Proceedings of
GALA 2017

Proceedings of GALA 2017:

Language Acquisition and Development

Edited by

Pedro Guijarro-Fuentes
and Cristina Suárez-Gómez

Cambridge
Scholars
Publishing

TABLE OF CONTENTS

Part II: Pragmatics and Discourse

Part III: Phonetics and Phonology

ACKNOWLEDGEMENTS

Introduction

Language Acquisition and Development

Pedro Guijarro-Fuentes
and Cristina Suárez-Gómez

1. General overview

The volume *Language Acquisition and Development* edited collection contains 27 papers originally presented at the *13 Generative Approaches to Language Acquisition* (GALA 13) conference (September 2017), held in Palma de Mallorca, Spain. It represents a stimulating selection of theoretically guided, high quality work, and provides impressive insights into state-of-the-art research in the fields of first and second language acquisition and developmental impairments. The studies brought together here (see section on "Summary of papers") cover a wide variety of different languages, focusing on the areas of morphosyntax, semantics, discourse and pragmatics, phonetics and phonology and their interfaces. Since their first publication in 2006, the proceedings of GALA have become an invaluable reference for cutting-edge research in first and second language acquisition and its impairments – and the proposed edited volume hopes to continue that tradition.

This book intends to be a comprehensive, state-of-the-science treatment of the acquisition of different Indo- and Non-Indo-European languages in different contexts (i.e., L1, L2, L3/Ln, bi/multilingual language, heritage languages, pathology and language impairment and sign language acquisition) conducted within the generative framework. It also encompasses the diversity of methodologies and issues that can be found within contemporary research in the field. Since its starting point in 1993 in Durham, this biannual conference has developed into one of the most outstanding conferences for researchers who study language acquisition from a formal perspective. In recent years, however, one can see more and more contributions which address language acquisition in all its constellations, which include, but are

not limited to, first language acquisition, bilingualism, second language acquisition and specific language impairment.

The purpose of the proposed edited volume is to present original research from different angles and to provide a basis for dialogue between researchers working on diverse projects with the aim to further our understanding of how languages are acquired and, at the same time, refine and propose new theoretical constructs, such as complexity of linguistic features as a relevant factor forming children's, adults' and bilinguals' acquisition of syntactic, morphological, lexical and phonological structures. This volume is a selective collection of articles that tackle a wide range of acquisition phenomena from numerous well-studied and less so Indo- and Non-Indo-European languages belonging to different families, but it is united by a common theoretical approach.

The articles included herein are the highest quality works presented at the conference and discuss and at the same time challenge traditional accounts of L1, L2, L3/Ln, bi/multilingual language, heritage languages, pathology and language impairment, offering new proposals and providing new empirical data.

We therefore believe that it makes a valuable contribution to deepen our understanding of how linguistic features are represented in the brain, but also how such a variety of languages is acquired. Hence, the proposed collection of papers to the field of language acquisition is a response to challenging open and unanswered questions on the acquisition of key functional categories and semantic/pragmatic related phenomena. This edited volume aims at providing a basis for dialogue between researchers working on diverse projects, thereby adding to the construction of knowledge about language development by narrowing down current crucial theoretical and empirical approaches and refining investigation methods. Thus, the inclusion of a variety of languages and language combinations on acquisition means that this collection provides a range of perspectives on a number of topics of current importance in the theoretical and psycholinguistic study of the different language modules.

2. Summary of papers

The papers included met the reviewers' standards for inclusion in the conference programme, and therefore are a fair representation of the abstracts accepted for the conference after a strict and rigorous review process. As is customary in GALA conferences, each contribution was reviewed by two major researchers in the field. Since only about one third of all submissions were selected for an oral presentation, the quality of the

talks (and posters) was very high, which will translate into high excellent papers. This 13th edition of GALA included a general session, four plenary presentations, and three thematic workshops addressing topics that are receiving much attention at the moment.

The book is arranged by topics comparing and contrasting different languages. The chapters included in this collection decisively argue that the whole spectrum of available data robustly supports different theories of UG in all instances of language acquisition. This volume thus collects the high quality work presented at the conference and we believe it offers an impressive insight of current research in the very broad field of first and second language acquisition and its impairments: phonology, morphology, syntax, semantics, the lexicon, pragmatics and its interfaces.

The collection is organized into three parts. The first part ("Morphosyntax") contains in-depth studies on a selection of morphosyntactic features (e.g. agreement, case marking, passive constructions, relative structures, polarity, among the most popular ones) in different European and non-European languages (Brazilian Portuguese, Chinese, Emirati Arabic, English, French, German, Greek, Hebrew, Japanese, Norwegian, Romanian, Russian or Turkish). In Part II ("Pragmatics and Discourse") the focus is on studies dealing with features which go beyond the clausal structure, such as anaphoric relations or the analysis of focus expressions. Here the languages object of study are mostly European but not exclusively (Cypriot Greek, English, German, Japanese, Korean, Russian and Spanish). Part III ("Phonetics and Phonology") also includes analyses of European (English, Greek and Italian) and non-European (Japanese) languages and it presents research on the realization of specific phonemes, on rhythm and language and on how prosody is affected by language transfer.

Part I ("Morphosyntax") opens with six studies dealing with agreement and case-marking. Chapter 1, "Grammar identification based on variable input: on the production of number agreement by children acquiring Brazilian Portuguese", by Ana Paula S.P. Jakubów and Letícia Maria Sicuro Corrêa, explores number agreement by children acquiring Brazilian Portuguese. It shows that children resort to variation (either redundant markers or marker only in D) in agreement with the variable input. Variation in the expression of number agreement in Brazilian Portuguese is mostly determined by social factors. The contribution by Martina Penke ("Syndrome-specific deficits in developmental language disorders – evidence from German agreement morphology") analyzes verbal agreement in monolingual German children with atypical language development, more specifically children with specific language impairment, children with congenital sensorineural hearing loss, and children/adolescents with Down

syndrome. The data provided offers relevant information to identify the causes underlying the different developmental disorders. Subject-verb agreement is the object of study of Atty Schouwenaars et al.'s paper ("Eye gaze reveals that children with cochlear implants have difficulty processing subject-verb agreement"). They compare the comprehension of subject-verb agreement in German-speaking children with normal hearing and with cochlear implants. Although children with cochlear implants are less sensitive to subject-verb agreement than normal hearing children, the authors conclude that the former show delay in the development of this feature, rather than impairment. The following chapter dealing with agreement is by Koji Suda et al. ("The investigation of the Feature Inheritance Hypothesis in Second Language Acquisition"). They investigate the acquisition of agreement and tense in Japanese learners of English. The findings reveal that in the production of interrogative and negative sentences in English, learners manage to activate the agreement feature and transfer the tense feature from Japanese, but show more difficulties with the Feature Inheritance mechanism and the additional T-to-C movement operation. Chapter 5, "Cues used by Japanese Children in learning novel verb meanings", by Ayumi Matsuo and Letitia Naigles, provides a most original investigation of how Japanese children learn novel verbs. The experiment carried out leads them to conclude that children resort to argument number and case markers for the interpretation of such verbs. This coherent grouping of papers on agreement and case-marking closes with Anna-Lena Scherger's contribution, entitled "Dative Case Marking in 2L1 and L2 Bilingual SLI", on dative case marking in simultaneous (2L1) bilingual children and L2 bilingual. She compares spontaneous speech data and elicited dative case constructions of typically developing children and children with specific language impairment. Results show differences at age seven only between 2L1 and SLI, which suggest the necessity of separate norms in assessment for the two types of bilingualism.

Within this part, a wide range of morphosyntactic variables are object of study. Seckin Arslan et al., in Chapter 7, takes negative polarity items as its reference point. "The processing of negative polarity items in Turkish-German bilinguals" focuses on the processing of Turkish negative polarity items in Turkish monolinguals and Turkish-German bilinguals by using a self-paced reading experiment with end-of-sentence grammaticality judgments. They show that bilingual Turkish readers show intrusion effects in their processing of NPIs while the structural requirements for NPI licensing in Turkish might be less stable in Turkish-German heritage speakers than in monolingual ones. The following paper, "Elided

conjunction in Child Japanese and its implications", by Yoshiki Fujiwara and Hiroyuki Shimada, deals with ellipsis of conjunctions in order to see whether children Japanese apply phonological deletion or syntactic deletion. They test the polarity sensitivity of Japanese PPI conjunction *-mo-mo* and observe that many of the participants are not sensitive to the difference between overt and covert conjunctions, which suggests that Japanese children apply a phonological rather than syntactic operation to null arguments. Ioana Stoicescu studies "Viewpoint aspect in child Romanian". The results from the experiments suggest that the perfective past is acquired later than the imperfective counterpart. Another relevant finding comes from the design of the experiments, since sentence-picture matching with discourse integration turned out more difficult than simple picture selection. Of a more theoretical nature is Chapter 10 ("Root infinitives in Norwegian child language"), by Bror-Magnus S. Strand. Through spontaneous speech data, he demonstrates that Root Infinitives in Norwegian child language are an overgeneralization of the Prescriptive Infinite, an already existing structure in children's input and output and emphasizes the theoretical advantages of these results.

In terms of constructions, the volume contains contributions dealing with passive structures, relative constructions, and raising construction. Passive structures are a well-known object of research, also featured in this volume in the contributions by Ruyi Dai ("The L2 acquisition and processing of the bleached adversity in Chinese passives") and Efrat Harel et al. ("Passive comprehension in bilingual acquisition: L1 English, L2 Hebrew"). Ruyi Dai presents an empirical investigation of the semantically bleached adversity constraint in the acquisition and processing of L2 Chinese *bei* passive constructions by L1 English speakers. Intermediate learners fail to converge on the target grammar in both off-line and on-line tasks, as opposed to advanced learners, who show convergence in on-line tasks, in agreement with the declarative-procedural model whereby real-time comprehension in advanced learners is a result of a more involved procedural system. Efrat Harel et al. focus upon the bilingual acquisition of the passive in English and Hebrew. Unlike English, Hebrew constructs the passive form in the past tense. They claim that the acquisition of this unique construction of Hebrew is of a lexical nature, irrespective of whether the speaker is monolingual or bilingual.

Relative constructions are the focus of research in Chapter 13 and Chapter 14. Chapter 13, "Animacy does not help French-speaking children in the repetition of object relatives", by Karen Martini, reports on the well-known subject and object asymmetries in relative clauses. She observes that they also hold in the performance of object relatives in French-speaking

children, but they cannot be justified by the animacy feature, in consistency with featural Relativized Minimality's predictions. In Chapter 14 ("Phenomenon-sensitive sentence processing in native speakers and language learners"), Marina Sokolova explores ambiguity in relative clauses motivated by the position of perception verbs in Russian native speakers and L2 English learners. She concludes that both monolinguals and bilinguals resort to similar syntactic processing strategies. What differs is the effect of the verb, determined by the different attachment resolution languages show.

Finally, raising constructions are examined in Chapter 15 ("Intervention meets transfer in raising constructions"), by Noriko Yoshimura and Mineharu Nakayama, who investigate the comprehension of English raising constructions with an experiencer by native Japanese learners of English. They report that both intervention and transfer effects may apply in the comprehension of raising constructions, depending on whether the experiencer is lexical or pronominal, fronted or in-situ. The last group of papers of Part I is devoted to the acquisition of specific grammatical items in languages. In Chapter 16 ("Comprehension and production of prepositions by German-speaking children), Mari Chanturidze et al. analyze phonologically and orthographically identical prepositions in German. Although they do not find any effect or interaction of preposition type (either lexical or functional) in their comprehension and production of these items, the study shows that age acts as a relevant factor and children's comprehension of the different types of prepositions lags behind that of adults. The following chapter presents a study of possessives ("A corpus study of the distribution of possessives in child and adult Emirati Arabic"). Dimitrios Ntelitheos examines the development of possessives in Emirati Arabic. He compares analytic genitives and construct state possessives and concludes that while analytic genitives are more frequently used by children in early stages, construct state possessives, structurally more complex, require a maturational process and are therefore acquired later. Alexandra Marquis and Phaedra Royle report on verbs in French. They investigate verb inflection patterns in L1 French and multilingual children and adults. The comparison between the different groups illustrates differences in adults and children and within children, differences according to parental education. A group effect was also found according to the type of verb, determined by the regular/irregular conjugation as well as paradigm productivity. The closing essay in this section ("Acquisition of clausal comparatives by parameter setting"), by Ryosuke Hattori, revises the acquisition of comparative constructions by English-learning children and observes differences according to the type of comparative construction, in that

quantity-clausal comparatives are learnt earlier than degree-clausal comparatives, thus supporting a parameter based on the Subset Principle.

The second grouping of chapters, in Part II, contains studies on "Pragmatics and Discourse", with chapters 20 to 23 illustrating features which go beyond the clause and require pragmatic knowledge. Dahee Ahn, in Chapter 20 ("Finding 'who': Position of Antecedent Hypothesis in non-native Spanish""), investigates referring preferences of pronominal items in null subject languages. She analyzes the effect of transfer from L1-Korean, a null subject language, and L2-English (overt subject language) in L3-Spanish (also a null subject language) learners and shows that the degree of exposition to L3 input reinforces the transfer of the Position Antecedent Hypothesis even to non-native languages. The following paper "Does eL2 learners' acquisition pace depend on linguistic properties of a phenomenon?, by Magdalena Wojtecka, explores the acquisition pace of comprehension of phenomena such as telicity, *wh*- questions and negation in eL2 German learners and German monolinguals. In agreement with previous research, the findings suggest that eL2 learners acquire core syntactic features with semantic properties such as verb meaning and *wh*-questions faster than monolinguals. As to the acquisition of features which also require pragmatic knowledge, as is the case of negation, both groups show similar results. Also touching the phenomenon of negation is the paper "Early acquisition of the focus expression *sika-nai* 'nothing but/only' in Japanese: absence of sentential-scope interpretations and non-association of *sika* with topic phrases". Here Kyoko Yamakoshi and Mika Konoki conduct an experiment on the placement of the focus domain particle *sika-nai* 'nothing but/only' in Japanese and the results show that this particle remains in NegP irrespective of age, and does not extend to TP or CP. This section closes with Chapter 23, a paper entitled "Heritage language acquisition in Cyprus: longitudinal and cross-sectional analysis". Sviatlana Karpava presents a longitudinal study of language proficiency and literacy skills of Russian–Cypriot Greek bilingual children, Russian heritage speakers. Her study includes different skills and phenomena (reading and writing skills, speech production, grammatical knowledge) and the results show that these children are better at comprehension than production in both languages, but this gap would disappear with increasing exposure to both languages.

The third and final part of the volume focuses on "Phonetics and Phonology" and includes four contributions, two of them on the production of specific segments (Chapters 24 and 25), and the other two related to rhythmical patters and intonation. Ioanna Kappa and Marieta Papoutsi open this section with a study of the acquisition of consonant clusters by children in Greek ("Perceptually driven blocking of palatalization in L1 Greek child

speech"). They claim that in the intermediate stage of phonological acquisition only non-homorganic clusters are produced, as opposed to homorganic ones, forbidden due to the activation of the phonotactic markedness constraint OCP, which motivates the emergence of unmarked segments. Ioanna Kappa et al. also investigate dorsal palatalization in a monolingual Greek child ("OCP factors governing the realization of [OBSTRUENT + SONORANT] clusters in child Greek: a case study"). They show that palatalization occurs if the interacting C-V segments are underlying adjacent, but it is blocked if the adjacency occurs in clusters consisting of [DORSAL+SONORANT] followed by unstressed front vowels, with deletion of the sonorant. Chapter 26 ("Predicting the future in rhythm and language: the anticipation abilities of a group of Italian-speaking preschoolers") presents an innovative study on the relevance of music and language in Italian-speaking children. Valentina Persici et al. investigate anticipatory abilities in object clitics (language domain) and rhythmic tapping (music domain) and the results show a correlation between these abilities in both domains. This section, and the whole volume, closes with Chapter 27, a paper entitled "Effect of phrase-final lengthening on English speakers: manifestation of lexical accent in Japanese". Kakeru Yazawa and Mariko Kondo analyze how lexical pitch accent is realized by English-speaking learners of Japanese. They tend to lengthen stressed vowels as a consequence of language transfer, and also by the insertion of prosodic phrase boundaries which contribute to further increasing the duration of vowels.

3. Final remarks

These twenty-seven chapters constitute an inspiring collection of essays which represent the high quality work presented in these sessions of the GALA 13 conference, and gives, we believe, an impressive insight of current research in the very broad field of first and second language acquisition and its impairments: phonology, morphology, syntax, semantics, the lexicon, pragmatics and its interfaces.

PART I:

MORPHOSYNTAX

CHAPTER ONE

GRAMMAR IDENTIFICATION BASED ON VARIABLE INPUT: ON THE PRODUCTION OF NUMBER AGREEMENT BY CHILDREN ACQUIRING BRAZILIAN PORTUGUESE[1]

ANA PAULA S. P. JAKUBÓW AND LETÍCIA MARIA SICURO CORRÊA

Brazilian Portuguese (henceforth BP) exhibits socially marked variation in number agreement: (i) the standard variety - plural is redundantly marked in all agreeing elements, as in European Portuguese (EP); (ii) the non-standard variety - only D is necessarily marked –, socially stigmatized. Depending on the social/educational background, the same speaker may alternate between varieties, making the input highly variable for children. Optionality in the use of number marking is, then, expected in preschoolers' speech production. This chapter reports an elicited sentence production experiment that aimed to verify the extent to which optionality prevails in number agreement production by preschoolers from public and private schools in Rio de Janeiro. We propose that the underspecification of morphophonological features of the functional category *Num* pertaining to the expression of agreement at the interfaces leads to optionality in sentence production due to variable input. Variation is characterized as a post-syntactic phenomenon in language production: the items with underspecified features are likely to be subject to frequency effects during morphophonological encoding.

---

1. Introduction

Brazilian Portuguese (henceforth BP) exhibits variation in the morphophonological expression of number agreement. In the standard variety, plural is morphophonologically marked in the determiner and in all the agreeing elements (1). In non-standard varieties, plural is necessarily marked in the determiner but optionally marked in the other agreeing elements (2 - 5). The level of variation is related to speakers' socioeconomic status (SES)[2] and level of education (Scherre 1994; Naro 1981; Scherre and Naro 1998, 2006; Naro and Scherre 2015). There can be, however, close contact between speakers of different varieties, either due to professional relations or to social mobility through generations of a single family. Hence, it can be assumed that Brazilian children are naturally exposed to variable input as far as number agreement is concerned (Brandão 2013):

(1) Redundant (Scherre and Naro 2006):
   a-s   coisa-s   tão   muito
   ART.DEF.FEM-PL thing.FEM-PL be.3.PRS.SG very
   car-a-s
   expensive-FEM-PL
   'Things are very expensive'

(2) Non-redundant nominal agreement (Scherre and Naro 2006):
   Essa-s   estrada-s   nova-ø
   DEM.FEM-PL road.FEM-PL new.FEM-SG
   'These new roads'

(3) Non-redundant nominal and subject-verb agreement (Scherre and Naro 2006):
   Esse-s   cara-ø   hoje só   qué-ø
   DEM.MASC-PL guy.MASC-SG today only want.3.PRS-SG
   curtí   mesmo, né.
   enjoy-INF indeed right
   'Nowadays, these guys just want to have some fun, you see'

---

[2] SES is a theoretical construct that involves level of education, income, access to services, possession of goods and social prestige, as proposed by Alves and Soares (2009) and Alves, Soares, and Xavier (2014).

(4)   Non-redundant subject-verb agreement (Almeida 2010):
       A-s   dúvida-s   faz   parte ...
       ART.DEF.FEM-PL doubt.FEM-PL make.3.SG.PRS part
       '(The) Doubts are part of the process…'
       A-s   pessoa-s   não toma-ø   atitude
       ART.DEF.FEM-PL people.FEM-PL not take-SG attitude
       '(The) People don't have initiative...'
       A-s   atitude-s   ruin-s   afeta-ø...
       ART.DEF.FEM-PL attitude.FEM-PL bad-PL affect.3.PRS-SG
       '(The) Negative acts affect…'

(5)   Non-redundant nominal, subject-verb and predicative agreement
       (Scherre and Naro 2006):
       a-s   coisa-ø   tá   car-a-ø,
       ART.DEF.FEM-PL   thing.FEM-SG   be.3.PRS.SG   expensive-
       FEM-SG
       'because things are expensive'

This chapter focuses on the production of number agreement by preschoolers in BP. It aims to provide a characterization of the outcome of language acquisition with variable input and a theoretical account of the sort of grammatical representation underlying optionality regarding redundant plural marking. In a seminal work on this topic, Miller and Schmitt (2010) reported that variation in number marking in Chilean Spanish would cause delay in grammar identification as opposed to Mexican Spanish. In the present study, the nature of the grammar identified and the extent to which a single grammar can be assumed is discussed.

Psycholinguistic results show that around 2 years of age, children acquiring Portuguese are sensitive to number marking in the determiner (D) (Corrêa, Augusto, and Ferrari-Neto 2006). However, unlike Portuguese children, the Brazilian ones (from highly-educated families) are not sensitive to variation in the number marking in the noun in a picture-identification task (Castro et al. 2009). Assuming that plural marking is necessarily required in D in BP, we verify the extent to which the morphophonological expression of plural number agreement varies in preschoolers' production as a function of social group, defined as type of school (Alves, Soares, and Xavier 2014). We propose that variation in number agreement in BP is a by-product of underspecification of morphophonological features in the lexicon regarding plural number redundancy.

This chapter is organized as follows: the first section describes the main characteristics of variable number agreement in BP; the second section presents the theoretical assumptions of variation as underspecification of features in the lexicon; in the third section, the results of an elicited production experiment carried out with preschoolers acquiring BP are reported and discussed, followed by the final remarks.

2. Variation in number agreement in BP

Seminal works on variation in number agreement in BP identified social and linguistic factors regulating variation in number agreement (Scherre 1994; Scherre and Naro 1998; Mendes and Oushiro 2015; Naro and Scherre 2015). Regarding linguistic factors, phonic saliency and linear distance between the agreeing elements influence the redundant morphophonological expression of plural: the less phonically salient the number morpheme is (either in the noun or in the verb) and the longer the distance is between the plural subject and an agreeing element (such as the verb), the less likely it is for redundant plural marking to be produced (Scherre and Naro 1998).

Regarding social factors, educational level is the most prominent one, since written BP requires the standard variety. Educational level and SES are intersected in the Brazilian reality: low educational level is usually associated to low SES, whereas high educational level tends to be associated to high SES (Naro 1981).[3] Despite the fact that a number of educated people may have access to both varieties and alternate between them as a function of the social context, non-redundant plural marking in the oral language is still socially stigmatized (Bagno 2007). Vieira (2015) illustrates the relation between SES/educational level and number agreement as a *continuum*:

---

[3] The National Institute of Educational Studies and Research (*Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira* – INEP) classifies schools, since 2014, in seven different types of SES. According to INEP, socioeconomic contextualization allows better interpretation of the results obtained by schools in national measurements. Available at:
http://download.inep.gov.br/informacoes_estatisticas/indicadores_educacionais/2011
_2013/nivel_socioeconomico/nota_tecnica_indicador_nivel_socioeconomico.pdf   .
Accessed on: 16/12/2017.

Table 1-1. *Continuum* **for 3ʳᵈ person plural agreement variation in BP presented (Source: adapted from Vieira 2015, 114 Figure 2)**

Rio de Janeiro urban area		
+agreement ⟵⟶ -agreement		
(Highly Educated)	(Moderately Educated)	(Illiterate)
94% (Graciosa 1991 *apud* Vieira, 2015) 97,8% (Vieira and Bazenga 2013 *apud* Vieira, 2015)	**73%** (Scherre and Naro 2006 *apud* Vieira, 2015) **89%** (Vieira and Bazenga 2013 *apud* Vieira, 2015)	**48%** (Naro 1981 *apud* Vieira, 2015)

Notice that formal instruction and exposure to written BP increases the production of the morphophonological expression of plural number agreement redundantly. For illiterate speakers, the rate of plural markings in production is 48%, thus, exhibiting an extremely variable nature (Brandão 2013). Hence, both varieties are available for BP speakers, as pointed out by Scherre (1994), independently of formal exposure to standard written BP. Consistent exposure to standard BP and social factors such as SES distinguish speakers in terms of a multilingual *continuum* (Jakubów in preparation). Based on these studies, we predict that children growing up exposed to variable input may resemble bilinguals and/or bidialectals. Children with highly educated parents would acquire the standard variety, in which plural number is marked redundantly. Speakers of such a variety, however, can naturally cope with non-redundant agreement in comprehension. Hence, these speakers can be considered to be functionally similar to passive bilinguals as far as non-redundant agreement is concerned (see Cornips 2014 for the concept of "passive bidialectals"). Children with moderately educated parents are more consistently exposed to the redundant form than those from poorly educated parents. Both may eventually acquire the standard variety as an L2, due to schooling, with variable degrees of proficiency, becoming, therefore, consecutive bilinguals. Children whose parents or caretakers speak different varieties as far as number marking is concerned would be in a condition of simultaneous bilingualism (Meisel 1994). Some studies on bidialectalism suggest that speakers exposed to variable input have access to both varieties in comprehension, though, in production only one may prevail (Sumner and Samuel 2009) and that there may be different degrees of variation across speakers (Miller and Schmitt 2010; Edwards et al. 2014).

The present study focuses on children acquiring BP in Rio de Janeiro, prior to exposure to written language. The sociolinguistic profile of Rio de Janeiro city allows interaction among speakers from different SES and educational levels on a daily basis, due to professional relations or in cases of intragenerational or intergenerational socio-occupational mobility.[4] Thus, close contact of varieties is common in the city, particularly in the suburban areas, in which upward social mobility makes it usual for a family to include members with different levels of schooling and SES across generations. Additionally, Rio de Janeiro, as Brazil at large, faces a social division in its educational system: private schools concentrate students from middle-high to high SES, whereas municipal public schools concentrate students from middle-low to low SES (Alves, Soares, and Xavier 2014). Considering this scenario, type of school is taken as a social variable in this investigation. Two types of school are contrasted as a means of differentiating the SES more likely to predominate in children's families: a private school and a public school, both from the same suburban area. It means that the private school is likely to concentrate children from moderately to highly educated families and middle-high SES, thus, simultaneously exposed to different varieties in their extended family, being, therefore, in a bilingual-like context. All children participating in this study are then exposed to variable input at different degrees. It is the impact of these different degrees in the outcome of language acquisition that is the major concern here.

3. Theoretical assumptions for variable number agreement in BP

In order to provide a grammatical representation for variable number agreement in BP, a lexical feature-based approach is assumed along the lines of Adger and Smith (2010), within the minimalist framework: "underspecification in the mapping between feature structures and morphological forms is a formal method of capturing what we might call Labovian variation" (Adger and Smith 2010, 1126).

Given minimalist assumptions, mainly, the Strong Minimalist Thesis, grammar architecture consists of: a lexicon that feeds narrow syntax which,

---

[4] Data from the supplement of PNAD 2014 (*Pesquisa Nacional por Amostra de Domicílios* 2014/ National Research per Housing Sample) carried out by IBGE (*Instituto Brasileiro de Geografia e Estatística*/ Brazilian Institute of Geography and Statistics). Available at:
https://ww2.ibge.gov.br/home/xml/suplemento_pnad.shtm
Accessed on: 16/12/2017.

in turn, provides outputs to PF and LF, interfaces with Sensory-Motor (S-M) and Conceptual-Intentional (C-I) systems respectively (Hauser, Chomsky, and Fitch 2002). The computational system is optimal and must adhere to legibility conditions posed by the interfaces. All variation and idiosyncrasies are located in the lexicon, which contain semantic, formal and phonological features (Chomsky 1995). Additionally, morphophonological features can account for the specific forms whereby formal features are expressed at the interfaces.

We believe the minimalist architecture allows close interaction between a model of grammar with actual language use and/or processing (Corrêa 2002, 2009, 2014; Chesi 2012). The representation of features pertaining to different domains is plausible within a processing model, in which each component deals with a different type of information (Levelt, Roelofs, and Meyer 1999; Corrêa 2009; Chesi 2012). Feature underspecification in the lexicon can apply to formal features (Corrêa 2009; Adger and Smith 2010) and, as we argue, to morphophonological information. Therefore, the main assumption of this study is that variation in the morphological expression of number agreement in BP emerges from underspecification of the morphophonological features. It is worth highlighting that *underspecification* is understood here in Rooryck's (1994) terms, who presents *α-valued features*[5] as underspecified features (not unspecified, in the sense that they do not have any fixed value but "'pass on' the features of the elements surrounding them" (Rooryck 1994, 209 author's highlights)).

In sentence production, part of the planning of the utterance needs to consider the context, the type of interlocutor, register used and consequently, the choice of variety. All this information should, therefore, be available prior to lexical access. For a speaker that is proficient in more than one variety, the option for a particular one guides the lexical search that gives rise to the array that will feed the syntactic computation. All the lexical information concerning the expression of a particular formal feature, or the result of agreement at the interfaces, will be a function of the variety in which the speech is planned. It is assumed, then, that exposure to variable input leads to the representation of underspecified information pertaining to morphophonological features. The choice of the variety as a function of contextual variables and the level of proficiency of the speaker in the standard variety enables either specified or underspecified morphophonological features to be accessed. As the value they eventually

---

[5] Rooryck (1994) contrasts variable underspecified features, *α-valued*, and non-variable underspecified features, *0-valued*. The former is a "chameleonlike" feature with no particular value set and can adapt to the featural environment; the latter is not + nor – but has a neutral value associated to it, marking the absence of a feature.

assume is sensitive to the environment (and frequency), variation of the sociolinguistic type is obtained.

In sum, syntax does not accommodate variation (Boeckx 2011; Boeckx and Leivada 2014). Variation actually emerges from the interaction of different kinds of information during sentence processing, either prior to lexical access (when a given variety can be chosen) or post-syntactically during morphophonological encoding. In the case of number agreement in BP, we argue that what can be underspecified is the redundant morphophonological expression of plural agreement. If underspecification is located in morphophonological features to which the computational system does not have access, syntax keeps its non-variant nature, given that it only operates with formal features. In order to verify the extent to which different degrees of variation in the input affect the acquisition of number agreement prior to exposure to written standard BP, a production experiment was conducted with preschoolers.

4. Experiment: preschoolers' production based on variable input

An elicited production experiment was carried out in which preschoolers were asked to retell what a robot had told them. The robot produced sentences which varied according to possible morphophonological expressions of *redundancy in number agreement*, giving rise to 4 conditions, considering the subject DP, with a determiner and a noun, and the verb, which raises to T in BP:

Table 1-2. Experimental conditions

Condition	Example of Stimuli
1. Redundant (standard variety)	*O-s*　　　　　　*cachorro-s*　*encontr-**aram*** ART.DEF.MASC-PL dog.MASC-PL find-3.PST.PL *o　leão* the lion 'The dogs found the lion'
2. Redundancy in the DP only (henceforth, Redundancy in the DP)	*O-s*　　　　　　*cachorro-s*　*encontr-**ou*** ART.DEF.MASC-PL　dog.MASC-PL　find-3.PST.SG *o　leão* the lion 'The dogs found the lion'
3. Redundancy in the TP only (henceforth, Redundancy in the DP)	*O-s*　　　　　　*cachorro-ø*　*encontr-**aram*** ART.DEF.MASC-PL dog.MASC-SG found-3.PST.PL *o　leão* the lion 'The dogs found the lion'
4. No redundancy	*O-s*　　　　　　*cachorro-ø*　*encontr-**ou*** ART.DEF.MASC-PL dog.MASC-SG found-3.PST.SG *o　leão* the lion 'The dogs found the lion'

The retelling task (not a repetition one) was intended to induce the spontaneous reliance on the variety most easily accessible to the children at the moment of utterance production. In order to manipulate the social variable in terms of SES/educational level, preschoolers from two types of school participated in the task: a private school (PrS) (middle-high SES/educational level) and a public school (PbS) (middle-low SES/educational level). The linguistic profile of the children's families from each school was assumed to be the following:

a) PrS: parents are mainly speakers of the standard variety (passive bilinguals for the non-standard one) and/or simultaneous bilinguals, having the standard variety as the dominant one;
b) PbS: parents are mainly speakers of the non-standard variety (passive bilinguals for the standard one).

A 2x4 design was then obtained in which *Redundancy in Number Agreement* (henceforth *Redundancy*) is a within subject factor and *Type of School* the group factor. The research questions were:

(i)   Do children acquiring BP exhibit preference for any of the morphophonological expressions of number agreement?
(ii) Does *Type of school* as social variable play any role on the production of number agreement by children?
(iii) What sort of non-standard possibility prevails in children's responses?
(iv) Is there a tendency for children to provide alternative redundant responses to the non-standard forms?

The dependent variable 1 was the number of responses corresponding to the form of the stimuli provided by the robot. Given the linguistic profile of the schools' population, an effect of *Type of School* is expected with more responses corresponding to the variable stimuli in the PbS group.

The dependent variable 2 was the number of responses corresponding to the standard form (condition 1). Given the linguistic profile of the schools' population, an effect of *Type of School* is expected with more responses corresponding to the standard form in PrS group.

4.1. Method

Participants: 36 typically developing preschoolers, as reported by the schools, participated in the experiment and were divided into groups according to the type of school they attended: PrS (n = 20, age range = 5;0 – 5;11; mean age 5;7; 10 girls) and PbS (n = 16, age range = 5;1 – 6;3; mean age 5,9; 6 girls). The schools are located in the same suburban neighborhood in Rio de Janeiro city.[6]

Material: 4 lists containing 4 stimuli in each condition were created with sentences randomized in a Latin square design. Each preschooler was presented to 16 stimuli, 4 sentences in each of the 4 conditions. The sentences were recorded by a female voice and synthetized in order to sound more robot-like. The robot was computer animated mimicking the recorded sentences. Thus, sentences were auditorily presented. Responses were recorded and notes were taken for further analysis.

Procedure: Children were told that the robot Bob came from a distant planet and sometimes he would speak in an unusual way. The experimenter also told preschoolers that many funny and curious things happen in the

---

[6] The task was approved by the Ethical Committee of the Pontifical Catholic University of Rio de Janeiro.