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Two prosodies, two languages: infant bilingual strategies in Portuguese and Swedish*

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Abstract

The assessment of early bilingual proficiency often involves analysis of the child's productive lexicon at different stages in acquisition. This approach implies two assumptions: that bilingual awareness is measured by lexical production, and that the child has attained a level in development compatible with the production of equivalent lexical items in each language, before any so-called language 'differentiation' becomes apparent. This paper discusses these assumptions, in the light of the linguistic production of three Portuguese-Swedish bilingual siblings between the ages of 0;7 and 1;9, and argues that the children's ability to produce distinctive prosodic and phonetic patterns associated with each language at this early stage in linguistic development provides clear evidence of bilingual awareness before and at the very outset of the one-word stage.

1. 'Lingualism' and bilingualism

1.1. Bilinguals, language and languages

The definition of a child as bilingual suffers from the same indeterminacy as the definition of any language user as bilingual. In the available literature, the characterisation of a bilingual ranges between the extremes proposed by Weinreich (1953) as a user of two languages and by Bloomfield (1933) as a native-like user of two languages. The one subsumes under the same label primary bilinguals acquiring two languages from birth, as well as children and adults learning a second language at school or in an adopted country, the other

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in fact dodges the issue by laying the burden of proof on a previous definition of the term 'native'. Both definitions besides stumble on the problem of how to quantify the degree of fluency in each language, in order to draw comparisons between their use.

Adding to this terminological confusion, or perhaps because of it, the bulk of the literature on bilingualism ascribes heuristic usefulness to analytical frameworks that are monolingual-based, with two chief variants. One is encapsulated in what Watson (1991:35) calls the "averaged system" of a bilingual, and in what other authors call the 'merged system' or the 'one system' of a bilingual, as in the proposals spawned by Leopold (1954). This variant allows for formulations like 'bilingual system', that in fact deny the duality expressed in the prefix *bi–* though apparently attempting a synthesis of the contradiction between its inherent plurality and the singularity of the word *system*. The second variant assumes a fundamental asymmetry between the two languages of a bilingual. One of the languages is described as embedded in, or encroaching upon, the other, whereby bilingualism comes to be viewed not as an instance of a dual use of language but of a duel between languages, as in the title of Myers-Scotton (1993). According to this variant, *bi*lingualism emerges as a disruption of *mono*lingualism.

Both variants stem from an assumption of monolingualism as the core of 'language' and therefore of 'language' acquisition, whether stated in these terms or not. The view of 'lingualism' as synonymous with monolingualism has deep roots that grow back to Ancient Greek thought, from which current thought inherited the labelling of anyone whose speech is unintelligible to educated monolinguals as a modern-day 'barbarian', i.e., a "deficient" (Appel & Muysken, 1987:3) or a "semilingual" (Romaine, 1989:232ff.) user of language. The difficulties with which monolingual approaches to bilingualism are fraught stand out from one recent monograph, Muysken (2000). It is clear that as much insight into bilingualism can be gained from monolingual-based theorisation as into siblinghood from within a framework designed to characterise a single child.

The same assumption has nevertheless found considerable reinforcement through a fundamental ambiguity in the current (meta)language of science, English, concerning the word *language* itself. This word refers both to a particular tongue, like Mandarin or Portuguese, and to the ability to use tongues, as popularised in expressions like 'language faculty' or 'language capacity'. It is not always clear from the literature which of the two meanings of the word is being discussed – nor whether the ambiguity is being systematically explored or simply overlooked. The *one language* of monolinguals is taken as a language in its pure, unadulterated state, and therefore as a true reflection of the human capacity for *language*. (The two meanings of the English word are unambiguously differentiated in, for example, Portuguese and French, through the words *língua* and *linguagem* or *langue* and *langage*, respectively.) The consensus in research on bilingualism seems then to be to approach the use of

two languages from the perspective of one of them or of a merged version of both.

1.2. Bilingual acquisition

If we take early bilingual speech as an instance of the use of language and not of the use of particular languages, we may open the way to quite different conclusions about bilingualism. Child systems are systems in the making, and we are therefore dealing with the process of acquisition, not its product. In this paper, I propose to look at the very earliest attempts at communication by three bilingual children, on the assumption that a bilingual must, like any typical human being, acquire the use of language.

The available (English) literature on child bilingualism appears to endorse the play on the ambiguity of the word *language*, in that the primary task of the bilingual child appears to be not one of acquiring language, but of producing utterances that match what the researcher is able to recognise from sanctioned descriptions of the target languages in question (Leopold, 1954; Volterra & Taeschner, 1978; Redlinger & Park, 1980; Taeschner, 1983; Arnberg, 1985; Vihman, 1985). For a discussion of this issue, see Meisel (1989). Often, these tell-tale productive pieces of evidence are said to be words. For example, Quay (1995:383) states that language choice, which constitutes evidence of language differentiation, "is manifested in the production of translation equivalents" in each language. The lexical part of the child's production, and its quantification, is thus arbitrarily selected as providing proof of bilingualism. Other studies take for granted the acquisition of a critical mass of words, variously set at between 50 and 100, and focus either on grammar, often taken as synonymous with syntax, or on pragmatic uses of language. One example of the former is Lebeaux (2000), one example of the latter is Nicoladis & Genesee (1996:461) who suggest that "bilingual children do not differentiate pragmatically" before the first words, the implicit reason for this being that there is nothing for the child to choose from.

Taking the acquisition of words as a fundamental cut-off point in language development stems from the assumption that bilingual communicative competence is equated with lexical competence. It is also reminiscent of the biblical formulation about the cornerstone of the emergence of order: "In the beginning, there was the verb". *Mutatis mutandis*, the emergence of recognisable lexical items – verbs or nouns, depending on the type of language under observation – hails the lexical infant as a fully-fledged member of a linguistic community. The assumption is that before words, there is chaos: the pre-word child is consequently dubbed pre- 'linguistic'. Since words are a rather late acquisition, and syntax obviously later still, the pre-word bilingual infant is taken to live through many months of a linguistic nebula of indistinct and indistinguishable strings of vocalisations, the child's own and those of the speakers surrounding the child, until the breakthrough of language-specific vocabulary and grammar finally grants release into bilingual awareness. For

example, Arnberg (1985:7) states that the process of language separation in bilingual children is dramatically accelerated after "the point of 'insight' or bilingual awareness". It is not clear, however, what may trigger the breakthrough nor the corresponding insight.

The second assumption behind lexicon-based studies is that the child must be developmentally able to produce equivalent lexical items in each language. This assumption places what appear to me to be unreasonable demands on developing vocal tracts. As has been argued in several studies, children produce what lies within their articulatory capabilities, in that articulatory sophistication is a late acquisition (Menyuk & Menn, 1979; Kent & Miolo, 1995). In a discussion of monolingual acquisition, Smith (1988) comments that children's choices are partially governed by what they can produce. Yavas (1995) observes the same about the phonological production of a Turkish-Portuguese bilingual child.

As I see it, the point here is that a child's control over his/her vocal instrument provides as much insight into his/her linguistic competence as the same child's control over a drawing instrument does about his/her visual competence. Just like a young child will draw both a banana and a waxing crescent as a semicircle, what risks being interpreted as unavailable vocabulary may be due to vocal tract immaturity that accounts instead for avoidance of particular words in particular languages. In their early attempts at linguistic communication, children cannot but make use of the linguistic and physiological resources that they find available to them. These resources are linguistic, in that children develop well-established strategies that filter whatever is perceived as salient in the surrounding language(s) into systematic templates (see Kehoe & Stoel-Gammon, 1997, for a review). These resources are physiological in whatever children are developmentally able to reproduce from what they perceive as salient.

The idea that emerges from a wealth of recent studies is that infants are extremely sensitive to the prosodic characteristics of the language(s) to which they are exposed, long before words are acquired. This is a welcome challenge to the persistently reductionist view of language as consisting of words and grammar, again deeply rooted in traditional thought, that has gained foothold in studies on child language and therefore on child bilingualism, despite seminal work on the role of prosody in acquisition by Halliday (1975) and insight into infant perception and production of intonation as early as in Lewis (1951). Systematic research into the phonetic, phonological and prosodic features of child bilingualism dates from only a few years back (see Schnitzer & Krasinski, 1994, 1996; Bosch & Sebastián-Gallés, 1997, 2001; Bijeljac-Babic, 2000; Khattab, 2000; LaBelle, 2000; Whitworth, 2000; Bijeljac-Babic, Gérard & Metta, 2001; Paradis, 2001. See also contributions to the collection by Cenoz & Genesee, 2001).

The lagging of studies on prosody, in particular, is all the more surprising in view of the general consensus that prosodic features are among the first, if

not the first, linguistic properties to be acquired, whether in intonation or in tone languages (Kaplan, 1970; Lieberman, 1986; Li & Thompson, 1978; Jusczyk, 1997), in perception as well as in production (Halliday, 1975; Mehler, Jusczyk, Lambertz, Halsted, Bertoncini, & Amiel-Tison, 1988. For a review of the literature on prenatal responses to speech see Lecanuet, 1998).

If bilingual productive competence is to be assessed in terms of choice, as most of the studies reviewed above agree, there is no principled reason to assume words or grammar as the only, or even the prime, choices available. As Pearson (1998:348) comments, "Although no one can speak a language without using the words of its lexicon, knowledge of words alone is insufficient evidence of its learning or use". Quay (1995:383) also states that there must be "comprehensive data to ascertain that choices are available at different points in development". In his discussion of monolingual language acquisition, Crystal (1979) says that adequate intonation patterns are in place in children's production well before the first words appear, and this is of course true of bilingual production too. Prosody, which is necessarily present in any human utterance, thus precedes and paves the way for other production in child speech. Words, including first words, must be spoken in modulated pitch as well as with duration, intensity and other phonetic properties of prosody.

It is with this view in mind that the remainder of this paper presents evidence in support of the claim that the prosodic characteristics of the emergent speech of bilinguals contain the earliest clues for bilingual awareness.

2. Background and conventions

2.1. The children

The present report draws on data from an ongoing study of three siblings, two girls and one boy. The children, Karin, Sofia and Mikael in order of appearance, can be defined as primary bilinguals in that they are being raised from birth in a mixed family where the mother speaks (European) Portuguese and the father (Central Standard) Swedish, according to the one person-one language principle. This strategy can be maintained in a natural way among relatives and friends from both sides of the family, who have no knowledge of the other language. Both parents are fluent in both languages, and use mostly Swedish to communicate with each other in the presence of the children, in order to compensate for the children's greater daily exposure to Portuguese through their mother.

Data are being collected since the birth of each child through audio and video recordings, supplemented by diary notes that include details on date, location, interlocutor and situation. Recordings took place at least once monthly during the period concerned in this study. The data were transcribed by a trained phonetician competent in both languages as soon as possible after

recording, and a second transcription was made within 2 to 4 weeks later. Both transcriptions were rechecked during coding for inclusion in the CHILDES database, that is ongoing.

The data on which this study draws consist of spontaneous speech production in different situations that include solitary play and adult-child interactions. The study deals with the children's earliest production, between the ages of 0;7 and 1;9, and focuses on the prosodic characteristics of their speech. In what follows, the word *prosody* is used as a cover term for features of stress, rhythm, intonation and voice setting in child productions.

2.2. The languages

Portuguese is a Romance language with predominantly penultimate lexical stress. For details on the prosodic and phonological systems of Portuguese see Cruz-Ferreira (1998, 1999). The (Lisbon) variety to which the children are exposed has drastic vowel reduction and often vowel deletion in unstressed syllables. For example, a word like *despercebido* ('unnoticed') has the following phonological transcription and phonetic rendering:

(1) / dɨʃpɨɾsɨˈbidu / → [dʃpɾsbid^{w}]

Swedish belongs to the Nordic group of Germanic languages. For details on the prosodic and phonological systems of Swedish see Gårding (1998) and Engstrand (1999). Swedish has no significant vowel reduction in unstressed syllables and is a so-called pitch-accent language, where lexical tone is distinctive in parts of the lexicon. In the variety used in the family, accent 1 has a simple fall, whereas accent 2 has two falls, one on each successive syllable of the word, the second more prominent than the first. For example, in the two words spelt <u>tanken</u>:

(2)	/ˋtaŋkən /	'the tank'
	/ˎˋtaŋkən /	'the thought'

2.3. Conventions

The following conventions are used in this study:

- the children are identified by their initials, K(arin), S(ofia) and M(ikael), followed by age (years; months);
- examples are given in ordinary orthography, Ptg (Portuguese) in *italics*, Sw (Swedish) <u>underlined</u>. Eng stands for 'English';
- phonetic transcriptions follow the IPA model;
- the symbol ˎˋ indicates the Swedish accent 2;
- the symbol ˋ indicates a falling tune;
- the symbol ˊ indicates a rising tune.

Part of the data below follows the CHILDES coding conventions (see MacWhinney, 2000), adapted for the purposes of this paper. Conventions are:

- speech lines are indicated by an asterisk preceding the 3-letter code identifying a speaker;
- non-speech lines are preceded by the symbol %;
- the letter sequence 'yyy' indicates a non-lexical utterance;
- the %pho: line gives a phonetic transcription of utterances.

3. Infant production in Portuguese and Swedish

All three children were early babblers, from around 0;2, taking the onset of babbling as the incipient modulation of an egressive airstream for the pleasure of sounding. Language acquisition in Portuguese and in Swedish proceeded typically, with plosives appearing before fricatives, open syllables before closed and falls preceding alternations of falls with level tones or of falls with rises.

During the pre-word stage, and at the outset of the one-word stage, the children systematically explored the signalling of the language of the exchange by means of prosody. Throughout their first attempts at communicating, the children besides appeared to settle for formulaic productions, as it were, that were found to elicit favourable response from interlocutors or that otherwise satisfied their communicative needs, in that the data show several instances of repetition, particularly at the pre-word stage. In what follows, the given utterances therefore represent exemplary tokens of the children's language use and strategies.

3.1. Language-specific babbled dialogues

All three children developed what I would call language-specific connected-speech routines, a set of strings used in speaker-directed babbled dialogue, of which the following examples are representative:

(3)	M 0;9	Ptg	[dβʎˈdβʎdβʎ]
		Sw	[m̩pam̩pa‿m̩pa]
(4)	S 1;1	Ptg	[kʎkʎˈkʎkʎ]
		Sw	[hitihiti‿hiti]

Each string replicates phonetic, rhythmical and intonational patterns typical of the children's two languages. Sofia, the latest speaker of all three, made consistent use of this strategy for several months from age 1;1. The Portuguese reduplications in (3) and (4) contain no vowels and feature the penultimate stress typical of the language, as in (1), as well as the palatal lateral that is phonemic in this language and non-existent in Swedish. The Swedish

utterances feature distinctly articulated vowels and a token of accent 2 on the last reduplication (cp. (2)), as well as, in (4), the Swedish glottal fricative non-existent in Portuguese. Mikael's Swedish utterance in (3) is in all likelihood an overextension to dialogue fashioned from one of his favourite words in this language, lampa /ˆlampa/ '(electrical) light'. The data show that the children favour one or the other of the types of utterance illustrated in (3) and (4) in their interaction with speakers of either Portuguese or Swedish, respectively. They are used to solicit attention from caregivers, as a way of initiating or sustaining dialogue, and are besides directed at objects that the children associate with each of the languages. In lone play, for example, the children will address in Swedish a toy that was given to them by a Swedish speaker.

3.2. Carriers of language-specific prosody

In the transition to the one-word stage, and at the outset of this stage, the children's solution to problems of lacking vocabulary further argues for their early awareness of the two systems. When engaged in dialogue in a language in which some word failed them, the children resorted to two main types of strategy.

A prosodic strategy is exemplified in (5), where Mikael is reading a cartoon book with his father:

(5) M 1;2

%action: Father points at a fish.
*DAD: vad heter det?
%eng: what's that?
*MIK: yyy.
%pho: ˋəːəː
%action: Mikael points at the fish too, and bounces in synchrony with the two syllables of his utterance.

At the time this dialogue was recorded, Mikael already knew the Portuguese word *peixinho* /pɐiˈʃiɲu/ for 'fish', which he pronounced [piˈɕiɲˀ]. The Swedish word is fisk /fɪsk/. In equivalent situations in dialogues with their mother, one example of a carrier is the vowel [ɐ̃]. In both cases, the children resort to a nonsense carrier that enables the humming of a tone or intonation pattern that is typical of the language in question.

A lexical strategy is exemplified in (6):

(6) K 1;7

*KAR: *mã # pãozinho*.

%eng:	mummy, bread.
%pho:	mɐ̃ # pɐ̃ˈðɐ̃ː
%action:	Karin whines and slaps the bread cupboard with both hands.
*MUM:	quer pãozinho? # mamã dá.
%eng:	you want some bread? Mummy gives.
%action:	Mother takes a slice of white bread from the cupboard and gives it to Karin. Karin puts both hands behind her back.
*KAR:	*não*!
%eng:	no!
%pho:	nɐ̃ːːu
*MUM:	não quer pãozinho?
%eng:	you don't want bread?
%action:	Karin points at the bag containing 'skorpa', Swedish wheat--based hard bun halves.
*KAR:	este! # este!
%eng:	this one! this one!
%pho:	ʔiːtˀ # ʔiːtˀ

Karin pronounced Ptg *este* with a high-falling tone, in both instances. The kind of bread that the child wanted is a favourite treat and the Swedish word skorpa /ˋskɔrpa / is therefore well-known to her. In equivalent situations in dialogues with their father, one example of a carrier is Sw den /dɛn/, 'this one'. Both Ptg *este* and Sw den have similar, indefinite, referents.

In both (5) and (6), the children use either nonsense carriers of language--specific prosody or language-specific generic words as substitute for vocabulary that for some reason failed them, in order to keep the exchange going in the appropriate language. None of the child utterances in examples such as these could be counted as translation equivalents of the lacking words, and the clear language-specificity of these carriers would therefore be lost in analyses that take lexical doublets as prime markers of bilingual awareness. The two strategies ceased to be used from around 2;0, due to rapidly expanding vocabulary in both languages.

At the onset of the one-word stage, the children acquired both Swedish and Portuguese articulatory settings. Laver (1980:2) defines articulatory setting as a "tendency for the vocal apparatus to be subjected to a particular long--term muscular adjustment". Adequate articulatory setting is required for the native-like pronunciation of a language, as was observed by Honikman as early as in the 1960's (Honikman, 1964) or, more recently, as Boysson--Bardies' (1999:65) "oral posture". The existence of a "specific articulatory posture" for each language of a Portuguese-English bilingual child is also noted by Major (1977:114). The children in this study had, consequently, native-like accent in each language from the very beginning, which further makes it clear to the listener which language they are attempting to communicate in, at any time.

3.3. (Near-)minimal prosodic pairs

The children's first words, from around 0;8, include pairs of monosyllables or reduplicated syllables with a typical CV structure consisting of a plosive followed by an open vowel, which are phonologically very similar in both languages. For example:

(7)	Ptg [ˋpapa]	*pápa*	/ ˈpapɐ /	baby-word for 'food'
	Sw [ˊpapa]	pappa	/ ˋpapa /	'daddy'
(8)	Ptg [da]	*dá*	/ da /	'(you) give (me)'
	Sw [dæ]	där	/ dær /	'there'

In (7), the Portuguese word has a fall and the Swedish one a rising tone. The fall on Ptg *pápa* is in all likelihood overextended from a demand or pleased exclamation at feeding time, whereas the rise on Sw *pappa* may stem from a call, the father being the parent whom the children had to summon in the house.

In (8), all three children use a (prolonged) high-falling tone for the Swedish utterance, whereas there are individual tonal preferences for the Portuguese utterance: Karin uses a rising tone, Sofia uses either a rising or a high level tone, and Mikael uses either a high level tone or a string of high pitched syllables followed by a fall from high on the last syllable of the reduplicated string [dadadaˈda].

The recurrent association of the same tone with the same word appears to suggest that the children are learning the words of each language as if the languages were tone languages. This is consistent with, for example, Jaeger's (1997) report that the first use of pitch in her child's speech was to differentiate between two segmental homophones, one English, the other the child's own borrowing of a Spanish word (the Spanish vocabulary of the child is not otherwise mentioned in the study).

3.4. Language-specific prosody and phonetics

From the outset of the one-word stage, the children continue to make use of differential use of prosody in order to signal each of their languages. This strategy is a persistent feature of the children's renderings of phonetically unrelated utterances in each language, as in the following example:

(9)	K 0;11	Ptg [uˈçiu]	*ursinho*	/ uɾˈsiɲu /	'teddy-bear'
		Sw [ˋau]	nalle	/ˋnalə /	'teddy-bear'

The same strategy, coupled with phonetic strategies affecting single segments, is apparent in these children's renderings of near-homophones in the two languages. Articulatory ease has led some authors (Lindholm & Padilla, 1978; Grosjean, 1982; Quay, 1995) to claim that pairs of near-homophones

constitute the most difficult words to learn correctly by a bilingual, giving rise to the easy way out of using one of them in both languages. Observations such as these besides fuel the decades-long controversy about a bilingual child's underlying one vs. two linguistic systems. The children in this study appear to follow the exact opposite strategy. Compare:

(10) K 1;8	Ptg [ˈnɐnɐ]	*banana*	/ bɐˈnɐnɐ /	'banana'
	Sw [naˈnu]	banan	/ baˈnɑːn /	'banana'

The Portuguese word features deletion of the first (unstressed) syllable, preserving the vowel qualities of the resulting disyllable. The Swedish word preserves the number of syllables of the target, and substitutes [u] for /ɑː/. Both truncations are disyllabic, and their differentiated stress patterns preserve the targets' lexical stress pattern.

Besides the differential use of stress according to language apparent in (10), the child appears to be trying to achieve maximal articulatory differentiation between the words as well. At 1;8, Karin had already acquired the Swedish rounded back vowel /ɑː/ in words like mat /mɑːt/ ('food'). Its replacement by the back vowel [u] in (10) cannot therefore be accounted for in terms of difficulty of articulation, and appears instead to serve two purposes: one, to suggest the back quality of /ɑː/, and the other, to achieve contrastive purposes between otherwise too-similar targets in each language.

A similar strategy of maximal differentiation is used by Karin and Mikael in the word for 'hotel', whose targets are Ptg /ɔˈtɛɬ/, with dark /l/, and Sw /hɔˈtɛlː/, with long clear /l/, both words having the same stress pattern. The children attempted a replication of the distinct lateral resonance in each language in:

(11) K & M	Ptg [tɛw]	*hotel*
c. 1;6	Sw [tɛj]	hotell

4. Bilingual choice and bilingual awareness

The data in this study show that all three children make consistent use of prosody-based strategies in order to produce cross-linguistic contrast between their languages. The implementation of these strategies into the actual forms of their productions corresponds to idiosyncratic approximations to the adult targets, paralleled by the idiosyncratic renderings of segmental forms typical of children's earliest speech, as discussed by Vihman, DePaolis, Nakai, Evans & Kunnari (1999). The strategies appear to prioritise the maximising of cross-language difference over accuracy in the replication of target forms. It is for this reason that I have deliberately refrained from comparing these children's early productions to those of monolingual children in either Portuguese or Swedish, because the children in this study are not

monolingual. The point is not that the children in this study produce prosodic patterns that are similar to, or different from, those from their monolingual peers, nor that their patterns correspond, or not, to target uses of prosody. The point is that these children produce patterns that are different in Portuguese and in Swedish. The trend in the data is the children's agreement in their attempts to distinguish the two languages in production.

The data also show that the children make active use of whatever means are articulatorily available to them, in each language and at each stage, in order to produce distinct prosodic and phonetic patterns that signal either Portuguese or Swedish. Children speak as their developing vocal tracts allow them to. The resulting productions reflect the child's exercising of a developmental skill in refined muscular coordination, not an end-product from which lexical (or syntactic) competence may be assumed. Children may also avoid producing a word that they know lies beyond their articulatory capabilities, in whatever language. Words may therefore not be the right place to start looking for evidence of child bilingualism.

Pairs of languages with quite distinct prosodies, like the ones in this study, undoubtedly facilitate the task of the researcher. It is my conviction that similar distinctive prosodic patterns will be apparent from any two language pairs in early bilingual production, if research focuses on the whole of what the child is actually producing, and not on what researchers have been conditioned to expect from bilingual child data. As the research reviewed above shows, child productions impose patterns upon what children appear to perceive as salient, and therefore potentially distinctive, in the speech that surrounds them. The salience of prosody is evidenced in the patterns apparent in the productive data above, and choices in prosody stand out as signals of language identity, from within limited articulatory sophistication.

5. Conclusion

The strategies that are apparent from the data discussed in this paper suggest that the two languages of bilingual children are in place before and at the outset of the one-word stage: the children 'sound' Portuguese or Swedish when they speak, and they choose to sound so according to interlocutor.

The data also suggest that bilingual children take prosody as a crucial conveyor of both linguistic meaning and linguistic identity. From the earliest attempts at linguistic interaction, the production of the children in this study makes it clear that they use tone of voice both to identify language and to categorise interlocutor according to language. Prosody seems then to constitute a basic map of strategies to which bilingual children resort as early as before any segmental articulate stage, in order to first, signal linguistic identification, and then, gradually acquire competence in navigating two different languages. Prosody emerges as central among (bilingual) acquisitional strate-

gies, providing discovery procedures in the exploration of meaningful linguistic patterns.

By avoiding drawing an arbitrary line of legitimate evidence at, say, the one-word stage, or at the first 50 words, and taking instead into account the language resources manifested in the whole of the child's early production, this study also shows that the issue of equating bilingual language acquisition with replication of two target monolingual systems, and the associated 'one vs. two-system' issue may turn out to be no issues at all. The issue of deciding on early bilingual competence may instead revolve around where to look for evidence of bilingual competence in child speech.

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