in 2-year-olds. We will discuss how complex language such as relative clauses might be encouraged by pragmatic motivations and/or syntactic priming.

Asymmetries in the acquisition of different types of clitics by typically-developing Portuguese children

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This paper aims to investigate the acquisition of accusative, dative, reflexive and non-argumental clitics (specified for all grammatical persons and both numbers) by Portuguese children through a set of tasks of elicited production.
Previous investigations in other languages argue that clitic omission is expected in languages with past participle agreement, which is explainable by a constraint subject to maturation, the *Unique Checking Constraint* (UCC).

However, clitic omission was observed in the acquisition of EP (that does not present past participle agreement) in previous researches. It has been suggested that this omission in EP may be due to the variability of clitic position (enclisis and proclisis) and the availability of null objects (the choice between multiple convergent derivations may originate problems in production).

In this study, 73 children attending preschool, aged between 3 and 6 years and 6 months old, were tested. The tests were also applied to a control group composed by 15 adults, whose answers were confronted with those of the children.

The elicitation tasks were adapted to particular properties of EP with the purpose of controlling the variability of clitic placement and the null object restriction.

This research permits the comparison between different alternative hypotheses for explaining clitic omission in EP. Hence, the elicitation of different types of clitics and the study of the grammatical person are important for this comparison.

According to the collected data, Portuguese children omit clitics. However, the rates of omission are not equal for every type of clitic: reflexive and non-argumental clitics are less omitted than accusative and dative clitics. Null forms were found in every context, particularly in strong islands (where the null object is not possible) and also in production of reflexive and non-argumental pronouns (which do not present alternation with null objects) at all ages. The omission in contexts where there is no variation with null object seems to be on account of the overgeneralization of this construction.

In the non-reflexive clitics (accusative and dative), it was observed tendentiously a higher production of 1st and 2nd person clitics (with which there is no variation with null objects) than 3rd person clitics, which was contrarily to what happened in the reflexive and non-argumental clitics.

There is no evidence that the variability of clitic placement has an influence on production or omission of clitics.

The results seem to support the hypothesis of post-syntactic complexity instead of the hypothesis based on the UCC. The asymmetries detected between the different clitic types favour a hypothesis in terms of post-syntactic choices, since this assumption predicts a higher rate of omission only in contexts in which the clitic alternates with null object. The UCC, however, would not predict the asymmetries observed, since most of the clitics considered would equally enter more than one feature checking relation.

The study shows a growing tendency in the production of clitics as age increases. There is an evidence of a correlation between the increase of clitics and the decrease of null objects. Therefore, children tend to abandon the overgeneralization of the null object construction.

Applying selected COST A33 tasks to diagnose SLI in preschool Polish children

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In Poland there are no adequate standardized language tests for preschool children. 100 preschool children aged 4-6 were screened using a basic set of language measures, which included: receptive vocabulary (picture choice task), expressive vocabulary (picture naming), sentence repetition task, nonce word repetition task, narration task (elicitation based on pictures), as well as sentence completion task (eliciting inflected words).

A group of children with significantly lower results than the mean (more than 1.25 SD) in language tasks and non-verbal IQ within range for typically developing children (measured by Raven's Coloured Progressive Matrices test) was singled out as potential candidates for SLI diagnosis.

This clinical group was tested, along with a control group of typically developing children, using selected COST A33 tasks adapted for Polish, namely, Wh-Questions Exhaustivity tasks, Comprehension of Passives task and selected tasks on Quantifiers. The results comparing the two groups (at risk for SLI and control group) will be presented in the poster.

Past tense production by Greek-speaking children with SLI

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This study aims at investigating whether children with SLI show impairments in regular and irregular past tense formation by studying the production of the perfective past tense forms in Greek-speaking children with SLI and typically developing children (TDC). Current studies of the past tense in SLI revealed controversial results with respect to the SLI children's ability to produce regular and irregular past tense forms. On the one hand, some researchers report dissociations between regular and irregular past tense forms (van der Lely & Ullman 2001; Royle & Thordardottir, 2008) whilst others did not find such contrasts (Rice et al. 2003; Paradis et al. 2007; Serratrice et al. 2003).

In this study, we tested 14 SLI children aged 6-14.4 whose performance was compared with that of 80 TDC aged 3-9 as well as with that shown of 68 control children matched to the SLI children on language age (LA).

The experimental task was an elicited production task supported by pictures and designed to elicit sigmatic and non-sigmatic past tense forms.

The experimental material consisted of

Existing sigmatic and non-sigmatic verbs
Sigmatic and non-sigmatic novel verbs rhyming with sigmatics and non-sigmatic verbs
Novel non-rhymes that are dissimilar to any existing sigmatic and non-sigmatic verb

The results indicated that the overall performance of the SLI children showed similarities and differences to TDC. Whilst (like unimpaired children) the SLI children, taken as a group, performed better on the sigmatic than on the non-sigmatic conditions for existing verbs, they produced higher percentages of non-sigmatic forms for novel rhymes and non-rhymes than most age groups of TDC. Further analysis of the individual SLI performance revealed distinct developmental patterns with some SLI children performing within the normal range and others showing atypical performance patterns, e.g. with respect to the use of sigmatic forms. Thus, different developmental paths for past tense acquisition are found in the SLI population.

Comprehension and production of relative clauses: A comparison between Danish children aged 5 to 9 years with and without a Language Impairment

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Studies have showed that children with a language impairment have significant problems acquiring object relative clauses (e.g. the girl that drinks soda) as opposed to subject relative clauses (e.g. the girl that the grandmother hugs) (Schriefers, Friederici & Kuehn 1995; Håkansson & Hansson 1998; Friedmann & Novogrodsky 2004, among others). A study by Håkansson & Hansson (2000) also showed that Swedish-speaking children comprehend a linguistic structure such as relative clauses, before being able to use the lexical complementizer insertion rule, which is obligatory in order to produce subordinate clauses.

This study investigates Danish developmental language impaired children's comprehension and production of subject and object relative clauses in two experimental paradigms; a) a picture matching task and b) an elicitation production task. The participants were 18 language impaired and 10 non-language impaired age-matched Danish-speaking children age 5;0 to 8;5 years.

Results from the study show that in both groups comprehension precedes production, but the pattern is most obvious in children with language impairment. Preliminary results indicate that both groups of children find object relative clauses more difficult to comprehend and produce than subject relative clauses. However the error types expressed by the group of children with a language impairment consisted of a higher proportion of ungrammatical sentences, simple sentences and non-adult like sentences compared to the non-language impaired children.

Overall the results of the study indicate that structures involving dependency relations are particularly difficult to produce for children with developmental language impairment. The results challenge the maturation hypothesis and have implications for the clinical work with children with developmental language impairment.

The difficulties of Dutch tense production

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Children's comprehension of tenses is assumed to be successful from early language development onwards, as Wagner (2001) found for English two- and three-year-olds. For the COST project we designed a Tense comprehension and production experiment which adapted the set-up of Wagner's study (2001). The COST tense experiment involved movies that show a road along which stand three objects, marking three different times. In the movies a character walks along the road and performs an action at each location. The comprehension part involved a *where*-question and for the production part children were asked to complete a sentence. There were 18 items for both the comprehension and the production part. Six verbs were used all of which appeared in all three tenses.

The results show that Dutch five-year-olds do not give consistent answers. On the one hand, Dutch children gave significantly more present answers in present time situation than in future or past time situations ($F(1,15)=9.199$ and $p=0.003$) – which also holds for the past forms in past time situations and future forms in future time situations. Yet, there were few children who distinguished present from future and past by giving present tenses only on present time situations. This is shown in Figure 1.

The Dutch results are surprising when compared to other languages, such as Croatian (Hrzica), Serbian (Andelković and Savic), Greek (Konstantzou), Spanish (García del Real and Rodríguez Sellés) and English. In these languages children more exclusively use present tense for present time situations, past tense for past time situations, and future tense for future time situations.

Several explanations are offered to describe why Dutch children are not successful in their production of correct tense forms. The Dutch tenses may present difficulties to the child, as many forms can receive multiple interpretations. For example, Beheydt (2005) conducted a corpus study in which she found that the Dutch present tense is often used with a future time reference. Furthermore, Haeseryn (1997) observes that *gaan V*-constructions (*go* V-constructions) can refer to either immediate present time situations or future time situations. In addition, he claims that the present tense can be used to convey past time situations, especially in spoken language, as well as present and future time situations.

The effect of many-to-many mapping emerges in the variety of forms for each tense that the children come up with. Haeseryn (1997) describes that for the past tense, for example, there are five forms (simple past, present perfect, past perfect, past progressive, and light verb construction) which can all refer to approximately the same past-time situation. The past-time verb forms are presented in (1).

Based on these findings we conclude that the lack of transparency in the form-function mappings of the Dutch tenses makes it difficult for children to pick up the precise semantics of the verb tenses. It seems therefore that Dutch children perform worse in tense experiments than children in other languages which have a one-to-one mapping between form and meaning.

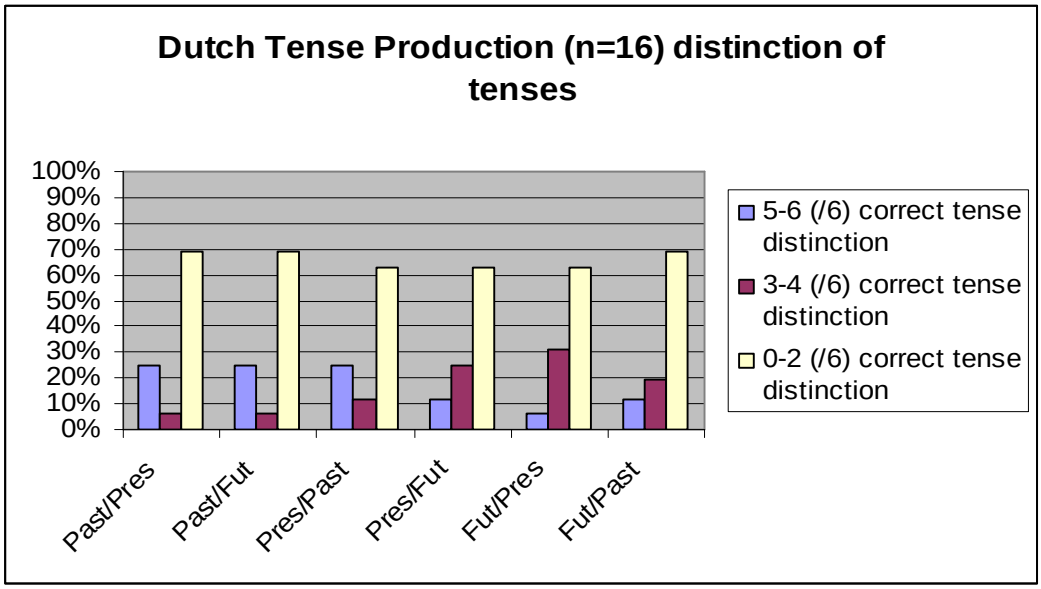

Figure 1. *The distinction of tenses by Dutch children.* Past/Pres *indicates the difference between how often they gave a past tense on a past time situation minus how often they gave a past tense on a present situation.* 0-2, 3-4 *and* 5-6 *refer to the number of tense items in which children distinguished, for example, past from present.*

snurken – "to snore"
simple past = V-*te* = *snurk-te* "snored"
present perfect = *heeft ge*-V-*t* = *heeft gesnurkt* "has snored"
past perfect = *had ge*-V-*t* = *had gesnurkt* "had snored"
past progressive = *was aan het* V-*en* = *was aan het snurken* "was snoring"
light verb construction = *ging* V-*en* = *ging snurken* "went snoring"

Do 5-year-olds understand exhaustive *wh*-questions? Evidence from German

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This study investigated how exhaustivity in single and multiple wh-questions is acquired by German-speaking children. In a semantic account, exhaustivity is regarded as an inherent property of the question meaning. Several wh-question-types can be distinguished, all requiring an exhaustive answer in certain contexts ((P1)-(P4)):

(1)	*Wer hat einen Fußball?* Who has a soccer ball?	single wh-question
(2)	*Wer hat alles einen Fußball?* Who has all a soccer ball?	single wh-alles-question
(3)	*Wer füttert wen?* Who feeds whom?	paired wh-question
(4)	*Wer schenkt wem was?* Who gives whom what?	triple wh-question

Previous studies in English and German indicate that exhaustive readings for single and paired wh-questions emerge between ages 4 and 6 (Roeper&deVilliers, 1993; Penner&Schulz, 2002; Heizmann, 2008) Moreover, 5-year-olds performed significantly better on single wh-questions than on paired wh-questions, and even better on wh-alles-questions (Reckling, 2005; Schulz&Roeper, under review). However, the designs used suffered from several shortcomings: The number of individuals/pairs constituting the exhaustive answer set was small, thus favoring exhaustive answers; size of the answer set was not systematically varied, and was always smaller than the number of individuals/pairs depicted. Moreover, question intonation was not controlled for.

Therefore, we developed a new question-after-picture-task testing children's comprehension of exhaustive wh-questions (1)-(4). Three questions were investigated: (Q1) Which types of exhaustive wh-questions are interpreted adult-like? (Q2) Are multiple wh-questions more difficult than single wh-(alles)-questions? (Q3) How do children interpret exhaustive wh-questions, when the answer set equals the number of individuals/pairs depicted (cf.P4)? 32 monolingual children (age range=4;11-5;10; mean=5;4) and 20 adults were tested. Using a block-design, each subject saw 38 pictures ((P1)-(P4)), followed by a pre-recorded wh-question ((1)-(4)). There were 23 test items (10 single, 10 paired, 3 triple wh-questions), 10 controls (name one), and 5 exhaustive controls (name all). Two test versions were created: Half of the subjects heard single wh-alles-questions, and half single wh-questions; the other 2 conditions were the same in both versions. These were collapsed for data analysis, because they did not differ significantly.

The results (Fig.1) show that children's performance was adult-like for single wh-alles-questions, but significantly poorer than adults' for single wh-questions ($p<.05$), paired wh-questions ($p<.001$), and triple wh-questions ($p<.001$, T-tests) (Q1). Within the children-group, the difference between triple wh-questions and both, single and single wh-alles questions was significant (Mann-Whitney-U-test, $p<.001$), as was the difference between triple and paired wh-questions ($p<.001$). Children's performance on paired wh-questions did not differ significantly from both, single wh- and wh-alles-questions (Q2). Comprehension of exhaustive controls did not differ from that of test items (Q3).

In sum, these findings reveal that at age 5 children generally give exhaustive answers, even if the design is controlled for external factors like size of exhaustive answer set. Mastery of exhaustivity does not emerge simultaneously across all wh-question types, as indicated by

children's better performance on single wh-questions, single wh-alles-questions, and paired wh-questions compared to triple wh-questions. Ongoing cross-linguistic research can address the question to what extent this asymmetry between question types is universal, i.e. is also found in typologically different languages.

(P1)Simple *wh*-(*alles*)-question: Test item 	(P2) Paired *wh*-question: Test item 
(P3) Triple *wh*-question: Test item 	(P4) Paired *wh*-question: Exhaustive control item 

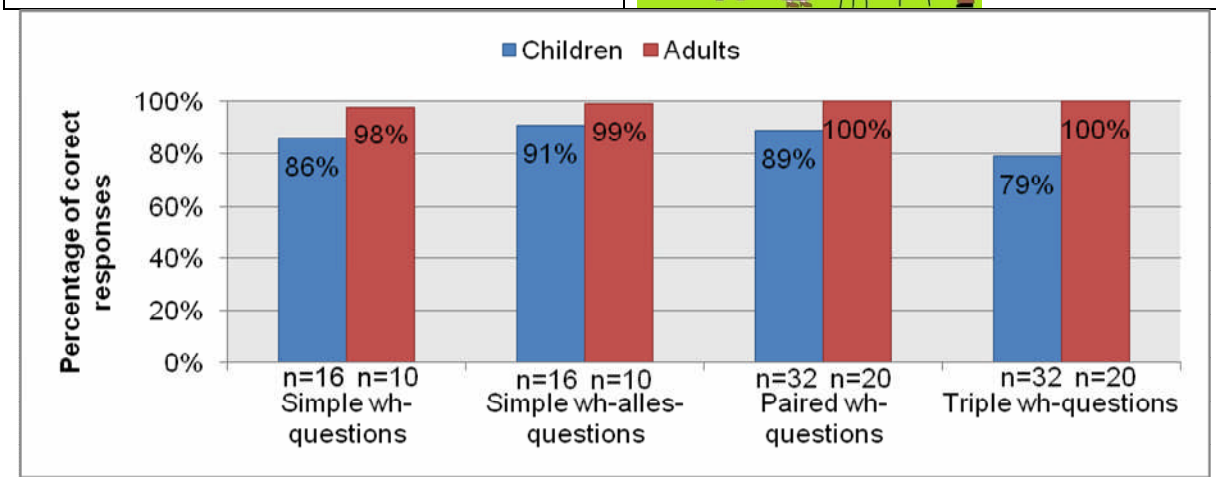

Figure 1: Proportion of correct responses to test items by subject group.

Case and agreement in German children comprehension of Relative Clauses

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We investigated the effectiveness of different disambiguating cues and the role memory in RC comprehension in 48 German monolingual children, mean age 7.6yrs, std=2.97mths; 26 children were tested in a picture selection task including subject and object RCs disambiguated through the agreement morphology of the embedded verb as in (1)-(2); 22 children in a picture selection task including subject and object RCs disambiguated through the case morphology of the embedded NP as in (3)-(4); all children were tested with a memory digit span test (d-span test).

SUBJECT

(1) Die Frau die die Kinder sieht
The woman who the children watches
The woman who is watching the children

OBJECT

(2) Die Frau die die Kinder sehen
The woman who the children watch

(3) Die Frau die den Clown sieht
The woman who the$_{ACC}$ clown watches
The woman who is watching the clown

(4) Die Frau die der Clown sieht
The woman who the$_{NOM}$ clown watches

We made use of repeated measures logistic regression analyses, given the dichotomy of response accuracy (Dixon, 2008). We found an effect of RC structure in agreement disambiguated RCs ($\chi^2(1)=18.13$, $p<.0001$) and in case disambiguated RCs ($\chi^2(1)=14.25$, $p=.0002$) (subject_RCs easier than object_RCs). By merging the data of the two experiments we found an effect of disambiguating cue ($\chi^2(1)=5.71$, $p=.0168$) and of d-span in object_RCs ($\chi^2(1)=14.93$, $p<.0001$). By looking at the data from children with the same d-span we observed:

for d-span4, no effect of disambiguating cue ($\chi^2(1)=.02$, $p<.8886$): agreement and case disambiguation equally difficult (36.67% correct for agreement, 35.56% for case);
for d-span5, an effect of disambiguating cue ($\chi^2(1)=4.60$, $p<.0320$): case disambiguation less difficult than agreement (44.38% correct for agreement, 71.00% for case);
for d-span6, no effect of disambiguating cue ($\chi^2(1)=.00$, $p=1$): agreement and case disambiguation equally easy (85.00% correct for agreement, 85.00% for case).

We explained our data under Fodor & Inoue's (2000) diagnosis and repair model suggesting that reanalysis is more or less difficult depending on the information delivered by the diagnosis. In both case and agreement disambiguated object_RCs, children hypothesize a subject_RC at the relative pronoun and posit a gap in the embedded subject position, according to filler-gap processing strategies (De Vincenzi 1991; Frazier & D'Arcais 1989). In case disambiguated object_RCs, the embedded nominative case indicates that the parsed structure is incorrect, since it is incompatible with the embedded object position, and it also suggests how to repair the analysis, since the embedded NP should occupy the embedded subject position; reanalysis is relatively uncomplicated, and children with d-span 5 and 6 achieve it. Concerning agreement disambiguated object RCs, the embedded verb morphology indicates that the online parsed structure is incorrect, since incompatible with the head NP number features, but it does not by itself indicate how to repair the structure. This is done by looking for an NP with the relevant number features that could occupy the embedded subject position. This is especially demanding and only d-span 6 children can achieve it.

POSTER SESSION III

Saturday 23rd January 16.00 – 17.15 and Sunday 24th January 10.30 – 11.00

Developmental trends in the use of quantifiers

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The presented work represents analyses of some test characteristics of a quantifier test developed for the COST A33 initiative.

A normative sample of 48 Norwegian speaking children from 3:9 to 6:5 of age was tested with the new procedure in addition to the TROG test (Bishop, Norwegian edition, 2009) and measures of memory span.

The result yielded non significant correlation between the total score of the quantifier test and age, but significant correlations for the separate quantifiers applied in the test. Multiple regression analyses indicate that the test performance can be explained by a combination of language development and auditory memory skills.

It is therefore assumed that the different quantifiers are developed at different pace, and in particular the universal quantifiers are mastered at an earlier age. The results shares variance with the test of receptive grammar (TROG) and it is therefore also assumed that the quantifier test is also valid as a measure of language development, but further research is needed to document of the tasks included are valid as markers of language impairments.

Modern Standard Arabic as a Second Language for Its Own Speak

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Modern Standard Arabic, the language of instruction in Algeria, can be seen as disconnected, as it were, to a large extent from everyday reality of learners' needs. Some Algerian educationists are beginning to feel that it has now become somewhat urgent to look for new pedagogical approaches for instruction. As a matter of fact, Algerian children come to the formal school setting with knowledge in the mother tongue and mastery in communicative competence. This is the sound basis on which learning is usually built. But, because they are never in contact with the Standard form of Arabic in normal conversation with parents or friends, and in real-life activities within their home and out in the environment, Algerian children's experience with their oral language does not serve as a satisfactory vehicle for the learning process. Instead, this proficiency in their mother tongue seems to create confusion and difficulty for learning the connections between the various sounds of their native language and the written form of the letters presented to them at school. In the classroom, Algerian children learn to use spoken Modern Standard Arabic (MSA) but this does not usually happen without the appearance of artificiality and lack of spontaneity. Not only do they find great difficulty in putting their inherent native linguistic competence in Algerian Arabic (AA) to task but they are also not allowed to use their lexical 'stock', native basic Arabic forms and structures, because these are not identical with MSA patterns. The linguistic relatedness which exists between MSA and the colloquial does not provide helpful indications and does not contribute at all to successful reading. In spite of their familiar structure, MSA words are not easily understood because they show varying degrees of phonological and semantic differentiation.

It is common practice that the standard varieties are strongly favoured in education whereas the role of the nonstandard dialects is ignored in such and other formal contexts. A few countries in Europe have successfully dealt with the use of dialects in education in the last thirty years or so.

On the contrary, in most other countries, including almost all Western countries such as Britain and France, the Arabic-speaking world in general and Algeria in particular, such matters have yet to be addressed and resolved. Some educators are still debating as to whether dialects and nonstandard varieties should be used in education, at least for certain practical purposes, in parallel with the standard. Others do not seem to be convinced that such a mixed strategy for conducting preliminary education might be beneficial.

The aforementioned issue is of great significance to Algeria, and to other Arabic-speaking countries, because of the diglossic character, with the colloquial forms as the real mother tongue used in everyday communication and the high variety, MSA, as the language of education. For both teachers and learners, this situation can be regarded as a source of problems which have not been sufficiently and adequately addressed by the authorities for many years.

The present research examines the classroom environment of a primary school in which MSA is the only means of instruction. The results indicate that, for the most part, the components of the classroom discourse are distinctly bi dialectal and that the teachers have two fundamental suppositions that support their action and classroom construction.

The first is that a lack of exposure to MSA outside of the school is the primary cause of language problems for learners and the second is that AA does not need to be maintained or promoted in the school environment because learners are naturally exposed to their L1 in the home. The study concludes that shortcomings in training and information encourage these two assumptions to take root.

Assessing 4-year olds comprehension of the German additive particle "auch"

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Several studies show that focus particles like *only* (Paterson et al. 2003) and *also* (Hüttner et al. 2004, Bergsma 2006) are not interpreted by children in an adult-like fashion until school age. However, children produce them much earlier (Nederstigt 2003, Höhle et al. 2009). In order to account for this delay in comprehension, Paterson et al. argue that children often fail to instantiate alternative sets in the discourse model of focused entities. As a result, they treat sentences containing a particle like sentences not containing a particle. A corresponding pattern was found by Paterson et al. using a picture selection and a truth-value judgment task examining the comprehension of isolated sentences with *only.* While these particular methods also show poor performance with children's computation of scalar implicatures (SIs), Papafragou & Tantalou (2004) and Papafragou & Musolino (2003) show that children's performance on SIs is strongly task-dependent. In the present study we examine the comprehension of the German unaccented additive particle *auch (also)* in 4-year olds by adopting a method that was created by Papafragou & Tantalou. Whereas previous methods judge the appropriateness of an isolated sentence towards one (or more) visually presented scenario(s), this technique assesses children's performance without requiring children to make metalinguistic judgments. This is a more natural task, and the hypothesis is that it will strongly improve their performance. Children are told to judge whether a character has completed a task he was asked to perform. The character's statement contains the test sentence that children must interpret in a target-like fashion in order to judge correctly if the character has performed the requested action. In the present experiment the request was (1). Following the experimenter's utterance (2), children were presented with one of the lion's statements in (3). They should reward the animal under a target-like interpretation of *auch* in (3a), whereas they should not reward after statements with *nur* (*only*) (3b) and without a particle (3c). In this context, the presence of *auch* in the test sentence becomes meaningful, since it carries the crucial information for the (non-)rewarding. Additionally, the alternative (*banana*) to the focused constituent is made more salient by the sentence in (2). Preliminary results with 32 children show that children's performance is boosted by these factors: They rewarded the animal more often after test sentences with *auch* than with *nur* (96.25% vs. 9.06%, Experiment I). Similarly, they rewarded more often after test sentences with *auch* than without a particle (93.75% vs. 36.25%, Experiment II). Our results thus show that 4-year olds display a target-like interpretation of sentences containing unaccented *auch.* Therefore they are able to put the focused constituent into additive relation to an alternative that is given in the discourse. This assumption has already been made by Höhle et al, based on results of an eye-tracking experiment in the Visual World Paradigm. The results of the present study extend the validity of this assumption to children's offline interpretation of *auch*, particularly when assessment does not rely on metalinguistic demands that might mask their linguistic skills.

Appendix:

(1) Request: The child is initially told that in order to get a reward, the lion should have eaten a banana and an apple

(2) Experimenter: *Löwe, Du hast bestimmt die BANANE gegessen!*
Lion, I am sure, you have eaten the BANANA!

(3) Lion:
a) *Weißt Du was? Ich hab auch den APFEL gegessen!*
Guess what? I have also eaten the APPLE!
b) *Weißt Du was? Ich hab nur den APFEL gegessen!*
Guess what? I have only eaten the APPLE!
c) *Weißt Du was? Ich hab den APFEL gegessen!*
Guess what? I have eaten the APPLE!

Crosslinguistic Variation in Sensitivity to Word Order in Sentence Comprehension

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Some languages (e.g. English) with sparse inflections use argument ordering with respect to the verb to indicate the doer and the undergoer of an action. Other languages (e.g. Turkish) employ case markers for the same purpose. SOV is the modal word order for Turkish; however, both NP ellipsis and variant word orders are common in Turkish child-directed speech (Küntay & Slobin, 1996; Slobin, 1982). Thus, the question still remains whether learners of the latter type of language rely on word order in the absence of other cues for sentence comprehension (Slobin & Bever, 1982). Previous experiments with preschool Turkish learners (Göksun, et al., 2008; Slobin & Bever, 1982) and analyses of Turkish child-directed speech (Ural, et al., in press) showed that word order does play some role, but the accusative case marker is a stronger cue to argument relations.

We compare young English- and Turkish-learners listening to simple transitive sentences in the basic word order of their respective languages (SVO for the former and SOV for the latter), presented through an intermodal preferential looking paradigm (Hirsh-Pasek and Golinkoff, 1996). Our participants include 18-month-old children (21 English-learners and 22 Turkish-learners), 27-month-old children (32 English-learners and 44 Turkish-learners), and 36-month-old children (18 English-learners and 45 Turkish-learners)**.**

In the videos, four reversible familiar actions (pushing, washing, pulling, tickling) were performed by people dressed in horse and bird costumes. After an identification phase that introduced the animals, children heard a familiarization audio (e.g., "Oh, pushing!") and saw the horse pushing the bird on one screen. Then the same audio was repeated but children saw the bird pushing the horse on the other screen. During the third (control) trial, both videos appeared with a non-directing audio ('Look, they are on both screens). During the fourth (test) trial, both video scenes appeared with the test audio (e.g., "Look! The bird is pushing the horse!"). Children's percentage of looking to the matching screen and their number of shifts of attention, for the control vs. test trials, served as the dependent variables.

Across ages, both English-learning and Turkish-learning children looked significantly longer at the matching screen during the test trials relative to the control trials. Impressively, even the 18-month-olds in each language showed significant preferences for the matching screen, although the effect sizes were larger for the English learners than for the Turkish learners. For the 36-month-olds, only the English learners showed significant effects.

Children from both language and all age groups shifted attention more during control trials than test trials, exhibiting more targeted attention in the presence of a directing audio. However, the difference in the number of switches between control and test trials is significantly larger for Turkish than in English.

The results suggest that canonical word order is used for sentence comprehension in both languages, but to a greater extent in English than in Turkish. We speculate that children develop an awareness of the relative usefulness (or not) of the word order cue between the ages of 18 and 36 months.

Deviance or delay in SLI syntax? A study on the comprehension and production of non-canonical sentences

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Although the difficulties that children with specific language impairment (SLI) experience with syntax have been documented (Marinis and van der Lely, 2007 for English, Novogrodsky and Friedmann 2006, 2004 for Ebrew, Schuele et al. 2001, 2000 for American English, Stavrakaki 2001 for Greek) comparison of modalities between typical and atypical development has been studied to a lesser degree (Håkansson and Hansson 2000 for Swedish). Comparing data from atypical development across modalities we can observe to what extent SLI diverges from typical develpment,taking into account the strategies adopted to simplify the task of production and comprehension.

Methods: We investigated the comprehension and production/repetition of subject (SR) and object (OR) relative clauses in 4 Italian SLI children (4;5-5;9) with a main expressive language disorder and argue that a deviant pattern in the experimental group emerges in all the modalities tested. Four typically developing children were matched to the SLI children on the basis of the age (TD-I: age 4;6 to 5;5) and four TD children were matched on the basis of the expressive abilities (TD-II: age 3;7 to 3;11).

Results: The SLI children did not differ significantly in *comprehension* of SRs (92.5% correct responses) and ORs (45%) from the TD-I control group (*SR*: 87.5%; *OR*: 51%), differ significantly in *comprehension* of SRs from the TD-II control group (*SR*: 70%; *OR*: 58.7%). Moreover, in the SLI and TD-I group an asimmetry in the comprehension of SR and OR clearly emerges, while such difference is not significant in the younger control group.
Elicited production (*SR*: 10.8%; *OR*: 2.5%) and *repetition* (*SR*: 1.7%; *OR*: 3.3%) of SLI children was much poorer than that of the TD-I (production *SR*: 85%; *OR*: 61.7%; repetition *SR*: 92.5%; *OR*: 88.3%) and TD-II children (production *SR*: 86.6%; *OR*: 33.3%; repetition *SR*: 81.6%; *OR*: 80%).
A qualitative analyses of senteces procuded and repeated reveals a different pattern of errors. The strategies adopted are an insight on the grammatical competence.

Conclusions: The results of our research show a double dissociation in the acquisition of linguistic abilities by SLI and by younger TD children: while for SLI children the main problem is in production the reverse pattern seems to emerge for the younger TD children (TD-II), who have poorer comprehension and do not reveal a canonicity pattern (see table). Furthermore, qualitative analyses of the production strategies differentiates the early (TD-II) and the impaired (SLI) language development in the production of the three groups (SLI, TD-I, TD-II).
Moreover, as we believe that comprehension and production are thighly linked in syntactic computation, we propose that the impaired production/repetition in SLI children might be evidence of a deviant pattern in comprehension.
Language impaired children could resort to a linear strategy (NP1=agent) in the interpretation of subject relative clauses that explains the deviant patter observed in the SLI group in both comprehension (compared to the TD-II) and Production/repetition (compared to both TD-I and TD-II). The younger children do not resort to a simple linear strategy but instead construct the relative clause,which they already mastered in production.

	SLI	**TD-I**	**TD-II**
Comprehension	☐	☐	**X**
Production	**X**	☐	☐

☐ = canonicity pattern

An Investigation of Sociocognitive Skills in 2 and 3 Year Old German-speaking Children with Typical and Delayed Language Development

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While research on the nature of developmental language impairment has grown dramatically over the past two decades, understanding of the underlying deficits and their relations to profiles of language impairment remains limited. Historically, research has primarily focussed on the acquisition of forms and structures of language whereas much less attention has been given to sociocognitive skills that are important for engagement with language and discovery of meaning (Chiat, 2001). Recent research has shown that a range of sociocognitive skills are strongly associated with concurrent early language and communication abilities and predict later language skills in typically developing children and children with autistic spectrum disorder (Bates et al., 1979; Carpenter et al., 1998; Sigman & Ruskin, 1999; Toth et al., 2006). However, there has been little exploration of relations between sociocognitive skills and language in children who have specific language deficits.

The main aim of this study was to explore whether, and to what extent, performance on a range of sociocognitive assessments differed between groups of young typically developing and language delayed children. The study further sought to determine whether performance on these assessments related to specific language abilities within the clinical groups.

Participants were 44 German-speaking children who were divided into four groups distinguished by language status (typically developing and language delayed) and age (two-year-olds and three-year-olds). They were assessed on a battery of tasks measuring social responsiveness, joint attention and symbolic comprehension designed by Chiat and Roy (2008) as well as novel tasks of gesture imitation and emulation of action on objects. Scores for the single measures and a composite score were derived. In addition, the language delayed groups were assessed on standardised tests measuring children's stage of development at different levels of language.

Results revealed sociocognitive deficits in the language delayed children at both ages. Their scores were significantly below the scores of their typically developing peers on almost all measures; scores of the three-year-old language delayed group were even below those of the year-younger typically developing group on some single measures as well as on the composite score. Qualitative analyses pointed to interesting associations between profiles of sociocognitive skills and language. The implications of these results for relations between sociocognitive skills and language acquisition will be discussed. In addition cross-cultural clinical applications and implications will be debated, since these largely nonverbal measures are especially well suited for use with young children across different linguistic cultures.

The poster will conclude by outlining a new project that is looking in depth at children's nonverbal and verbal imitation skills as potential indicators of specific language impairment and their relation to language profiles. The study builds on results of this investigation and draws on research highlighting relations between imitation and language and the potential role of mirror neurons (Rogers & Williams, 2006).

Multilingualism and language learning: A study of Portuguese immigrant children growing up in a multilingual society

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Working memory is suggested to play a crucial role in children's native and foreign language acquisition. The major aim of the present study was to explore how growing up with an immigrant background might affect children's linguistic and working memory abilities.

Twenty 7-year old Portuguese children from Luxembourg, who speak Portuguese at home and acquire Luxembourgish in a natural setting and German through scholastic instruction, participated in the study. Children completed several measures of verbal short-term memory (digit recall and nonword repetition) and complex working memory span tasks (counting recall and backwards digit recall) in Luxembourgish and in Portuguese. Participants were further assessed on vocabulary measures in Portuguese, Luxembourgish, and German, and on syntactic comprehension in Luxembourgish and German. The Portuguese children were compared to three groups of monolingual speakers: 20 Luxembourgish children living in Luxembourg and 40 Portuguese speaking children growing up in Brazil. The Brazilian children were recruited from families of high and low socio-economical status (SES) with 20 children in each group. Participants in the Luxembourgish sample were of high SES and the Portuguese children were of lower SES. Groups were matched on age, nonverbal ability, and gender.

The results showed that in the Portuguese immigrant children, language competences in Portuguese, Luxembourgish, and German were at an equivalent level that fell below the linguistic competence of native speakers from Brazil and from Luxembourg. For the working memory measures the data showed first that the Portuguese children performed equally well in the Luxembourgish and Portuguese versions of the digit recall, backwards digit recall, and counting recall tasks, and second that the Portuguese children's performance in these three measures did not differ from their monolingual peers from Luxembourg and Brazil. For nonword repetition the results showed that the Portuguese children performed equally well to their Brazilian counterparts in the repetition of the Portuguese sounding nonwords whereas their performance in the repetition of the Luxembourgish nonwords was below that of the native Luxembourgish speakers. This latter finding is consistent with the position that verbal short-term memory performance is better for familiar rather than unfamiliar lexical material.

Despite normal general cognitive functions, as documented by the working memory measures, immigrant children showed significantly reduced language performance that can not be easily explained by differences in wealth or other socio economic factors. Instead, the findings appear to be a direct consequence of growing up as an immigrant in a multilingual society raising the question of the necessity of specific language support for immigrant children growing up in a multilingual society.

The results also have important practical utility: Whereas language assessments based on measurements of vocabulary may overestimate language learning difficulties in children with an immigrant background working memory measures might not. As working memory measures are highly associated with children's language learning and more general academic progress, these tests can provide methods of identifying children with potential learning difficulties that are unlikely to be distorted by differences in wealth or other significant environmental factors that have an impact on language learning opportunities.

Children's Acquisition of Different Types of Quantification

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The use of quantifiers in natural language, like universal *all* existential *some* or negation by *not*, combines general cognitive skills (specifically mathematical ones) with linguistic skills. The question is how the two are integrated to generate the truth conditions of the sentence. The use of numeric expressions in natural language, like *two / five*, has been shown to consist of a linguistic component (Musolino, 2004), although they naturally depends on mathematical abilities (like familiarity with the counting principles of Gelman & Gallistel, 1978),

In computing truth conditions for a given sentence, the speaker has to evaluate whether the main predicate is applied to the entities of the sentence in a given model. If these entities consist of a quantified expression, the value of the quantifier has to be computed first. In this study, we show that there is a difference between 'mathematical' quantifiers, which quantify over sets (like *all* / *some*) and a logical quantifier like negation, which is semantic in the sense that it quantifies over propositions or predicates (*not all* and *some*-DP *not*). The difference we found is that children master mathematical quantification before they do linguistic quantification.

In the experiment we presented children with a picture and a sentence, and asked them whether the sentence correctly depicted the picture; thus, the truth value assigned to a sentence was evaluated relative to a specific model. Both true and false values were evaluated, so the measure was percent of correct responses. We used the design employed by COST ACTION A33 WG5 (Katsos et al. in preparation) which tests for the comprehension of quantified statements in situations where they are either true or false (it also tests situations where the statements are under-informative, but these data are not discussed in the present study). Specifically, two parameters were evaluated separately: (a) partiality (universal / partial quantification) and (b) polarity (positive / negative); these are expressed through the Hebrew quantifiers *kol/ xelek* and *lo kol/ xelek me*-DP *lo*. 61 Hebrew-speaking children aged 4-7 were tested, and the results compare three age groups 4;0-4;11, 5;0-5;11, and 6;0-6;11.

With regard to partiality, we show that partial quantification is mastered later than universal. This is based on the observation that children in the youngest group (below 5) have higher rates of correct responses for universal quantifiers (90% correct) than partial ones (73%). The rates of correct answers improve for both older groups (91% for *some* and 99% for *all*). In other words, the mathematical skill of computing part of a set condition seems to develop later than whole set depiction. With regard to polarity, we show that negation of both types of quantification is mastered even later than partiality. This is based on the observation that the middle group (age 5 to 6) has similar correct response rates to the younger group (64% for both quantifiers); only the older group (over 6) shows improvement in the ratings of negative examples (91% for both quantifiers). This difference indicates that the negation operation requires certain linguistic skills, which develop later than mathematical quantification. In other words, sentences with both types of quantifiers received lower correct response rates by children below the age of 6 because they require the use of two separate skills (linguistic and mathematical), and the linguistic quantification develops only at a later age**.**

Tackling under referral of bilingual children with speech-sound disorders: What does the literature tell us about speech development in bilingual populations?

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Introduction: In the UK 15.2% of children in primary schools speak another language than English at home. Many of these children will have been exposed to two or more languages from a young age. This has implications for the identification and treatment of speech and language impairments as many of the assessment tools used to identify impairments have been developed and tested on monolingual populations. There is evidence for under diagnosis of speech-sound disorders in bilingual populations.

Methods: A literature review has been conducted to investigate how speech development is effected when children, who are typically developing or impaired, are exposed to more than one language in their early years.

Seven electronic databases were searched using the following terms: phon*, speech, sound*, articul*; acqui*, develop*; second, two, dual, another, other; language*; bilingu*; communicati*, impairment*, delay*, disorder*, therap*. Retrieved articles' bibliographies were also searched.

Results: 38 studies were found to meet the following inclusion criteria and were content analysed: (i) empirical study; (ii) peer reviewed; (iii) published in English; (iv) one language is English; (v) aspect of phonology production investigated, such as phoneme repertoires and developmental speech processes; (vi) participants are children (<16yrs). Most frequent language populations studied were Spanish-English, French-English (Canadian) and Pakistani-English (Urdu, Mirpuri, Punjabi). 20 studies used an exploratory case study approach; 4 studies used an experimental design to investigate differences in speech production between bilingual populations and typically developing monolingual populations and 14 studies investigated speech production in bilingual populations and made comparisons to developmental norms. All assessed phoneme repertoires, developmental processes and articulation errors between the ages of 2 and 7 years (for typically developing children). 12 studies investigated speech production in children with speech or language impairments.

Conclusions: Interpretation of many of the studies' findings was often difficult due to methodological limitations. However, the following conclusions can be drawn: (i) speech development in bilinguals is qualitatively different from monolinguals with bilinguals presenting different developmental processes and acquiring sounds at different rates in comparison to their monolingual peers; (ii) differences are language specific; (iii) there is a large individual variation in development of sounds and error patterns, but there is also some commonality within specific bilingual language populations. Areas for research and practice to improve identification and treatment of phonological disorders will be discussed in the light of these findings.

Lexical Access in Cypriot Greek SLI

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Lahey & Edwards (1996, 1999) show that children with specific language impairment (SLI) and/or word-finding difficulties (WFDs) are less accurate at naming pictures of nouns than age-matched peers with typical language development (TLD). It is suggested that these lexical difficulties are related to a breakdown at the level of the phonological word form: children with SLI/WFD are unable to process this information successfully to retrieve the target word (Bishop 1997, Edwards & Lahey 1998). However, no picture-naming study involving children with SLI has investigated the category of verbs.

Nouns and verbs are highly variable in meaning, referring to objects and denoting states/ events, respectively. Since verb processing requires an understanding of relational concepts (nouns are often non-relational requiring single-object reference), they appear semantically more complex. Furthermore, a verb's central meaning is linked to two kinds of information, thematic role assignment and argument structure. The same verb often has multiple meanings when accompanied by different nouns, making its underlying meaning less transparent. Beyond reporting whether Cypriot Greek-speaking children with SLI/WFDs are less accurate than age-matched peers on naming, the aims of this study are to:

1. look for any grammatical word class effects in SLI and WFD naming performances;
2. examine naming errors considering psycholinguistic models of word processing;
3. determine whether error types differentiate children with SLI and WFDs from peers;
4. determine effects of lexical/psycholinguistic variables on naming accuracies;
5. compare quantitative/qualitative differences between bilingual and monolingual SLI.

Four groups participated: (i) 10 monolingual children diagnosed with SLI, (ii) 13 monolingual children with WFD, (iii) 30 six-year-old monolingual children with TLD, and (iv) 5 bilingual children with SLI. Inclusion criteria included no history of neurological, emotional or behavioural problems, hearing and vision adequate for test purposes, normal performance on screening measures of non-verbal intelligence or as reported by school psychologist, normal articulation, and no gross motor difficulties.

The Greek Object and Action Test (Kambanaros 2003) designed to assess noun- and verb-access/retrieval was used. The subtests contained 42 items each, stimuli were concrete inanimate object nouns and action verbs depicted by coloured photographs, such as (1) and (2). On the comprehension task, children were asked to point to the correct photograph from a set comprising the target object/action and two semantic distractors for each. For production, children were asked to name the object/action in one word. The results of the four subtests revealed no significant differences in comprehension between the 4 groups. Action names were significantly more difficult to retrieve than object names for TD and WFD children but not for children with SLI, who found both word types equally difficult. The results of simultaneous multiple regression analyses for the errors in naming compared to the psycholinguistic variables showed that age-of-acquisition, word imageability, and picture complexity (but not frequency or syllable length) affected picture naming performances for all groups. The error analysis further indicated that object and actions elicited different error types in all four groups of children and will be discussed in relation to (adult) models of lexical processing.

The Optional Infinitive stage in a cross-linguistic connectionist model of the acquisition of morphology

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It is well-established that children learning English often fail to provide grammatical morphemes in contexts in which they are obligatory (Brown, 1973). For example, they may produce utterances such as "*He walk home*" or "*Yesterday John eat an apple*". This type of error, often referred to as *zero-marking*, has been explained under the Optional Infinitive (OI) account (e.g., Wexler, 1994). This account proposes that the grammatical features of Tense and Agreement are under-specified or missing in the early stages of development. The OI account is also applicable cross-linguistically. It addresses developmental errorpatterns in languages which, unlike english, do not present infinitives which are zeromarked forms. For example, in Modern Greek (MG), a language which does not employ infinitival forms, the third singular forms are often used in non third singular contexts (e.g., Stephany, 1997). Furthermore, the Extended Optional Infinitive (EOI) account of Specific Language Impairment (Rice et al., 1995) has been put forward to explain morphological deficits in the disorder. The EOI account suggests that the Optional Infinitive stage is protracted in SLI.

Connectionist or neural network models have proposed an explanation for the acquisition of English morphology that is based on the statistical properties of the input and the general learning principles of parallel distributed processing rather than the consideration of specific grammatical features or rules. Although connectionist models of morphological development capture a wide range of empirical phenomena, they produce zero-marking errors in remarkably low rates. This constitutes a serious point of criticism, especially since other non-connectionist computational models (e.g., MOSAIC, Freudenthal et al., 2005) are able to address the OI phenomenon in detail.

We present a connectionist model which demonstrates an improvement in addressing performance and error patterns in the acquisition of inflectional morphology. The Multiple Inflection Generator (MIG) combines features of several previous models (e.g., Hoeffner & McClelland, 1993; Joanisse & Seidenberg, 1999; Plunkett & Juola, 1999; Rumelhart & McClelland, 1986). It implements a generalised inflectional system, which considers multiple grammatical classes (nouns, verbs, and adjectives) and multiple inflections for each grammatical class (e.g., verbs: stem, 3rd singular, past-tense, progressive). Additionally, the model considers training under various sub-optimal initial computational constraints. Finally, a version of the model tests its cross-linguistic flexibility, using the same architecture for learning the complex morphology of MG.

MIG simulates a wide range of phenomena reported in empirical studies of morphological development in English and Greek. In addition, MIG reproduces zeromarking errors in high rates, capturing the OI stage in English. Zero-marking errors are a result of the 'prototype effect' of stem forms present in the training set. In the MG version of the model, the OI stage is simulated by the production of third singular forms in inappropriate contexts, in accordance with empirical studies on the acquisition of Greek (Stephany, 1997; Varlokosta et al., 1998; Clahsen & Dalalakis, 1999). Finally, for both languages, the OI stage can be extended by training under sub-optimal initial computational constraints.

Bilingual language development: a comparison of morphosyntactic and semantic-pragmatic competence

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We present a pilot study which investigates the linguistic competence of Polish-English bilingual children with regard to semantics, pragmatics and morphosyntax. Specifically, we investigate whether competence in aspects of language that are dependent on universal principles of logic and conversation is at comparable levels in both languages spoken by bilingual children. This is contrasted with competence in language-specific morphosyntax which is known from the literature to differ between the languages spoken by bilingual children, depending on the specific grammar of the languages that are being acquired and on the dominant or non-dominant status of each language in bilingual development (Genesee et al, 2004; Bittner et al, 2003).

With regards to semantics and pragmatics, there is already evidence from a large scale crosslinguistic investigation funded by COST Action A33 (http://www.zas.gwzberlin. de/cost/) that monolingual children develop certain aspects of semantic and pragmatic competence in a crosslinguistically similar fashion (Katsos et al, 2009). This pattern has important implications for bilingualism. We predict that the development of semantic and pragmatic skills which are crosslinguistically similar will be at comparable levels in both languages spoken by a bilingual child, as competence will be much less affected by the specific grammar of each language and the extent of language dominance compared to morphosyntactic skills.

A group of 11 Polish and English-speaking children (4.5 to 6 year old) was administered a standardised assessment tool for assessing morphosyntactic competence in English (the Test for the Reception of Grammar – TROG-2; Bishop, 2003) and its Polish translation – Smoczynska, 2008). They were also administered the Comprehension of Quantification task designed by Katsos and colleagues as part of the COST Action A33 in both Polish and English. The order of presentation of task and language was counterbalanced.

The Polish-English bilinguals have been living in the UK for at least a year, their parents were both Polish and spoke to them in Polish at home. The findings confirm the prediction outlined above. The semantic and pragmatic skills measured by Comprehension of Quantification task (CQ) seem to bypass the effects of language more than the morphosyntic skills measured by TROG. The correlation between English and Polish CQ was significant $r(9) = 0{,}878$, $p<0{,}001$; at the same time there is no significant difference between the means of CQ in both versions. However the correlation between English and Polish TROG was not significant $r(9) = 0{,}519$, $p<0{,}102$; There was a significant difference between the mean number of blocks passed, measured by two tailed t test ($t=2{,}32$; $df=10$; $p<0{,}05$) and a tendency for difference in number of errors ($t=-2{,}11$; $df=10$; $p=0{,}062$) and the tendency for the difference between the overall mean score of correct answers ($t=1{,}94$; $df=10$; $p=0{,}081$). The results were lower for the English version of TROG than for the Polish one. Further investigation might demonstrate that semantic and pragmatic competence is the appropriate area to target with regard to developing a language assessment tool that will disentangle the effect of bilingualism and language dominance from the effects of any language impairment.

Do children compute some or most scalar implicatures? Evidence from German

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This study investigated the interpretation of the scalar implicatures of *some (not)* and *most (not)* in German-speaking children and adults. These implicatures arise when speakers and hearers adher to the first maxim of quantity (Grice, 1989). Thus, *some* and *most* in (i) may be understood as implicating ‚not all'. Similarly, the negated scalar quantifiers in (ii) may be understood as ‚some'.

(i) Einige/die meisten Äpfel sind in der Kiste. ☐ Not all of the apples are in the box
‚Some/most of the apples are in the box.'

(ii) Einige/die meistenÄpfel sind nicht in der Kiste. ☐ Some of the apples are in the box
‚Some/most of the apples are not in the box.'

Previous studies showed that children up to age 11 do not compute these conversational implicatures as often as adults do. Using a sentence evaluation task, Noveck (2001) reported that children accepted statements like *Some giraffes have long necks* in 89% of the cases, favouring a logical interpretation of the quantifier *some*, compared to 41% for the adults. Recent studies indicate that the extent to which children and even adults derive scalar implicatures varies depending on the task (Guasti et al., 2005; Pouscoulous et al., 2007). To date, studies have concentrated on the scalar implicature triggered by *some* and have not systematically contrasted positive and negated statements. Moreover, implicature acquisition in German has not been studied in detail.

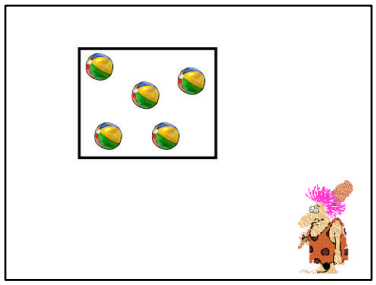
We developed a sentence evaluation task including the quantifiers *einige* ‚some', *die meisten* ‚most', and their negated counterparts. The following questions were asked: (Q1) Do German-speaking children derive fewer scalar implicatures than adults? (Q2) Is it more difficult to derive scalar implicatures for *most* than for *some*? (Q3) Is it more difficult to derive scalar implicatures for the negated quantifer counterparts? 20 German-speaking children (age range: 4;9 – 5;9; mean=5;3) and 20 adults were tested. After an introduction each subject saw 38 pictures and heard pre-recorded statements such as (i) and (ii). The pictures varied wrt the distribution of objects: Test conditions 1 and 2 (cf. Pictures 1, 2) probed whether subjects compute the scalar implicatures of structures like (i) and (ii), which should lead to a rejection of these underinformative statements. Control conditions 3 and 4 (cf. Pictures 3, 4) tested whether subjects master the semantic meaning of the scalar quantifiers: Performance of children and adults was at ceiling (93% to 100%).

Results are displayed in Fig. 1. In contexts P1 & P2, children derived significantly fewer implicatures than adults (20% vs. 56%, $p<0.01$), confirming (Q1). There was no difference between the proportions of scalar implicatures for *some* and *most*, negating (Q2). Responses to the negated und the unnegated scalar quantifiers in underinformative structures (P1 & P2) did not differ significantly in both children and adults, negating (Q3).

The present results support the view that children and adults differ in the extent to which they derive scalar implicatures and that this pattern is not limited to the scalar quantifier *some* but is found with *most* as well.

A. Test pictures: Scalar implicatures

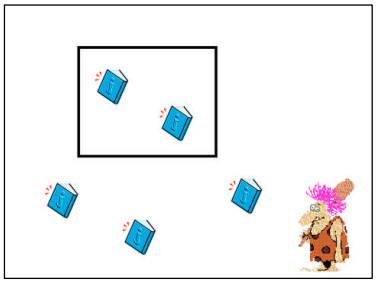
(P1) Picture: all items in box



(P2) Picture: no items in box

B. Control pictures: Semantic quantifier understanding

(P3) Picture: some items in box



(P4) Picture: most items in box

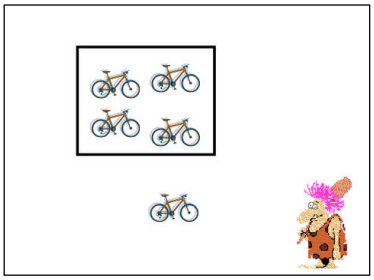


Fig.1 Percentage of conversational implicatures by subject group and condition

The acquisition of 'short passive' by Finnish and Estonian 4–5 year old children

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The acquisition of Finnish and Estonian voice constructions (actives, passives and impersonals) has not been studied in detail yet. As members of the Finno-Ugric language group, Finnish and Estonian have similar voice constructions (see Viitso 1998). The Finnish passive (e.g. *isoäitiä halataan* [grandmother-PART hug-PASS] 'the grandmother is being hugged') and the Estonian impersonal (e.g. *vanaema kallistatakse* [grandmother.PART hug-IMPERS] 'the grandmother is being hugged') functionally correspond to English agentless passives and are also comparable with data from other languages. While English allows the use of the agentive phrase in the passive, Finnish does not (Hakulinen et al. 2004). The use of agentive phrase in Estonian impersonals is infrequent and usually follows certain restrictions (see Torn 2006). In language acquisition research, it is important to determine the acquisition path that normally developing children follow when they learn to understand the passive, so that it could be determined whether Finnish and Estonian children with specific language impairment (SLI) exhibit special difficulties in comprehending the passive constructions of their respective languages.

The present study is part of a larger cross-linguistic investigation. It will present some developmental data gathered from normally developing Finnish and Estonian children at the age of 4–5. The aim of the study is to map the development of comprehension of the active and passive in both languages. A Powerpoint pre-recorded picture selection task with four pictures for comprehension of active and passive constructions was presented to 24 children. The test included 11 verbs.

Analysis of the data revealed that both Finnish and Estonian five-year-olds did not have any problems with the comprehension of the passive. Their performance was close to the ceiling level. Four-year-olds, however, demonstrated some difficulties in the comprehension of the passive. These results suggest that Finnish and Estonian children understand 'short passive' constructions well already at the age of five.

Investigation of optional infinitives in children with autism spectrum disorders

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Up to 3;6 years of age, typically developing (TD) children make mistake in using infinitive form of verbs in matrix clauses, a phenomenon called the Optional Infinitive (OI) stage (Wexler 1994). Children with specific language impairment (SLI), with normal nonverbal IQs, are significantly delayed in their mastery of finiteness relative to language controls, a delay termed the Extended Optional Infinitive stage (EOI) (Rice et al 1996). Roberts, Rice and Tager-Flusberg (2004) show that children with autism also show EOI in omitting present and past tense inflections more than SLI children, indicating that EOI may serve as a clinical marker for autism.

The present study aims to refine work by Roberts et al (2004) by individually matching ASD probands to TD children, allowing for comparison of probands' production of finiteness to that of TD children functioning at similar language and mental age levels.

All our participants were clinically diagnosed and included 10 children with autism (mean age: 11;2), 12 children with PDD-NOS (mean age: 8;6), and 6 children with Asperger syndrome (mean age: 14;11). All completed Test for Early Grammatical Impairment (TEGI, Rice and Wexler, 2001), and standardized measures of non-verbal reasoning (KBIT), vocabulary (PPVT), and grammar (TROG). Probands were individually matched to TD controls on the raw score of each standardized test, and then were divided into groups based on PPVT standard scores (as in Roberts et al) and on PPVT raw scores. The mean ages for TD matches for both baseline groups were 5 years, low groups' matches 5-6 years, and normal groups' matches 10-12 years.

Results are shown in tables 1-3. Repeated measures ANOVA showed no significant differences among present, regular past and irregular past tense performance within groups, and there was no interaction by either grouping. TD controls showed at least 80% performance. In both PPVT SS and PPVT Raw grouping, pairwise comparisons showed that 'baseline' group's performance on TEGI is significantly worse from all its TD controls except for the TROG matches. In PPVT SS grouping, the baseline group performed significantly different from the normal and from the low ASD groups only, whereas in PPVT raw grouping the difference between the baseline and the low groups was approaching significance for present tense, and both the baseline and the low group differed significantly from the normal group.

We conclude that absolute measures of vocabulary are better predictor of rates of finiteness in children with ASD. Grouping participants by PPVT SS produces no differences between the low SS and the normal SS groups in performance on TEGI, confounding children performing well and children showing partial knowledge, however grouping participants by PPVT Raw score results in distinct performance groups. Additionally, we conclude that finiteness is delayed in low-scoring ASD children over and above what would be predicted by their vocabulary levels, indicating that autism is a risk factor for impairment of finiteness. Such a profound conclusion could not have been reached without directly matching ASD probands to TD controls. Comparison of ASD and SLI performance will be discussed.

Table 1. Performance in Groups binned by Clinical Diagnosis and their controls

Group (age)	Present correct	Past regular correct	Past irregular correct	Past over-regular rate
AUTISM (11;3)	**37.58%**	**56.00%**	**61.15%**	**13.75%**
AUT KBIT (5;5)	85.00%	88.00%	83.75%	19.84%
AUT PPVT (5;1)	90.00%	96.00%	87.05%	20.84%
AUT TROG (4;5)	85.00%	84.50%	70.95%	23.86%
ASPERGER (14;11)	**98.33%**	**100.00%**	**100.00%**	**1.85%**
ASP KBIT (12;7)	100.00%	98.33%	100.00%	1.85%
ASP PPVT (15;2)	100.00%	100.00%	100.00%	4.00%
ASP TROG (12;6)	100.00%	96.00%	100.00%	7.69%
PDD-NOS (9;00)	**80.55%**	**84.55%**	**78.51%**	**17.33%**
PDD KBIT (7;6)	98.75%	94.38%	82.50%	20.60%
PDD PPVT (6;9)	95.00%	97.00%	93.75%	18.62%
PDD TROG (6;00)	100.00%	96.67%	98.96%	22.67%

Table 2. Performance in Groups binned by PPVT SS and their controls.

	PPVT SS	Present correct	Past regular correct	Past irregular correct	Past over-regular rate
baseline (12;9)	**40-58**	**27.62**	**40.48**	**52.98**	**11.59**
base-kbit (5;3)		85.71	85.71	82.14	20.73
base-ppvt (5;1)		85.71	94.29	81.50	18.67
base-trog (4;6)		78.57	82.14	62.07	23.83
low (8;8)	**71-87**	**78.85**	**92.56**	**81.84**	**17.64**
low-kbit (6;00)		92.50	91.88	77.81	20.45
low-ppvt (5;1)		93.75	97.50	95.31	27.09
low-trog (4;10)		100.00	93.33	98.61	28.81
normal (11;10)	**97-133**	**85.79**	**88.18**	**87.19**	**9.73**
norm-kbit (11;8)		100.00	98.89	100.00	7.30
norm-ppvt (11;9)		100.00	99.00	97.50	6.73
norm-trog (9;5)		100.00	97.27	97.73	11.17

Table 3. Performance in Groups binned by PPVT raw score and their controls

	PPVT raw score (with SS)	Present correct	Past regular correct	Past irregular correct	Past over-regular rate
baseline (10;7)	49-70 (SS of 40-58)	**30.48**	**52.72**	**59.05**	**15.93**
base-kbit (5;6)		94.29	80.71	74.57	19.71
base-ppvt (4;5)		78.57	94.29	76.14	20.80
base-trog (4;4)		85.71	80.00	76.79	22.63
low (9;4)	78-97 (SS of 56-103)	**71.46**	**72.55**	**66.53**	**12.97**
low-kbit (5;11)		87.78	97.78	87.50	22.00
low-ppvt (5;6)		100.00	97.00	97.50	24.90
low-trog (4;8)		95.00	95.50	87.20	29.38
normal (12;11)	113-192 (SS of 82-133)	**91.31**	**98.18**	**97.73**	**10.48**
norm-kbit (12;4)		98.75	97.50	98.50	4.80
norm-ppvt (13;4)		100.00	100.00	100.00	2.50
norm-trog (10;1)		100.00	97.00	98.75	9.68

Comprehension of scalar implicatures in five year-old Dutch-speaking children

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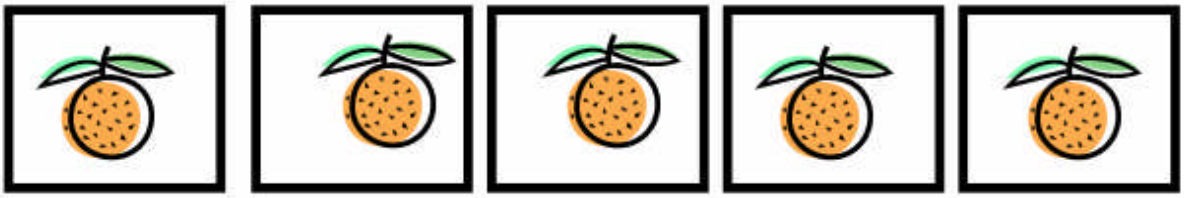
Much developmental work has been devoted to scalar implicatures. These are implicitly communicated propositions linked to weak terms on a scale of informativity. For example, when a speaker says *Some oranges are in the boxes*, the hearer is entitled to infer pragmatically that *not all of the oranges are in the boxes*. The general consensus is that the weaker term (the quantifier *some*), while logically compatible with a stronger term from the same scale (the quantifier *all*), prompts the inference because the speaker did not *use* the stronger term. The description is underinformative. In comprehension, children are more likely than adults to treat the weak term as compatible with one that is stronger on the scale (Pouscoulous et al, 2007).

Our goal is to contribute to the research conducted within the COST A33-framework (*Crosslinguistically Robust Stages of Children's Linguistic Performance, with Applications to the Diagnosis of Specific Language Impairment*) by providing an analysis of the comprehension of scalar implicatures with the quantifiers *sommige* (some) and *meeste* (most) in 5;0-5;6 year old Dutch children. Our research question is: why do some children seem to draw implicatures, while others seem not to? We hypothesize that children who fully master the use of a quantifier, draw implicatures more often.

In this study, 25 children (age 5;0-5;6), all native Dutch speakers, are tested using a Truth-Value Judgment Task. In this task, Mrs. Caveman asks the child to help her improve her Dutch. She makes a statement about a picture, and the child has to say whether the statement is true or false. Also, the child is asked to explain why he or she rejects the statement. An example is given below:

Statement: *Sommige sinaasappels liggen in de dozen (Some oranges are in the boxes.)*



In this example, *true* would reflect the logical answer, and *false* would reflect the pragmatic answer, suggesting that child can draw the implicature.

The data was analyzed quantitatively as well as qualitatively. Children who scored badly on the *alle* (all) and *geen* (none) control items (< 10/12) were excluded. The remaining children (N=20) were used for the actual analyses. We divided the children in two groups, based on their scores on the relevant control items. No significant differences were found between the groups in the test condition for both quantifiers, suggesting that the comprehension of the quantifiers does not predict whether an individual draws an implicature. Furthermore, we found several cases in which children draw an implicature, but do not reject the statement. Whenever these occurred, they were marked by the researchers, but because of the experimental design, these were not elicited systematically. Statistical analysis suggests that if we take these instances into account, the data tends to be significantly different, suggesting that meta-linguistic judgment may play a role. Nevertheless, with this limited data set, no differences were found between the groups after accounting for meta-linguistic judgment.

The role of verbal morphology for L2 acquisition of Greek argument structure

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The present study examines the role that verbal morphology (i.e. active vs non-active) plays for the interpretation of the (underlying) argument structure. In Greek and Arabic verbal morphology and transitivity alternations do not manifest one-to-one correspondence in Greek. Hence, verbs with active morphology can be interpreted as either active or anticausative/inchoative, while non-active morphology is employed for passives, reflexives, or anticausative/inchoative interpretation (Alexiadou & Anagnostopoulou 2007, Tsimpli 2005 among others). Here we focus on the L2 development of anticausatives realized by active (1a) and non-active morphology (1b).

(1) a. i porta **anikse** (*me/apo ton aera*) (*Anticausative*)
the door-nom opened-**act** (with/from the wind)
"The door opened by the wind "
b. to hirografo **katastrafike** (*me/apo ti fotia*) (*Anticausative*)
the manuscript-nom destroyed-**Nact** with/from the fire
"The manuscript was destroyed by the strong fire"
c. to hirografo **katastrafike** (*apo to Jani*) (*Passive*)
the manuscript destroyed-**Nact** from the John
"The manuscript was destroyed by John"

In a picture verification task, we tested the role that verbal morphology plays for interpreting (1a) and (1b) providing the relevant context, but crucially without the respective PP. Our subjects were 14 native speakers of (Levantine) Arabic, tested on 11 different conditions of non-active anticausative (and reflexive/reciprocal) verbs and 3 conditions of active anticausatives. Of the non-active verbs, 4 had anticausative interpretation, 2 were ambiguous between anticausative and reflexive (the rest 5 were reflexive/reciprocal). L2 learners were matched with native speakers of Greek for age and formal education (all university students).

According to the results, Arabic speakers gave various degrees of passive interpretation to all sentences with non-active morphology, and various degrees of active interpretation to the anticausatives with active morphology. In particular, the L2 learners of our study perceived non-active anticausatives (1b) as passives up to a rate of 64% (average 31%). Given that in Arabic the verbal morphology employs a distinct morpheme (*in-*) for passives but also a different one (*t-*) for passives, reflexives and anti-causatives/inchoatives the results seem quite surprising. Moreover, Arabic speakers gave 'active' interpretation to anticausatives with active morphology (1a) up to a rate of 86% (average 36%). Our results corroborate previous findings on monolingual Greek and bilingual Greek-Turkish children (Tsimpli 2005).

In a nutshell, L2 learners of Greek tend to analyze verbs based primarily on verbal morphology and secondarily on the underlying argument structure. This can be explained within syntactic proposals which claim that Voice morphology in anticausatives is special, not interpreted as signifying the presence of an implicit external argument, but rather as an intransitive or passive. Thus all anticausatives, regardless of their morphological appearance, involve an implicit cause layer that licenses causer prepositional phrases (1a, b), while passives only license agent Prepositional phrases (1c) (Alexiadou, Anagnostopoulou & Schäfer (2006), and Alexiadou & Anagnostopoulou (2004)). Crucially, as our results show, the absence of the prepositional phrase (causer or agent) in examples like (1) leads L2 learners to rely on Voice itself for the semantic interpretation of the argument structure.

Grammatical morphology in Serbian-speaking young adults with Down syndrome

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Grammatical impairments have been extensively documented in individuals with Down syndrome (DS). Studies have revealed deficits in the domain of complex syntax (Perovic, 2002; 2008; Ring & Clahsen, 2005), as well as morphosyntax in both children and adults with this disorder (e.g. Laws & Bishop, 2003). In English, difficulties with morphosyntax are usually observed in the omission and inconsistent use of articles, prepositions, pronouns, and grammatical morphemes marking finiteness on verbs.

This study is the first attempt at establishing whether there is an observable impairment in grammatical morphology in adult Serbian speakers with DS and if so, how it manifests itself. Serbian is a highly inflected language where nouns and their modifiers are marked for case, number and gender; tensed verbs agree with subjects in number and person, while participles also agree with the subject in gender.

So far, we have recruited 4 young adults with DS (mean IQ=61, mean CA=22 years, MLU in words=5.13), individually matched to typically developing controls on MLU (mean CA=4;1 years). Spontaneous speech samples were elicited via the wordless story book "Frog, where are you?" (Mayer, 1969).

The patterns that emerged in our sample reveal a particular deficiency in the domain of morphosyntax in Serbian speakers with DS which cannot be accounted for in terms of a simple language delay. The most striking difficulties were observed in the use of nominal inflection, where the participants with DS chose incongruous gender or number marking on nouns and determiners 32% of the time:

(1) ovaj kuce
this-sg-Masc puppy-sg-Neut
this puppy

(2) neki rupu
some-sg-Masc hole-sg-Fem
some hole

Auxiliary and copular verbs were omitted 33% and 26% of the time, respectively, while an error rate of 22% was observed in the selection of appropriate prepositions: e.g. where the verb selects a preposition + noun marked for locative case, our participants tended to use preposition + noun marked for accusative case. A smaller percentage of errors (around or less than 6%) were made with morphemes marking subject-verb agreement (mismatch in number or gender between the subject and the verb), incorrect case on subjects or objects, incorrect case within a PP, in addition to preposition omission. Interestingly, errors of tense marking were extremely rare, in contrast to reports for English-speaking individuals with DS.

Typically developing 4 year olds in the matched control group also had a large rate of auxiliary and copula omission (12% for both), but had little or no difficulty with all other categories (3.5% error rate or less), with all differences statistically significant.

The observed deficiencies will be discussed with regard to the distinction between 'inherent' vs. 'contextual' inflection (Booij, 1996): it can be argued that our participants had less trouble with inherent, or interpretable, inflectional markers (those not crucially required by syntactic context but of syntactic relevance): number in nouns, tense/aspect in verbs. Their problems were confined to contextual, noninterpretable inflectional morphemes – dictated by syntax, but not crucially required for interpretation: agreement markers on determiners, verbs, and structural case markers on nouns.

The effects of linguistic factors on children's repetition beyond the word level: A study in English and Czech

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Repetition of words, non-words and sentences has demonstrated high levels of sensitivity in differentiating children with language impairment from their typically developing peers (Bishop et al., 1996; Conti-Ramsden et al., 2001; Gathercole, 2006; Everitt, 2009). Children's ability to copy verbal material has been found to be related to their language abilities (Weismer et al., 2000) and children who have language disorders have difficulty with this task (Graf Estes et al., 2007). Given that repetition tasks are easy and quick to administer, and have the potential to discriminate between language impaired and unimpaired children, it is desirable to know what kind of knowledge and capacities the tasks reflect, and which of those are language-general vs. language-specific. This study sets out to investigate how linguistic factors (syntactic, semantic, lexical and prosodic) influence young children's span for verbal material by using an immediate repetition task with systematically varied linguistic stimuli. Performance in two typologically different languages, English and Czech, is compared. The languages are set apart especially by devices marking syntactic relations – morphosyntactic properties.

In most studies investigating the effects of linguistic factors on memory, items are presented in a list, and the focus is on properties of these items such as imageability, lexical status or word-likeness; investigation beyond the word level is rare. The present study compares performance on sequences of items which are manipulated regarding syntactic, semantic, and prosodic properties on a sentence level, while holding constant the nonexperimental characteristics of constituent words (frequency, familiarity, imageability, phonological complexity and age of acquisition). The set of stimuli consists of sequences of items in 9 different conditions, with lists of nonwords at one end of the spectrum, and well-formed sentences at the other, as illustrated by the following examples for English:

Well-formed sentence: *I hurt my knee*
Well-formed sentence with list prosody: *I, hurt, my, knee*
Semantically anomalous sentence: *I dug my tea*
List of words with sentence prosody: *Hurt my I knee*
List of words: *hurt, my, I, knee*
Pseudosentence with content words replaced by nonwords: *I /vɜt/ my /ri/*
Pseudosentence with function words replaced by nonwords: */ɔɪ/ hurt /kaɪ/ knee*
Pseudosentence with all lexical items replaced by nonwords: */ɔɪ vɜt kaɪ ri/*
List of nonwords: */ɔɪ/ /vɜt/ /kaɪ/ /ri/*

The same set of conditions is presented in both languages, with stimulus materials matched as far as the languages allow, but reflecting differences in language typology which are of theoretical interest. The number of grammatical morphemes is higher in Czech than in English stimuli; the question is whether that affects recall in the two languages differentially (nonwords in Czech are more wordlike due to many inflectional/derivational morphemes (Gathercole and Martin, 1996), more morphemes in Czech ungrammatical sentences have to be processed out of the correct syntactic context etc).

In both languages, children will be presented with successively longer sequences in order to determine maximum span for each condition. 60 English and 60 Czech speaking children aged 4 and 5 will participate in the study. Results for the English sample will be presented.

Raising awareness of communication skills and needs in a secondary school context

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Purpose of the poster: To demonstrate the process for and key components of a project to raise awareness, knowledge and skills in relation to speech, language and communication needs (SLCN) in mainstream secondary schools. With an emphasis on how communication, behaviour and learning are interlinked.

Background: Speech, language and communication (SLC) skills and needs are interlinked with behavioural, social and emotional difficulties (BESD) especially in the secondary age range[2]. School census data[3] indicate that the incidence of speech, language and communication needs (SLCN) are as high as 24% in primary school years and fall dramatically to 6% in secondary. In contrast, BESD in primary years is around 17% and rises to over 30% in secondary years. It is unlikely that nearly 20% of SLCN disappear between primary and secondary or that BESD rates increase without any links to communication needs and skills.

The project: I CAN, a national charity supporting children and young people's communication, worked in partnership with a Local Authority in SW England. The partnership project has focused on raising awareness of the links between SLC, behaviour and learning of staff working in mainstream secondary schools and those in primary and secondary behaviour support services. The emphasis has been on identifying pupils who have identified behaviour difficulties who may also have hidden SLCN.

The project has involved a combination of **inter-professional training** and **team coaching** – thereby having an emphasis on embedding learning in participants' work contexts. Training sessions have provided opportunities to revisit knowledge, explore new concepts and tools, and share learning with colleagues. Coaching sessions have enabled individuals and teams to identify how best to use their learning in relation to their own context, and to set outcomes which aim to have a long term impact across the school or service.

Learning points: The project is ongoing; evaluation will take place March 2010. To date key learning points for developing positive educational change include:

practical activities relating to current pupils
coaching sessions
communication indicators checklist

- raising awareness of the impact of communication on behaviour and learning
- enthusiasm and awareness by participants to address the communication skills and needs of pupils and staff across the school/service
- enthusiasm and opportunity to network and develop links across schools and services
- support and input by local speech and language therapy provider
- sharing of expertise between professional groups, sectors and services
- a flexible and supportive approach which incorporates theory, practice, experience with personal and school/service goals

Considerations for similar projects:

- An awareness of the combination of participants: the level of responsibility, qualifications and experience of participants
- An awareness of the need to develop perceptions and attitudes
- An awareness of trainers that they may be presenting new ways of thinking and approaching pupils
- The importance of making links with local services
- The need for a shared understanding between staff teams at the start of the project – without this there can be confusion and reluctance

[2] Clegg J., Stackhouse J., Finch., Murphy C. and Nicholls S (2009) *Language abilities of secondary age pupils at risk of school exclusion: a preliminary report* Child Language Teaching and Therapy vol 25 no 1
[3] DCSF (2009) *Statistical First Release: Special Educational Needs in England*, January 2009

Derivational morphology in English, Spanish, and French preschoolers

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While inflectional morphology has been extensively explored in both typical and atypical development, derivational morphology has not received the same degree of attention (Van der Lely, 2003), especially from a cross-linguistic perspective (Duncan, Casalis, & Cole, 2009). Derivation continues developing until adolescence (Tyler & Nagy, 1989) and therefore it is of particular relevance when considering morphological development after the age of 5. Research on SLI populations is not consistent regarding children's competence in derivation or more general word-formation processes (van der Lely, 2003), with some studies claiming it to be impaired, while others maintain that it develops normally. The aim of this study was to investigate the production of nominal derivatives from a cross-linguistic perspective, including languages from different typologies (predominantly inflectional, Spanish and French, and predominantly isolating, English) in unselected samples of monolingual children. Our main interests were (1) to compare children's accuracy in forming agent and/or locative derivatives in each language, in an elicitation task; (2) to investigate language-specific strategies through an analysis of the incorrect responses; and (3) to assess the incorrect responses of a subsample of children with low oral skills against the rest of the sample for evidence of potentially different strategies. The participants were 176 English-speaking children (mean age 63 months, range 57-69), 172 French-speaking children (mean age 70 months, range 55-76), and 189 Spanish-speaking children (mean age 71 months, range 66-77). All participants carried out a sentence completion task in their native language that elicited nominal agent and locative derivatives. The results suggest that language differentially shapes children's strategies of word formation. Specifically, the Spanish and, particularly, the French children performed better than the English-speaking children in their ability to form noun-based derivatives. Moreover, error analyses indicate that children complete the task in differing ways as a function of their L1s, with the French and the Spanish children frequently resorting to producing unconventional pseudo-derivations, while the English children overwhelmingly preferred to form compound nouns. Finally, compared to the typically performing children, the low-oral-skills groups showed a similar pattern of distribution of incorrect responses across the different error categories in all languages under study. The results will be discussed in the light of current theories on the development of derivation in both typically developing and at-risk populations.

Scalar Implicatures in Typically Developing and Specifically Language Impaired Children

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Summary: The acquisition of scalar implicatures (*SIs*), for example, the inference from '*Some students attended the lecture'* to '*Not all students attended the lecture'*, has been the topic of much debate. Research has shown that adults consistently compute SIs but young children do not do so to the same extent (e.g. they treat *some* as compatible with *all*). The question remains as to how language impaired children behave in such situations.

We investigate the acquisition of SIs in children with Specific Language Impairment (SLI). SLI is a heterogeneous disorder, probably with different underlying causes in/for different phenotypes. In order to achieve our aims, we study a subgroup known as Grammatical – SLI (G-SLI). G-SLI children are characterised by a relatively pure grammatical impairment. We aim to examine whether children with core deficits in the grammar system are additionally impaired in the pragmatic system. Although previous work has suggested that lexical and pragmatic abilities are not impaired in these children, there are few studies of the semantic-pragmatic interface in this group.

This study set out to address the following questions:

(a) How do G-SLI and typically developing (TD) children behave when asked to interpret scalar expressions found in semantic and pragmatic contexts?

(b) Do children behave differently across different types of scalar terms and, if so, what affects this distinctive performance?

We study four groups of children: (a) children with G-SLI (11-15 years old, n=12), (b) TD children matched with the G-SLI group on sentence understanding (5-7 years old, LA1, n=13), (c) TD children matched with the G-SLI group on vocabulary comprehension (7-9 years old, LA2, n=14) and (d) TD children matched with the G-SLI group on chronological age (11-15 years old, Age Matched (AM), n=10).

The participants take part in a digital version of a truth value judgement task (TVJT) that measures the comprehension of semantically true/false (Exp A) and pragmatically infelicitous (Exp B) sentences. In Exp A, the sentences contain a strong and a weak term of either a quantifier (*some, all*), a connective (*or, and*) or a numeral (*4, 6*) scale and in exp B they contain either a quantifier (*some*), a connective (*or*) or a numeral (*4*).

In both experiments, the performance of children with G-SLI does not differ significantly from TD children who have the same language abilities. This finding contrasts with studies investigating the syntactic abilities of children with G-SLI, where these children perform significantly worse than their language (sentence and vocabulary)-matched controls. The results indicate that children with G-SLI display a delayed but otherwise normal semantic – pragmatic development, i.e. a development which is consistent with their overall language abilities. This finding is consistent with theories of atypical language development which postulate that SLI can selectively affect specific components of the linguistic system, in this case syntax but not pragmatics. Moreover, the results from both typical and atypical populations show that performance varies according to the type of scale used. We provide a number of possible explanations to account for this phenomenon.

Acquisition of the passive construction by Polish four- to six-year-olds

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It is well attested that passive voice is one of the most difficult grammatical constructions to acquire (e.g. Horgan, 1978; Mills, 1986). However, some authors (e.g. Demuth, 1990; Tomasello) have argued that its learnability varies across languages, depending partly on the frequency of passive voice in child directed speech. According to Smoczynska (1985), passive voice is not common in everyday spoken Polish. Thus, the frequency hypothesis would imply that Polish children find passive voice particularly hard to acquire.

The task used in the present study was a picture selection task aimed at testing children's comprehension of passive sentences, designed by researchers working in Working Group 4 of COST A33 project (S. Armon-Lotem, E. Haman, K. Jensen de Lopez, M. Smoczynska & K. Yatsushiro). In the task, 22 verbs were used in both passive and active sentences, accompanied by sets of pictures. Each set consisted of four pictures involving the same three characters and the action described by a given verb. Apart from the target picture, there was one with reversed agentpatient relation, one with the action being performed by a third agent and one with all characters remaining still. In case the subject failed to identify the target picture, each of the above distractors helped to establish the type of the error. In addition, two separate versions of the test served to examine two possible forms of passive construction, i.e. with a by- phrase (so called 'long' passive, e.g. The girl is hugged by mom) and without it (so called 'short' passive, e.g. The girl is hugged.)

The current poster presents the final results of the study, based on the data obtained from Polish subjects, aged four to six. The results suggest that comprehension of short passive construction among children acquiring Polish is already at ceiling by the age of five. Only slightly lower results were obtained in long passive comprehension in 5 year olds. The results are considerably lower for the 4-year-olds, however. The developmental path suggests that crucial development of passive voice comprehension in Polish take place between the age of 4 and 5 years. This relatively early success seems to happen regardless of the fact that the construction is supposedly uncommon in child directed speech, which might mean that the initial hypothesis regarding the interdependence of the two may need to be reconsidered.

Poster Presenters

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37 **Sonja Eisenbeiss** University of Essex, UK
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54 **Shira Farby** Bar Ilan University, Israel
67 **Michel Fayol** Université Blaise-Pascal, CNRS, France
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35 **Sveta Fichman** Bar Ilan University, Israel
46 **Matteo Forgiarini** Università di Milano-Bicocca, Italy
21, 27 **Bettina Fürst** Austrian Academy of Science, Vienna, Austria

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5 **Hila Ganot** Tel Aviv University, Israel
30 **Isabel García del Real Marco** University of the Basque Country, Spain
51 **Maria Garraffa** Fondazione Marica De Vincenzi O.N.L.U.S. Italy
16 **Elena Grigorenko** Yale University, USA

6 **Mandy Grist** Professional Advisor, ICAN, UK
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2, 21, 32 **Maria Teresa Guasti** University of Milan-Bicocca, Italy
41, 58, 69 **Ewa Haman** University of Warsaw, Poland
55 **Helen Hambly** University of the West of England, UK
16 **Lesley Hart** Yale University, USA
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8, 43 **Kristine Jensen de López** University of Aalborg, Denmark
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