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Research Statement

The first aim of my research agenda is to identify the effects of different factors on language development, namely language-specific characteristics, output modalities (speech, sign and writing) and age (on acquisition and intervention). In order to address these issues I adopt a comparative approach by studying different signed and spoken languages, by investigating different stages of development and their interfaces (infants, toddlers, children), different types of exposure to languages (monolingualism, simultaneous and sequential bilingualism) and by making use of my findings on typical development to inform the study of impaired populations.

My second objective is to contribute to establishing the link between theoretical research and empirical applications in clinical and educational settings. My current part-time appointment as the Director of Policy for Research and Education at Yeled v'Yalda Early Childhood Center (one of the two largest Head Start programs in NYC that serves a population of more than 3,000 children between 0 and 5 who between them speak more than 20 different languages) enables me to make use of my research experience to inform education and intervention policies. The Research Institute that Garey V. Ellis, MD, Director of Health Policies and Family/Community partnerships and I have founded constitutes an exceptional research and intervention context. The mission of the Institute is to enable us to carry out research and intervention projects in our areas of expertise and to facilitate the conduct of projects by other researchers. We act as the liaisons between researchers, policy-makers and YvY practitioners thereby fostering the dialogue between theoreticians and health and education professionals and pioneering new initiatives that will benefit YvY culturally diverse population as well as the American school population at large.

I have a secondary research interest in the history of ideas in cognitive science that complements my work on language acquisition and breakdowns and my perspectives on educational and clinical policies. My aim is to identify the sources of the implicit and explicit assumptions adopted in current models of cognitive functions and development.

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Primary research interests

1. Cross-linguistic studies of language acquisition

1. 1 The acquisition of British Sign Language: modality-specific and cross-linguistic factors

This project has been conducted with G. Morgan and B. Woll, City University, London and constitutes the first longitudinal study of British Sign Language (henceforth BSL) as an L1.

1.1.1 The lack of effect of iconicity on the early production of nouns

A semantic analysis revealed that the categories referred to by Mark, the participant in this study, includes animals, objects and actions. Strict coding criteria were used to distinguish between verbs and nouns and were based on the existence of noun/verb pairs, the use of phonological contrasts and contextual cues. The analysis demonstrates that Mark's first utterances include more nouns than verbs. These results are not surprising when compared to those obtained on the acquisition of spoken languages.

We also explored the effect of a modality-specific characteristic- iconicity- on Mark's lexical development. It is important to emphasize that in some cases establishing a link between a concept and an 'iconic' sign depends on one's world knowledge: for instance the BSL sign for Paris invokes the shape of the Eiffel tower. Unless one is familiar with the famous monument, its shape and location, the iconicity of the sign remains unnoticed. Many BSL signs referring to animals (including *cats*, *mice*, *pigs*) are iconic in another way in that they refer to specific parts of animals: for instance the sign for *cats* reflects the shape of the whiskers. If children were able to use this aspect of iconicity, this would constitute evidence against the *whole object bias* according to which children tend to associate labels with whole entities rather than parts. The degree of iconicity of the signs produced by Mark was assessed by speakers not familiar with any Sign Language. These results a) contrast with those obtained on adult learners of BSL (for whom iconic signs are learnt more easily and are better recalled) and b) replicate those obtained on native ASL acquisition in that they demonstrate that iconicity does not have a facilitating effect in the early stages of lexical development in BSL as an L1.

1.1.2 Modality-specific and typological factors in the acquisition of verb agreement morphology

What emerges from the data analysis so far is that subject and object-verb agreement emerges at 2;5 and is used productively at 2;9. The pattern of development of agreement morphology in BSL is found to be similar to that reported for the spoken language Georgian in which agreement markers also depend on the transitivity and aspectual features of the verbs. It is also shown to exhibit both similarities (age of emergence and productive use) and differences with American Sign Language (in which agreement verbs do not constitute a syntactic or semantic class). Thus the acquisition of verb agreement morphology is affected by both modality-specific and typological factors.

1.1.3 The acquisition of classifiers

The second type of verbs that we have investigated so far are classifier verbs that a) make use of topographic (as opposed to syntactic) space, thus exhibiting an iconic dimension, and b) incorporate references to classes of objects through the use of specific non-iconic handshapes. The results of our analyses reveal that the morphophonological complexity of classifier verbs best account for the developmental pattern. We are currently investigating whether the first classifiers used productively by the child encode perceptual features (e.g. size and shapes) and/or abstract features such as animacy. This will give us insight into the mapping between abstract and perceptual features and morphemes in early language development.

This work was supported by a City University Pump Priming Fund and the Economic and Social Research Council. These grants have enabled us to carry out an in depth lexical, semantic and grammatical analyses of our data, to make our corpus available on the CHILDES database and to foster the transcription of other Sign Languages.

1.2. The acquisition of French verbs

1.2.1 The acquisition of functional categories in French: insights from a new methodological paradigm

In the field of first language acquisition, one of the major current debates concerns the nature of children's early multiword utterances, whether they are lexically driven and reflect the input or whether they are underpinned by adult-like grammatical principles and constrained by pragmatic and/or processing factors.

Another phenomenon that pertains to both the lexical versus grammatical nature of early word combinations, and the order of acquisition of different linguistic constructions, concerns the gap between language comprehension and production in children. Although such a gap has often been observed and discussed in the literature, it remains unaccounted for.

The aim of the project that I am currently working on, in collaboration with Dr T. Nazzi, CNRS, Paris and Prof. G. Legendre, Johns Hopkins University is to investigate the acquisition of agreement and tense marking in French, both from the perspective of early production and comprehension, by children between 18 and 30 months. On the comprehension side, we are employing the Preferential Paradigm, first adapted to the investigation of grammar by Golinkoff et al. (1987), which had not been employed on languages other than English so far. We are also collecting production data using both parental reports and video-recorded data in naturalistic interactions. To facilitate the analysis of spoken production samples, I have managed a team of undergraduate research assistants with whom I have developed a French MOR- i.e. a CLAN compatible tool to be used on French CHILDES corpora which carries out automatic analyses of French morphology, taking into account the homophony and syncretism of many spoken forms.

The findings will enable us to check whether at an age when they do not productively use subject-verb agreement and tense marking, young children understand such markers. If they do, this will constitute evidence for the fact that early linguistic representations are underpinned by adult-like representations.

The National Science Foundation has awarded us a 4-year grant to conduct this project.

1.2.2 The acquisition of Argument Structure and SE-cliticization by French-speaking children

My PhD focused on an ambiguous valency-marking morpheme, the French clitic SE that appears in Reflexive and Reciprocal (with animate subjects), Neuter/Anticausative (no implied agent) and Middle-Passive (implied agent) (with inanimate subjects) constructions. On the basis of a) a new classification of the overgeneralization of Argument Structure Alternation produced by children acquiring morphologically ergative languages (Kiche and Inuktitut), b) the analysis of SE proposed by Zubizarreta (1982, 1985), Werhli (1986) and Fellbaum & Zribi-Hertz (1987) and c) a modified version of the Maturation Hypothesis proposed by Borer & Wexler (1987), predictions were formulated with respect to a) the order of acquisition of different types of SE-constructions, b) the manifestations of the overgeneralizations of ASA produced by children and c) the order of acquisition of SE-constructions and *be*-passives. These hypotheses are outlined below.

Prediction I: order of acquisition of SE-constructions

Reflexive/Reciprocal, Inherent and Neuter SE are acquired before Middle-Passive SE.

Prediction II: manifestations of ASA overgeneralizations

*1. Three types of *Increased Valency*

1. a) Use of intransitive verbs in the same form in transitive constructions (i.e with NP objects or object clitics);

*1. b) Overgeneralized *SE-affixation when intransitives are assigned a Reflexive/Reciprocal interpretation;*

1.c) Overgeneralized () SE omission applied to Inherent SE-verbs when assigned a causative interpretation which requires transitivization;*

2. Four types of Maintained Valency and () SE-cliticization/omission*

2.a Overgeneralized () SE omission applied to Inherent SE-verbs still used as intransitives;*

2.b Overgeneralized () SE-cliticization applied to intransitive verbs (which do not allow transitivisation): pattern of Inherent SE applied;*

2.c Overgeneralized () SE-omission applied to verbs the Neuter form of which does not require SE-cliticization;*

2. d Overgeneralized () SE-cliticization applied to Neuter verbs which do not require SE-cliticization;*

*3. Two types of *Decreased Valency*

3. a Overgeneralized () SE-omission applied to transitive verbs the Neuter form of which does not exist;*

3.b Overgeneralized () SE-cliticization applied to transitive verbs the Neuter form of which does not exist.*

Prediction III

Short be-passive and Neuter construction are acquired before the verbal be-passive which in turn is acquired before the Middle-Passive.

These predictions were tested with a range of research strategies including:

- A large corpus of spontaneous speech production: 3 diary studies, 2 CHILDES corpora, and 2 cross-sectional corpora, of children aged between 2-4 (n=119) and 6-7 (n=72);
- Two experimental tasks: a comprehension task (act-out) and a grammaticality judgment task using nonce-verbs that were administered two groups of children, 18 aged 3-4 and 18 aged 5-6 and to 10 adults.

The results obtained using these different research strategies are summarized in table 1 below.

Table 1: Summary of the results obtained on each source of data in relation to the predictions: + partly confirmed, ++ fully confirmed

Predictions	Speech production	Experimental task 1 (comprehension task)	Experimental task 2 (grammaticality judgment task using nonce-verbs)
I	+	+	++
II	++		
III	+	++	+

The results confirm the order of acquisition and the manifestations of overgeneralizations predicted by the modified version of the Maturation Hypothesis. These findings are problematic for the current major hypotheses on the acquisition of Argument Structure.

One of the predictions that can be formulated on the basis of Bowerman Causativity Hypothesis (1974) is that children would tend to interpret Inanimate-SE-V as Middle-Passive as it encompasses the notion of an event carried out by an instigator and therefore of CAUSATION, as opposed to Neuter. The findings that emerge from both the comprehension data and the grammaticality judgment task show that a) children do not interpret Inanimate-SE-V as a Middle-Passive and b) do not associate SE-cliticization to events implying an agent in cases of the non-reflexive and non-reciprocal visual stimuli. Thus this hypothesis is not confirmed on the basis of the data analysis. One aspect of the data that Bowerman Causativity Hypothesis explains however is the omission of SE with Inherent SE verbs that are used as causative transitives. The hypothesis formulated on the basis of the modified version of the Maturation Hypothesis also accounts for this finding.

Given that the Syntactic Bootstrapping hypothesis focuses on lexically-realized arguments, it does not directly lead to the formulation of testable hypotheses on the acquisition of constructions that involve ambiguous valency-marking morphemes. In the context of this hypothesis it seems that both Neuter and Middle Passive, on the one hand and short passives, on the other hand would present the same challenges to children, as in these three constructions, the only lexically-realized argument is the external argument.

On the basis of these considerations, it follows that these constructions would be acquired simultaneously. The outcome of the data analysis provides evidence against this prediction.

On the basis of the Semantic Bootstrapping hypothesis, the simultaneous acquisition of Neuter and Middle-Passive would also be predicted, which is not confirmed by the outcome of the data analysis. In addition, three predictions can be formulated with respect to the children's overgeneralizations of argument structure alternation, namely:

- a) children's misrepresentation would trigger overextensions: in this case overgeneralizations of both Neuter and Middle-Passives (applied to Inherent-SE verbs for instance) are expected;
- b) the semantic restrictions on the lexical causative alternations fail to be noticed by children: in this case overgeneralizations of Neuter SE to verbs which do not allow this alternation and transitivization of Inherent SE are expected;
- c) Or they entertain an adult-like representation but under discourse pressure the inappropriate verb is retrieved: this is expected to give rise to lexical substitutions rather than *SE-cliticization and *SE-omission.

The analysis of overgeneralizations combined with the outcome of the experimental tasks reveal that overgeneralizations to Middle-Passives predicted by the first factor (a) mentioned above are not identified. With respect to the second prediction (b), while transitivization of Inherent SE are identified, overgeneralizations of Neuter SE to verbs that do not permit this alternation are not found: all instances of overgeneralizations are found to occur with verbs that express a change of state or location, which the adult grammar allows. Neuter constructions produced by children are sometimes inappropriately used with or without SE by children, which leads us to the last prediction (c) formulated on the basis of the Semantic Bootstrapping Hypothesis (Pinker, 1989). As in the cases of Kiche (Pye, 1994) and Inuktitut (Allen, 1996), the overgeneralizations produced by French-speaking children do not involve lexical substitution but inappropriate omissions and affixations of valency-marking Morpheme.

One of the limitations of the three hypotheses outlined above is that their classification of overgeneralizations relies on the traditional dichotomy that considers *Increased Valency and *Decreased Valency. The findings that emerge from this study on the acquisition of French SE in addition to the independent evidence emerging from studies on Hebrew, Kiche and Inuktitut point to the limitation of this classification and demonstrate the superiority of a three-way classification also considering *Maintained Valency, taking into account the mismapping between the adult-like Thematic role assignment and inappropriate use of valency-marking morpheme.

The findings that emerge from this study are shown to shed light on the interpretation of implicit arguments and to necessitate principles on the learnability of syncretic morphemes. On the basis of these considerations, a Morphological Bootstrapping hypothesis is formulated to account for the acquisition of Argument Structure. This hypothesis consists in the hierarchical consideration of four factors involved in the acquisition of Argument Structure Alternation, namely:

- a) the conceptualization of the young child as a good morphologist;
- b) the role of the animacy of lexically-realized arguments in the interpretation of the valency marking morphemes;

- c) the role of the degree of ambiguity of two constructions on the pattern of acquisition;
- d) a default/unmarked assignment of thematic roles.

This work received the financial support of the Association for French Language Studies (UK), Birkbeck College scholarship, the British Association of Women Graduates, Erasmus Grant (European Community), the Reeve foundation (UK), the University of London Research Fund (UK).

1.3 The acquisition of Yiddish

To date the acquisition of Yiddish as an L1 has not been documented. The socio-cultural context in which it is acquired and its formal characteristics raise theoretical and empirical issues that are currently debated in the literature. From a socio-cultural perspective, Yiddish is acquired by children who belong to a cultural and linguistic minority that promotes its prestige, while in US mainstream culture it enjoys a low status. Its use is closely tied to a religious system of beliefs that provides an opportunity to investigate the relation between cognitive and lexical development. Like many minority languages it is affected by the majority language with which it comes into contact. As far as young children are concerned, this affects the borrowing of lexical items and code-mixing/switching. From a formal perspective, Yiddish morphosyntax exhibits many of the features of Dutch and German including a rich pronominal system, overt case-marking and a complex auxiliary system.

I am currently supervising two projects on the acquisition of Yiddish. The data collection site is YvY Multilingual Development and Education Research Institute. The project is benefiting from the professionalism and commitments of YvY Early Head Start staff and strong parental support and involvement.

1.3.1 The adaptation of the MacArthur Bates Communicative Development Inventory to Yiddish

A parental questionnaire of the same format as the MBCDI (words and sentences) has been developed. The aim of this study is two fold. First it is to enable us to document the acquisition pattern of Yiddish and compare it to other languages. The second aim is to provide clinicians with a language assessment tool that has predictive value.

The distinctive cultural features of the Jewish Orthodox communities who are participating in the study as well as linguistic and developmental evidence were considered in developing the Yiddish adaptation of the Communicative Development Inventory (YMBCDI).

A first sample of data on 70-100 children who have been exposed to Yiddish from birth was collected at the end of March 2006 and another sample on a second cohort will be collected in March 2007. These data will enable us to investigate the relation between age, vocabulary size, the emergence of different lexical categories and grammatical development.

The predictive reliability of the YMBCDI will be investigated by collecting further language data on these two cohorts a year after the first data collection phase-March 2007 for Cohort 1 and March 2008 for cohort 2.

1.3.2 The morphosyntactic development of Yiddish-speaking children

Longitudinal spontaneous speech production samples are currently being collected on 8 native Yiddish-speaking children, 4 starting at the one-word stage and 4 starting at the 2-word stage in a context of symbolic play. These data samples- that will eventually be made available on CHILDES- will enable us to conduct in-depth analyses of the acquisition of Yiddish morphosyntax. The results will inform current debates on the emergence of functional categories and the universal and language-specific factors that impact developmental patterns.

1.4 The cross-linguistic investigation of thematic role assignment

A grant proposal for extending the projects on French SE-cliticization and on the acquisition of Yiddish to the comprehension of word order and verbal morphology by younger children acquiring English, French, Turkish and Yiddish will be submitted to the National Institute of Health under the leadership of Prof L. Naigles, University of Connecticut. The rationale behind the selection of these languages is that they express *who is doing what to whom* with distinct linguistic devices, namely: (nominal) case-marking (Turkish and Yiddish), verb morphology (French and Yiddish) and word-order (English). The results of this study will inform current accounts of the acquisition of Argument Structure- including Constructivist and Generative theories, the Competition Model and the Morphological Bootstrapping Hypothesis mentioned above (in 1.2.2)..

2. Sequential childhood bilingualism

The study of bilingual development raises a number of issues, namely: whether a bilingual is to be conceived as two monolinguals in one; whether the simultaneous acquisition of two languages differs from consecutive bilingual development; whether one language influences the other; whether the age of exposure has an effect on the acquisition pattern.

While a fast growing literature has examined these issues in either simultaneous bilingualism or in the acquisition of a second language after a first language has been mastered, very few studies have investigated sequential childhood bilingualism. It is important to fill this gap in the literature for theoretical and empirical purposes. From a theoretical perspective, such studies enable us to inform debates on plasticity and critical periods. Given what is currently known about the fast changing early perception abilities of infants and the use of these capacities in toddlers' morphosyntactic development, research on children acquiring a second language at an age when their speech perception abilities are already targeted towards their first language provides an opportunity to investigate the interface between different aspects of language development such as phonological, lexical and morphosyntactic development. From an empirical perspective, this type of bilingualism is very common and will apply to 30% of the American children entering kindergarten by 2015 (Fix & Passel, 2003).

2.1 Sequential childhood bilingualism: a Russian/English case study

The CHILDES data samples used in this pilot study conducted with Julia Yarmolinskaya, graduate student at Johns Hopkins, consisted of six-hour tapings of

Yasha between age 4;7 and 5;5. Yasha was born in the US to Russian immigrants. Russian is his first and dominant language. From about 4;0 he had an English-speaking baby-sitter and from 5;2 he attended an English-speaking kindergarten.

The research strategy involved a comparison between the characteristics of each language and L1 acquisition pattern, late L2 development and Yasha's developmental pattern. The results reveal that Yasha's lagging acquisition of English morphology compared to richer Russian morphology is a) not due to a general 'delay' in Yasha's morphological development and/or mastery of agreement, given his near-adult mastery of Russian aspect morphology and agreement marking and b) consistent with different types of English learners (monolingual, simultaneous bilinguals, late L2 learners). The cross-linguistics influences in his acquisition of articles and contractible and uncontractible copulas are consistent with consecutive L2 acquisition

The findings that emerge from this study have prompted the two follow-up studies described below.

2.2 Lexical and grammatical development in Hebrew/English and Yiddish/English simultaneous and sequential childhood bilingualism

The aim of this study on Hebrew/English and Yiddish/English bilingual development is three-fold. First it is to replicate the study on Spanish/English bilinguals conducted by Zurer-Pearson et al. (1993)- according to which bilingual children's vocabulary does not lag behind that of their monolingual peers- on two different language combinations, namely Hebrew/English and Yiddish/English. Secondly, given that home literacy activities have been shown to have a positive impact on vocabulary development in monolingual children, it is to investigate the effect of home literacy in each language. Finally, it is to investigate whether the lagging pattern observed in some aspects of Russian/English sequential childhood bilingualism observed in a number of case studies involving Russian/English (see 2.1 above) and German/French (Meisel, 2005) bilinguals is also observed for two different language combinations, using a different methodological procedure (parental questionnaires instead of analyses of spontaneous speech production) and examining a larger sample of children.

Parents of bilingual Yiddish/English and Hebrew/Yiddish children are being asked to fill in a) a screening questionnaire that collects information on children's amount and age of first exposure to Yiddish or Hebrew and English and proportion of literacy-related activities in each language, b) the Yiddish questionnaire mentioned above or the Hebrew CDI (Maital et al, 1997) and c) an English MCDI- *words and sentences* questionnaires.

Three measures of vocabulary development will be calculated: a) Yiddish/Hebrew vocabulary, b) English vocabulary and c) conceptual vocabulary as defined by Zurer-Pearson et al. (1991). The morphosyntactic measures will take into account the production of pronouns, plural-marking, tense-marking, agreement-marking, auxiliaries, inflectional and derivational morphology in each language.

The impact of factors including a) age of first exposure, b) proportion of exposure, c) proportion of literacy-related activities, d) the typological characteristics of each language will be compared with findings reported in the current literature on cross-individual variation in vocabulary development and with recent results on morphosyntactic development in simultaneous and sequential childhood bilingualism that

have involved different language combinations, different methodologies and smaller populations.

2.3 The use of formal cues by sequential Yiddish/English and Russian/English bilinguals to identify lexical categories

These projects replicate the study conducted by Waxman & Markow (1998) on monolingual children on two groups of bilingual children. Waxman & Markow (1998) reported that 21 month old English-speaking infants with a vocabulary of at least 50 words succeed in mapping novel adjectives to property terms, novel nouns to object labels and use syntactic cues when mapping novel words to these lexical categories.

The present study investigates whether a) sequential bilinguals whose 1st language is Yiddish or Russian and who have been exposed to English for 10-12 month are also able to do so and b) whether the use of morphosyntactic cues in English is easier for children whose first language is typologically closer to English- i.e. Yiddish which has determiners- than for those whose first language does not have determiner and in which nouns and adjectives can be distinguished on the basis of their morphology- i.e. Russian. These results will inform the effects of age and amount of exposure and of typological features on sequential childhood bilingual development.

3. Literacy

3.1 Emergent literacy

The project Early Literacy Links investigated emergent literacy in 4 to 6 year old children in deprived settings in four cultures: Australia, Great Britain, France and Singapore. The assumptions that underpin early childhood curricula in each country, teacher's assumptions and practices, parents' perceptions and children's behavior and progress were examined using a range of methodological procedures: teachers questionnaires and interviews, parents focus groups and group and individual observations of children.

Despite significant differences in the history of early childhood provisions and in the disciplines that have impacted on the curricula in each cultural setting, some core principles and teaching approaches were shared by most educators across different countries including the relevance of oral language development to emergent literacy and the importance of literacy-rich environments. In contrast, views on the impact of bilingualism on emergent literacy and on the status of fine motricity activities differed. A co-authored publication which presents a summary and a discussion of the findings was used to inform the UK Government Ministry of Education 2000 Early Year Inquiry and has been praised by the professional press.

This project was supported by an Esmée Fairbairn Charitable Trust grant.

3.2 Evidence for morpho-orthographic representations

This project carried out with Prof. B. Rapp, Johns Hopkins University, investigates the existence of a morpho-orthographic level in models of language production. The written versus spoken production of morphological markers and function words of four aphasic patients was examined and evidence for a dissociation between morpho-phonology and morpho-orthography was found.

These findings constitute a challenge for models of language production such as Levelt (1989) according to which information about morphological marking and retrieval of function words is amodal. It is also problematic for structural and semantic accounts of morphological deficits that do not typically consider the distinction between different output modalities.

The results that emerge from this study are compatible with recent reports on the acquisition of reading and spelling skills that demonstrate that a) morpho-orthographic representation is one of the factors that predict early reading skills and b) morpho-phonological representation precedes morpho-orthographic representation.

All of these projects contribute to a better understanding of the principles that underpin the nature and the development of morphosyntax, across modalities and across languages, using a range of traditional and innovative research strategies.

4. Link between theoretical research and educational and clinical interventions

4.1 Research

4.1.1 SE-cliticization in children with Specific Language Impairment

The results on the typical acquisition of SE-cliticization have been used to inform a study on the status of SE-clitics in children with Specific Language Impairment (henceforth SLI) conducted with Marie-Thérèse Le Normand, Child Neuropsychology Unit, the Salpêtrière Hospital, Paris. Although this aspect of the morphosyntax of French has been shown to be problematic for this atypical population (Royle, 1998, Jacobowicz, Rigaud & Gerard, 1998 and Crago & Paradis, 1999), the studies published so far have focussed on Reflexive/Reciprocal SE. Our study investigates the status of different SE-constructions, including Middle-Passives and Anticausatives in these children. The results are more consistent with a grammatical rather than a processing account of SLI.

4.1.2 Clinical use of the Yiddish Communicative Development Inventory

Once the predictive value of the YCDI has been established (see section 2.1), it will be used by clinicians to identify children at risk and will therefore enable them to apply early intervention.

4.1.3 Educational relevance of studies on sequential morphosyntactic development and morpho-orthography

Given that current research on early literacy demonstrates the importance of morpho-phonology and that children exposed to an L2 after an L1 have been shown to exhibit a specific developmental trajectory, it is essential a) that educators are made aware of the possible difficulties children whose home language is not English experience when being taught early English literacy skills and b) appropriate teaching strategies are developed in order to prevent such difficulties.

4.1.4 Clinical relevance of the cross-linguistic investigation of thematic role assignment

The cross-linguistic investigation of thematic role assignment will enable us to further explore early comprehension abilities that have been shown to constitute a better predictor of subsequent language skills than production abilities.

More specifically, the results obtained on typically developing children will be used to inform a parallel study on children with communication impairment.

4.2 Policies

The results of the studies mentioned above will inform education and intervention policies at YvY whose population reflects what the US Head Start population will be from 2015 (with respect to the cross-section of diverse cultural groups and the broad range of home languages used by children). The findings will be published in the peer-reviewed literature so that they can inform national decisions on US policies and interventions, thereby benefiting the broader US school population.

Secondary research interest

I have a secondary interest in the history of Cognitive Science and I have been investigating the emergence of models of cognitive functions and of developmental concepts. The importance of this work has been acknowledged by the international communities of psychologists, neurologists, and linguists and historians of science and childhood. I am currently working on the history of writing disorders, on the formulation of the critical period hypothesis for language acquisition between the sixteenth and the nineteenth century and on the collaboration of a nineteenth century musician with a neurologist who developed a cognitive conceptualization of piano-playing.

These historical projects complement my research on the development and breakdowns of different output modalities in that they enable me to identify the sources of the implicit or explicit assumptions adopted in current models of cognitive functions.