DE GRUYTER MOUTON
DOI 10.1515/ling-2013-0017 — Linguistics 2013; 51(2): 439–472

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Phonetic convergence and divergence strategies in English-Arabic bilingual children[1]

Abstract: This paper examines the role that multiple models of English play in the daily interactions of English-Arabic bilingual children growing up in the UK and how these models are harnessed for communicative purposes. Bilingual children are often regularly exposed to standard, nonstandard, and non-native varieties of either of their languages. These varieties constitute the source of phonological knowledge for these children and influence their sociolinguistic development (Khattab 2009). The bilinguals' sociolinguistic competence not only concerns their ability to switch between languages, but also to switch between native and non-native varieties for communicative purposes. To illustrate this behavior we report on convergence and divergence patterns by three English-Arabic bilingual children aged 5, 7, and 10, growing up in Yorkshire, England. The aim is to explore the role of social, contextual, and interactional factors in shaping the bilinguals' English accent and their developing sociophonetic competence. Semi-structured interactions between the children and their mothers are analyzed for language use and within that, for specific phonetic aspects of the children's English accent in English-only and in codeswitched utterances.

Results show that the bilinguals' English codeswitches exhibit systematic patterns in their usage of variants from one language or the other, and from one English variety or the other, depending on the communicative situation. This suggests that bilinguals acquire both native (local and supra local) and non-native features of English and seem to harness phonetic detail from these varieties for divergence or convergence strategies. The results also suggest that bilinguals may constantly move between bilingual and monolingual modes during the course of the interaction depending on the needs of the situation.

Keywords: phonetic accommodation, sociophonetic competence, English-Arabic bilingualism

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1 This research was partly supported by the program *Apprentissages, connaissances et société* funded by the ANR (French national agency for research). I would like to thank the anonymous reviewers their useful comments and the editors for working hard to bring this volume together.

1 Introduction

Research on phonological acquisition in bilingual children has for a long time concentrated on crosslinguistic differences between the bilingual's languages in an attempt to address the one-or-two-system debate, i.e., to investigate whether bilinguals start with one system for both of their languages before they gradually learn to separate these systems or whether they develop two separate systems from the start (e.g., Bosch and Sebastián-Gallés 2002; Genesee 1989; Holm and Dodd 1999; Johnson and Lancaster 1998; Paradis 2001). Researchers have warned about the futility of this question in the early stages of language development due to the difficulty in establishing what a *system* is at this stage (e.g., Vihman 2002); however, the issue of language separation has remained prominent in bilingualism research and has overshadowed the study of the bilingual's acquisition of multiple varieties within each language as part of their developing sociophonetic competence.

It is well-known that bilingual children develop sociolinguistic competence as part of learning to communicate in each of their languages, i.e., the ability to use their languages appropriately depending on the interlocutor, topic, activity, location, etc. (e.g., Fantini 1985; Genesee et al. 1996; Goodz 1994). Less is known about how bilinguals come to acquire within-language varieties and how they may use these for communicative purposes (e.g., Beebe 1981; Di Luzio 1984; Purcell 1984); as in monolingual situations, the number of varieties that bilinguals are exposed to depends on various factors including their age, education, parental vs. societal dialect(s), etc. But while monolingual varieties may only show within-language influence, in bilingual communities the second language (L2) variety is often influenced by the first language (L1); the degree to which L1 features are prominent in the L2 will vary depending on how big and/or established the community is, the status of the L1, and the bilinguals' linguistic, cultural, ethnic, and/or religious identity (e.g., Braña-Straw 2007; Carter 2004; Heselwood and McChrystal 2000; Hirson and Sohail 2007; Lambert et al. 2007; Torgersen et al. 2006; Wolfram et al. 2004).

In cases of individual bilingualism, the L1 influence is assumed to be minor, as children of immigrant families who live in an L2 community will normally learn their parents' language at home but are mostly exposed to their other language from the rest of the environment and soon become dominant in their L2. However, while there is a suggestion that these children will acquire the native accent of the community and filter out the non-native accent features in their parents' speech (Chambers 2002), this study provides evidence that the parents' non-native features are also acquired and employed by the children for communicative purposes.

In what follows we look at codeswitching between languages as a sign of sociolinguistic competence. Focus then turns to the bilingual's L2, and a review of studies of accent (dialect) acquisition in bilinguals and social and linguistic factors which affect such acquisition is provided. Then we review a growing body of literature looking at accent variation in immigrant communities and the motivations behind it, with a view to understanding how bilinguals negotiate and express their fluid identity through their phonetic choices. This leads to the presentation of data from this study, which looks at what we term *phonetic-switching* (as a parallel to codeswitching) between varieties of the L2 as a strategy by L2-dominant bilinguals to both fill gaps in their L1 and converge towards or diverge away from the parents' accent. This refers to children moving between L1- and L2-accented versions of the L2 (e.g., Arabic- and Yorkshire-accented English) instead of switching to the L1 (Arabic) when the situation requires it. The way bilinguals may draw equivalence between fine phonetic features from their L1 and L2 in the production of the L2 has not been looked at in detail before and suggests that bilinguals store rich repertoire of phonetic variants from their languages and language varieties which they can harness for sociolinguistic purposes.

2 Codeswitching and sociolinguistic competence

Bilingual children codeswitch for a variety of reasons. Younger children may codeswitch when they do not know the word in one language and therefore need to draw on the other language, or when they might momentarily be unable to access a word for a concept in the language in use (Reyes 2004: 79). Older children may codeswitch for a variety of social and stylistic factors, including when they need to accommodate the needs of their interlocutor and of the task, when elements in one language convey the intended meaning more accurately, when they need to clarify or emphasize a point, or when they wish to exert power by diverging from the unmarked code (e.g., Al Khatib 2003; Jørgensen 1998; Reyes 2004; Zentella 1997). Regardless of their age or language abilities, children as young as two have been shown to modify their language or language mixing patterns as a function of their interlocutor's language and/or ethnic background (e.g., Aboud 1976; Beebe 1981; Genesee et al. 1995; 1996; Montanari 2009). This is termed bilingual accommodation (Sachdev and Giles 2006) and forms part of children's emerging sociolinguistic competence.

Codeswitching has been explored from psycholinguistic (looking at language activation and its consequences for speech production and perception), grammatical (looking at the rules that govern inter- and intrasentential codeswitching) and sociolinguistic perspectives (looking at the relation between the language

choice and social factors) (Auer 1998; Milroy and Muysken 1995). While psycholinguistic and grammatical approaches have mainly outlined language-specific and online processing constraints on the bilingual and their output, Bullock and Toribio (2009: 189) point out that "focus has been more on what bilinguals do WITH their languages than TO their languages when they codeswitch". Social approaches have looked more closely at the bilingual as an active agent in the codeswitching process and at external constraints that influence the bilingual's linguistic behavior. These range from broad aspects that normally correlate with codeswitching such as topic, interlocutor and setting to more detailed examinations of bilingual interactions in order to understand processes that might lead to language alternation (Auer 1998). Studies carried out within this vein typically follow a micro-analytical approach to codeswitching in conversation which takes into account the evolving needs of the individual in the course of the interaction and the way they relate to their interlocutors (e.g., Al Khatib 2003; Jørgensen 1998; Reyes 2004). But the main focus has often been on the individual's language (rather than linguistic) choice as a way to express their identity, negotiate meaning, or resolve conflict. Very little work has concentrated on linguistic choices within each language as a way to signal social affiliation. Some of these studies are reviewed below.

3 Input and social factors in accent acquisition by bilinguals

Studies of children of immigrant communities acquiring their L2 in a naturalistic setting can provide an interesting insight into input factors that influence the bilingual's acquisition of L1 and L2 accent features in their L2 (e.g., Agnihotri 1979; Verma et al. 1992) and social factors that may influence the bilinguals' adoption of these features (e.g., Carter 2004; Heselwood and McChrystal 2000; Hirson and Sohail 2007; Torgersen et al. 2006; Wolfram et al. 2004). As in monolingual situations, the bilingual may acquire multiple registers for their L2, each drawing on one or more of the varieties that they are exposed to (e.g., Braña-Straw 2007; Lambert et al. 2007); this is a much less researched area and provides the impetus for the current study.

3.1 Acquisition of a mixed L2 variety

Work on accent (or dialect) acquisition in bilinguals is scarce compared with studies of the bilinguals' acquisition of one or two phonological systems for their

languages (e.g., Genesee 1989; Holm and Dodd 1999; Johnson and Lancaster 1998; Paradis 2001). In mainstream investigations of bilingual phonological acquisition, the bilingual's production of vocalic, consonantal, or prosodic aspects of either of their languages is normally judged against one model or variety for each language, often the standard variety; any deviation from that is commonly thought to be due to interference from the L1. The emergence of work on accent acquisition in bilinguals highlighted the need to tease apart accent features in their L2 that were due to influence from L1 phonetic characteristics from ones that were characteristic of the regional accent of the L2 community (e.g., Verma et al. 1992). It also demonstrated that the degree of L1- and L2-related features in the bilinguals' accent varied as a function of social factors (e.g., Agnihotri 1979; Heselwood and McChrystal 2000; Hirson and Sohail 2007).

Verma et al. (1992) examined the developing phonological system of Panjabi/Urdu speaking children learning English as a second language in two different dialect areas in Britain, West Yorkshire and Scotland. The differences between phonological features in the children's mother tongue and those of the two British varieties helped the authors tease out features in the children's production that were due to L1 interference from ones that were particular to the accent spoken in the subjects' locality. For instance, influence of the local variety was shown in the Edinburgh subjects' reported use of velarized [ɬ],[2] a retracted /s/, a front [a] vowel in *can't*, a high fronted [y] vowel in GOOSE,[3] and a lengthened vowel in *person* [peːɾsən]. The Yorkshire subjects, on the other hand, were reported using medial glottals for /t/, a tense lowered vowel in HAPPY [hape], a rounded vowel in STRUT [stɹʊt], and monophthongs for FACE and GOAT in English due to the influence of their local variety. There was also obvious influence of the bilinguals' L1. This showed in their insertion of vowels to break up consonant clusters, excessively aspirated /p t k/,[4] dental stops for dental fricatives, and taps/trills for /r/s (Verma et al. 1992: 189). There was, however, no discussion of whether the mixed L1 and L2 features were exhibited in all the children and in their speech at all times, or whether they correlated with the children's social circumstances and/or varied in frequency depending on the needs of the situation.

2 /l/ is clear in all positions in Panjabi and Urdu.

3 Well's (1982) notation is being used here for "lexical sets" like GOOSE, FACE, and GOAT to refer to groups of English words that share the same vowel pronunciation across two or more varieties. Since the vowel that is associated to a particular lexical set may vary across different dialects, the vowel differences between these dialects can be conveniently expressed in terms of these lexical sets.

4 Punjabi and Urdu have a three-way VOT system including (/b d g/, /p t k/ and /p^h t^h k^h/).

This issue was explored by Agnihotri (1979), who examined processes of assimilation to Leeds English that Sikh children of immigrant families exhibited in relation to their length of stay in Leeds and found an overall negative correlation between accent-revealing features (features that would identify them as non-native speakers) and length of stay in Britain. There were, moreover, other important determining factors such as speech style, gender, social background and area of residence of the families involved. For instance, the occurrence of post-vocalic /r/ tended to decrease in the subjects' production not only with the length of stay, but also in casual style as opposed to reading style, with females more than males, for Sikh children of Indian origin rather than Kenyan origin, and for Sikh children who interacted more frequently with native Leeds English speakers than those who lived in immigrant areas (cf. Agnihotri 1979: 243–253 for a discussion). More interestingly, Agnihotri found that the English of each of the individuals showed simultaneous use of features from the different varieties that they were exposed to from native and non-native speakers of the language. This mixed code exhibited itself in the way the children produced the same sounds sometimes "the Indian way" and other times "the English way" in the same utterance (Agnihotri 1979: 243–253). For instance, the author gives the example *mother*, which was produced by the children as [mʊðə], [mʊðər], or even [mʊðəɹ], sometimes within the same utterance. However, the author does not make it clear whether the children altered the use of certain variants over others depending on the needs of the situation. In fact, later research by Heselwood and McChrystal (2000) tended to suggest that mixed L1-L2 features appear even when bilinguals are in a monolingual mode in the L2, in this case conversing only in English.

Heselwood and McChrystal (2000) investigated the presence of Panjabi accent features in the English of 19 ten-year-old bilingual children growing up in Bradford (where there is a large Pakistani immigrant community) as perceived by 45 phonetically-trained listeners. Among the features that induced a strong accent and that are associated with Panjabi were clear allophones of /l/ in syllable codas, front epenthetic [e] or [ɛ] vowels as the nucleus of otherwise syllabic liquids and nasals in *candles* and *garden*, postvocalic /r/ and retroflex articulations for stops (Heselwood and McChrystal 2000: 51). As was found in Agnihotri's study, more males than females were rated as having non-English accent features in general, which was interpreted as being potentially due to the females' attempt to move away from Panjabi accent features and more towards the more prestigious monolingual variety spoken outside their immediate social group (Heselwood and McChrystal 2000: 65).

While accent features show correlation with coarse social categories like gender and ethnicity, the role of the individual has also been highlighted in studies of identity in bilinguals and their language or linguistic choices (e.g., Hirson and

Sohail 2007; Knight et al. 2002; Wolfram et al. 2004). For instance, Hirson and Sohail (2007) looked at (r) realization by Punjabi-English bilinguals who were second generation Punjabi speakers from south east Britain and found a correlation between the speakers' self-identification as either British Asian or Asian and their (r) realization. As expected, the self-identified British Asian speakers had acquired the post-vocalic approximant realization of (r) and their accent was generally nonrhotic, whereas the self-identified Asian speakers had mostly retained a rhotic accent. Interestingly though, their (r) production is reported to have shown a whole range of realizations ranging from the local approximants used by the British Asian group to retroflex and alveolar taps, which were exclusive to the Asian group.

The individual's identification with one culture or the other can even vary within families, as was show by Wolfram et al.'s (2004) study of two siblings from a Hispanic family who had lived all their lives in the North Carolina Piedmont and had comparable upbringing. The children showed very different behavior with regards to their varying accommodation to local norms, in this case /ai/ ungliding. The girl's realizations were mostly glided, typical of the mainstream American norm, whereas the boy's were mostly monophthongal, showing accommodation to the local Southern norm (Wolfram et al. 2004: 16). The boy's overall linguistic attitude exhibited vernacular features, and sociolinguistic interviews revealed that he identified strongly with the local non-Hispanic 'jock' culture, whereas his sister did not.

Similar differences in the behavior of siblings are presented in Knight et al. (2002), who studied the language behavior of two British-born brothers with Jamaican parents. While both sounded very local to their native-born Milton Keynes, the younger brother had acquired Jamaican features and constraints which the older brother had not. Social factors such as the networks and peer group orientation that the brothers displayed were shown to play a role in whether they acquired Jamaican features.

3.2 Acquisition of multiple L2 varieties or registers

The above studies suggest that subgroups of bilinguals, or even individuals within an immigrant community, acquire different L2 accent features depending on social factors like gender, ethnic origin, social network, individual identity, etc. What is less studied is the bilinguals' acquisition of accent features from multiple varieties and their ability to switch between these varieties or registers for communicative purposes. For instance, Lambert et al. (2007) studied the speech of English-Punjabi secondary school girls from the Asian community in Glasgow

and found a correlation between the /t/ and /d/ variants they used and their social practices. For instance, particular topics such as school-related conversations triggered more alveolar variants, which are typically used by the local community, whereas home-related topics triggered more retracted variants, typical of the Punjabi realization. Subjects who were described as "trendy" and who mixed western and Asian practices in their daily life tended to use post-alveolar variants the least. A closer look at the post-alveolar variants (Stuart-Smith et al. 2012) showed that, while they may have initially resulted from the interference from the heritage language as spoken by first generation speakers, they now had different phonetic realizations (post alveolar as opposed to retroflex) and were being exploited by second generation speakers for the purposes of personal identity construction.

In a similar vein, Braña-Straw (2007) looked at the speech of Barbadians in Britain and compared it with that of the dominant White Anglo speakers on the one hand, and the subdominant Jamaican Creole variety on the other. Her study highlights the importance of looking at more fluid identities and variation in the individual, which correlates with the various roles and identities that they play in their communities on a daily basis. She gives the example of Edward, a Barbadian speaker who arrived in Britain at the age of 9, and who over the years became part of various social networks from each of the Anglo, Barbadian and other Afro-Caribbean communities. /t/-glottaling was looked at because on the one hand, it is relevant to the Barbadian and Anglo varieties but not the Jamaican one, and yet it has different allophonic distribution in the first two varieties (intervocalic glottaling being typical of only the Anglo variety), allowing the author to track its patterning in Edward's speech and to link it to the relevant target variety. Edward had elements of a mixed system for (t), employing the processes of simplification and overgeneralization to accentuate Barbadian patterns in some environments (final prevocalic) and accentuating Anglo patterns in others (pre-pausally and in the stigmatized intervocalic environment). He also showed signs of being able to codeswitch between one system and the other as a way to negotiate his position within the two communities, retaining ethnic identity based on Island Barbadian affiliation on the one hand and accentuating Ipswich norms for a local identity associated with White Mainstream society on the other.

3.3 Isolated bilingualism and the role of the immediate community in accent acquisition

The studies reviewed in the previous two sections mostly deal with bilinguals growing up in sizable minority communities with recognized/emerging English

accent features which the bilingual children can either adopt or reject as part of establishing their identity. However, less is known about contexts of isolated bilingualism whereby the children may be typically exposed to their L1 mainly at home and then receive multiple models of English from the community, none of which is necessarily associated with their own ethnic background. In this context, features of the L1 are unlikely to develop into an established L2 variety due to the small number of L1 speakers in the community, and the L2 community is expected to have a much bigger influence on the accent(s) that the bilingual will acquire. In such situations the L2 model(s) the children may adopt will very much depend on the influence of the immediate circle of friends. For instance, English-Arabic bilinguals growing up in Yorkshire will mainly acquire English accent features that are present in their immediate circle of friends, and those friends may not necessarily be speakers of the local accent of the community (Khattab 2007). Since urban centers witness a high rate of geographical and social mobility, the bilinguals' circle of friends might actually consist of many "outsiders" whose parents originate from other dialect areas. This leads to an even more variable input for the bilinguals, and a less predictable outcome regarding the characteristics of the accent that they will acquire.

Even in cases where a local vernacular is acquired, bilinguals may preserve the use of that vernacular to interactions outside the home and use a more standard-like (or simply less locally marked) variety at home (Al Khatib 2003). This is typical of what is normally reported for monolingual children of families who move out to a new dialect area where the children become multi-dialectal (Chambers 2002). This is not to say that the local variety is never used at home; in fact, bilinguals will also choose the switch between the home and the local community varieties in their home interactions for social and pragmatic purposes. Al Khatib (2003) describes how Lebanese-English bilinguals growing up in London produce either standard-like or more local vernacular-like English switches in their interactions with parents at home depending on whether or not they are about to express defiance (associated with the use of the London variety, normally reserved for use outside the home).

What Al Khatib does not discuss is whether the home variety exhibits non-native features from the L1. As has been shown in the studies reviewed in Sections 3.1 and 3.2, non-native features often do become part of the rich repertoire of phonetic variants that the bilingual acquires. For the bilinguals who are growing up in a largely monolingual environment, the degree to which these features will become an integral part of the L2 accent in the longer term will depend on their degree of integration in the L2 community (since there is no L1 ethnic community in this case), the status of the L1, and the demands of the situation. Just like Zentella (1997) witnessed for Puerto children growing up in East Harlem, the

variety that the bilinguals will end up adopting inside and outside the home will depend on their social networks, aspirations, and identity construction.

4 Current study

4.1 Background on participants and data

This study brings together insights from work on codeswitching and bilingual accommodation on the one hand (Section 2) and accent (dialect) acquisition and identity negotiation on the other (Section 3) to look at phonetic switching within- (rather than across-) language as a sign of socio-phonetic competence. The study focusses on what happens in situations of early individual bilingualism whereby the child is dominant in the L2, their parent's foreign-accented L2 is unlikely to emerge as a new variety in the community in question, but the child develops awareness of that accent and of the currency it has compared with other models outside the home. The data presented here suggest that bilinguals acquire a mixture of native (local, supralocal, and standard) and non-native accent features which they employ on a daily basis to negotiate their identity as well as fill gaps in their L1 competence. This implies that bilingual children have multiple registers for each of their languages which are associated with speakers, situations, and communicative needs. These registers have overlapping representations which are not only triggered/activated by factors beyond the bilingual's control such as their proficiency or the linguistic context, but also by the bilingual's active harnessing of sociophonetic features for communicative purposes. The resulting shifts in accent features by the bilingual along the course of an interaction are therefore argued to be systematic and rule-governed in a comparable way to more traditional codeswitching behavior (cf. Alvarez-Caccamo 1998).

The data discussed here were taken from the author's (2003) dissertation on three Yorkshire English-Lebanese Arabic bilinguals growing up in the UK. The subjects were a five-year-old female (F5) and two males aged seven (M7) and ten (M10). The children were second-generation immigrants of Lebanese origin who were born and bred in the UK while their parents had emigrated there as adults and were advanced speakers of English as a second language with a noticeable foreign accent. The families mainly spoke Lebanese Arabic to their children at home while English was acquired from the community from when the children were around six months of age and started attending nursery. The children were all English-dominant due to the scarcity of other Arabic speakers in their surroundings and the lack of community support for their language. Many of their

friends' families originated from various areas around the UK, and as a result of that the bilinguals were exposed to various native varieties alongside the local Yorkshire one.

Recording sessions were designed around various activities ranging from free-play sessions with aged-matched friends to picture-naming and story-telling activities which were carried out in English with the investigator and in Arabic with the children's mothers. The mothers were specifically chosen as interlocutors for the Arabic sessions because the children associated Arabic use with their parents the most and were therefore encouraged to use it when interacting with them. The sessions normally lasted between 30 and 45 minutes. Previous work has reported on the children's performance in the English sessions with their monolingual friends and with the investigator (e.g., Khattab 2002a, 2002b, 2002c, 2003, 2006, 2007). In these sessions, the children used only English and an analysis of a collection of accent variables suggested that their accent sounded native-like and that they had acquired a combination of Yorkshire English accent features, more general northern English features, and standard-like features in their speech. During the Arabic sessions with the mothers, however, the bilinguals frequently codeswitched to English for a variety of reasons, which will be discussed below. It is these codeswitches which the current paper is mainly interested in, as the accent features that the bilinguals exhibited were much more varied than the ones that were found in the English sessions and revealed a different register which seems to be under the control of the speakers rather than a mere influence from the base language (the language of the interaction). Before we explore the switches in detail, Table 1 provides a comparison of some of the phonological variables of interest which have different realizations in native English and Arabic-accented English on the one hand, and within native English varieties that the children heard on the other (see Khattab [2002], [2007] for a fuller account of the varieties and their characteristics). The list is not exhaustive by any means, but will help orient the reader through some of the examples in Section 4.3 and demonstrate the mixed patterns that they show.

Since the children only codeswitched in the Arabic sessions, this limited the codeswitched data to 337 utterances, which should be interpreted with care since the original aim of the study was not to look at CS; rather, the study aimed to explore the monolingual or near-monolingual modes of the bilinguals in order to explore the extent to which bilinguals had separate production patterns for comparable phonological material in each of their languages. Note that the codeswitching here is used as an encompassing term for discourse strategies which included code-witching in the traditional sense together with borrowing, mixing, loan words (Poplack et al. 1988), alternation (Auer 1995), and code-shifting (Purcell 1984). There were also cases where the children switched to

Table 1: Sample phonological variables that were explored in the data for this study

Vowels	**Yorkshire- or Northern-like patterns**	**Standard-like pattern**	**L1-accented patterns**
BATH	[a]	[ɑː]	[ɛ]; [a]; [ɐ]; [ɑː]
START	[aː]	[ɑː]	[ɛɾ]; [a̟ɹ]; [ɐɾ]; [ɑːɹ], etc.
FACE	[ɛː]; [eɪ]; [ɛɪ]	[eɪ]	[eɪ]; [eː]
STRUT	[ʊ]	[ʌ]	[ʌ̟]; [a̟]; [ɑ]
GOAT	[ɔʊ]; [ɜː]; [əʊ]	[əʊ]	[oː]; [əʊ]
THOUGHT	[ɔː]	[ɔː]	[oː]
GOOSE	[ʉ]	[ʉ]	[u]
Consonants	**Yorkshire- or Northern-like patterns**	**Standard-like patterns**	**L1-accented patterns**
(r)	Nonrhotic variety; approximant [ɹ]; increasing use of [ʊ]	Nonrhotic variety; approximant [ɹ]	Rhotic variety; tap [ɾ] or trill [r] realizations
(l)	Dark [ɬ] in onset and coda position	Clear [l] in onset, dark [ɬ] in coda	Clear [l] in all positions
(t)	Glottalled in medial and/or final position	[t]	[t]
(th)	[θ] and [ð]; but also fronting to [f] and [v]	[θ] and [ð]	[θ] and [ð]
h-dropping	Yes (variable)	No	No

English monolingual discourse for a while before they were persuaded to speak Arabic by the mothers. The codeswitches were looked at in the context of the interaction in a micro-analysis style which required the examination of what was said by the child and their mother before, during, and/or after the switch (Auer 1995).

4.2 General patterns

Table 2 shows the frequency of English codeswitches by each of the children during the session with their mothers. These have been coded for a) whether they

Table 2: Descriptive statistics for the English codeswitches produced by English-Arabic bilingual children during Arabic sessions with their mothers

		English codeswitches during Arabic sessions											
		with English phonetics						with Arabic phonetics					
		single-word		multiple-word				single-word		multiple-word			
				English		mixed				English		mixed	
Subject	Total	N	%	N	%	N	%	N	%	N	%	N	%
F5	94	21	22	41	44	1	1	19	20	9	10	3	3
M7	186	22	12	26	14	51	27	37	20	16	9	34	18
M10	57	8	14	13	23	5	9	9	16	3	5	19	33
Total	337	51	15	80	24	57	17	65	19	28	8	56	17

were produced with English-like or Arabic-like phonetics; b) whether they occurred in single- or multiple-word utterances and in the latter case, whether these were English-only or mixed utterances. Figure 1 combines single- and multiple-word utterances to show the frequency of English-like and Arabic-like productions as a function of whether the utterances were entirely in English or whether they were mixed. The decision on whether the utterances displayed English-like or Arabic-like phonetics was made following both auditory and acoustic analyses of the productions in questions. Quantitative results for these analyses have been reported elsewhere (Khattab 2002a, 2002b, 2002c, 2003, 2006, 2007, 2011). Here we concentrate on analyses of the actual interactions that led to the phonetic patterns observed (Section 4.3).

All three children used English during the Arabic sessions, either in English-only utterances or mixed with Arabic. Interestingly, English- and Arabic-like phonetic patterns were found in both single- and mixed-language utterances rather than being restricted to mixed utterances (Table 2 and Figure 1). Moreover, grammatical context alone could not explain the phonetic realization of the switches as there was a general lack of straightforward correlation between phonetic patterns (English-like or Arabic-like) and type of switch (inter- or intrasentential). This suggests that mixed phonetic patterns were not only the mechanical result of multilingual utterance production but, as will be seen in the detailed discussion of the results, had an indexical function. While there were cases of English utterances with Arabic-like phonetics which could be attributed to the effect of the base language, there was also evidence

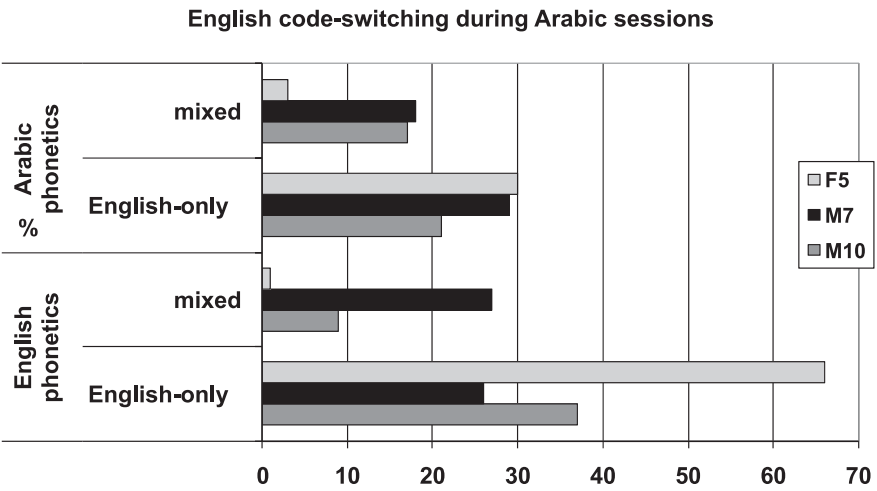

Fig. 1: Phonetic patterns of English codeswitches produced by the bilinguals during Arabic sessions. N = 337.

for active use of phonetic patterns from one language or another. While the children on average produced more switches with English-like than Arabic-like phonetics, this was mostly prominent in English-only multiple-word utterances, during which the base language may have switched to English. Single word utterances exhibited a more balanced proportion of English-like or Arabic-like phonetics.

The children also varied with respect to their use of English-like or Arabic-like phonetics. For instance, F5 was the most English-dominant of the three children and as a result of that, she produced switches with English-like phonetics the most (67%) and had very few mixed language utterances. M7 had a more balanced mix of English- and Arabic-like phonetics in his switches (53% and 47% respectively) and of single- and mixed- language utterances (45% and 55% respectively). M10 had the fewest codeswitches due to his higher Arabic proficiency compared with the other two children. He was also capable of telling longer and more fluent stories than the other two children.

Unfortunately, the relatively small dataset that was available does not allow for statistical analyses to be carried out in order to compare the children or utterance type with phonetic patterns used; instead, the study relies on a detailed qualitative analysis of the discourse surrounding the utterances of interest to provide sociolinguistic evidence for the motivation behind the phonetic patterns found in the children's production (Section 4.3).

4.3 Detailed patterns

4.3.1 Role of English-like phonetics

4.3.1.1 A switch to an English mode

The children often switched the language of interaction from Arabic to English, either to comment on a particular activity (see (1)) or to make metalinguistic comments (see (2)). Therefore, the base language for these utterances is English and one could argue that the children had switched to an English *mode* (Grosjean and Miller 1994), even if temporarily (see (3)). These switches exhibited native-like English phonetic features and were the closest to what the children sounded like during their interactions with native English-speaking friends. In the examples that follow, what was said is transcribed in IPA, followed by a gloss tier where needed and then an English translation. On the IPA tier, English words (excluding regular loan words) are shown in bold.

(1) (While telling a picture story in Arabic, F5 is amused by one of the pictures so she interrupts the story and addresses her mother, who is called May):
F5: **ɪts fʊni mɛɪ lʊk hɪz lɛgz ɐ gɔʊɪn ʊp**
'It's funny May look his legs are going up.'

Here F5 produces an English-only utterance with a mixture of Yorkshire-like (e.g., [ʊ] in *funny* and *up*, [ɔʊ] in *going*) and standard-like features (e.g., [ɛɪ] *May*, no /h/-dropping in *his*, clear initial [l] in *look* and *legs*). These mixed accent features were generally typical of the accents that the bilinguals were exposed to in their immediate community, since not all their friends were from Yorkshire, and of the children's middle class upbringing.

(2) (While naming various colors in Arabic F5 gets stuck on one so her mother tries to help but gets the wrong color):

Mother:	ər-**rɛd**	ʃu	bɪ-l-ʕarabe
	DEF.ART-red	what	LOC-DEF.ART-Arabic
	'What's red in Arabic?'		
F5:	**nəʊ** mɛɪ **ɪts pʰɪŋk**		
	'No May it's pink'		

Here, F5 comments on her mother's wrong choice of color in English (note the mother's Arabic-accented English in her production of *red* with a trill, which is triggered by the assimilation of the Arabic definite article affix). F5's reply once again involves a full switch to English and exhibits English-only phonetic patterns, including the use of [əʊ] in *no* and an aspirated [pʰ] in *pink*.

The children also showed an ability to move between an English and an Arabic mode depending on the needs of the situation (as in (3)):

(3) Mother: ʔajja fiːlm ʕaʒab-ak
which film like-2M.SG.ACC
'Which film did you like?'
M10: **dʒɔːɾdʒ əv ðə dʒʌŋgəl**
'George of the Jungle'
Mother: ʃu sˁɑːɾ fi
what happen-PST.3M.SG in-3M.SG?
'What happened in it?'
M10: marra keːn fi hal **hʌntəˠ**
once was-3M.SG in this hunter
'Once there was this hunter'
keːn ʕɪnd-o **lɪtəl vɪlədʒ** baʕdeːn . . .
was-3M.SG have-3M.SG little village then . . .
'Who had a little village then . . .'
M10 (after a while with no input from mother, he switches to English-like phonetics):
ðə hʌntə lɒst ɪz waɪf ðɛn hi smaʃt ɪntʉ ə tʃɹiː
'The hunter lost his wife then he smashed into a tree'
Mother (catching up and interrupting):
ʔeː w-ʃu sˁɑːɾ
yes, and-what happen.3MSG.PST
'Yes, and what happened'?
M10: (switching back to Arabic-like phonetics):
baʕdeːn **dʒɔːɾdʒ əv ðə dʒʌŋgəl seɪvd həˠ**
'Then *George of the Junglesaved her*'

Here the mother starts the interaction in Arabic by asking M10 to tell her the story of one of the recent children's films that he had watched. M10 starts his description in English with some Arabic-accented features (e.g., rhotic production in *George* and *hunter* using a tapped /ɾ/, clear final [l] in *jungle*, and *little*, schwa production instead of syllabic /l/ in *jungle*) as well as native-like features, e.g., [ɔː] in *George*, [ʌ] in *hunter* (see Arabic-accented realizations of these vowels in Table 1). When input from the mother ceases for a while, M10 makes the transition to English-like phonetics in *the hunter lost his wife then he smashed into a tree*. Here the accent is nonrhotic, the vowels native-like, and language-specific connected speech processes like h-elision in *his* and /t/ affrication in *tree* are evident. But when the mother tries to bring the conversation back to Arabic, M10 goes back

to an Arabic base with English switches that exhibit mixed Arabic and English phonetic features (last sentence of (3)).

4.3.1.2 Filling gaps in Arabic knowledge

Many single-word switches were being borrowed by the children to fill gaps in their L1. These switches were produced with English-like phonetics and the children occasionally commented on their production by saying "I don't know that in Arabic". In the majority of cases the mothers accepted the answer and moved on (Example (4)). This is in stark contrast with cases where the mothers knew the child had the Arabic equivalent in their vocabulary (see discussion in 4.3.2 on the role of Arabic-like phonetics below).

(4) (while looking at pictures)
Mother: ʃu haid-e
What this-3F.SG
'What's this?'
M7: **mɔʊɬ**
'Mole'
Mother (moving to the next picture):
okke w-hai
ok and-this.3F.SG
'Ok, and this?'

The Arabic for *mole* is /xuld/, but the mother later pointed out to the fieldworker that M7 would have rarely heard it. Similarly, if the child had a fuzzy representation of a word in Arabic or could not remember it, they occasionally produced a phonetically related word in English, even though there was no semantic connection between the two, as shown in M7's production of the word *socket* (Example (5)) while looking at a picture of a bucket in Arabic (the Arabic word for 'bucket' is [sˁɑtəl]).

(5) (looking at a picture of a bucket):
M7: **sɔkɪt**
'Socket'

4.3.1.3 Divergence strategy

The participants also used English-like phonetics in their switches to diverge away from the language of interaction or express disagreement with their interlocutor. Examples (1)–(3) above actually illustrate cases where the child moves

away from the language of interaction, but Example (6) below demonstrates that more overtly:

(6) (As she switched from the picture-naming to the story telling part, F5 started telling a story in Arabic then stopped and said to her mum):
F5: **ɪts nɒt iːzi a dɔʊwɐnə dʉ ɪt**
'It's not easy I don't want to do it.'

Due to F5's age and lower proficiency in Arabic, she struggled more with the story-telling activities than with the picture-naming ones, and often resorted to whole utterances in English as can be seen in Example (6) above. She also produced very few mixed utterances (4 out of her 94 switches). This could be due to the advanced level of grammatical competence that would be required for her to switch to English from an Arabic base (Hamers and Blanc 2000: 267) within a single utterance.

More interesting were the switches showing intent on the part of the child to express unwillingness to co-operate with their interlocutor by diverging away from the phonetics of the interaction as can be illustrated in Examples (7) to (9).

(7) (F5 telling a story):

F5:	ʔɪsˁ-sˁɑbe	ʕɪnd-o	**froːg**
	DEF.ART-boy	have-3M.SG	frog
	'The boy has (a) frog'		
Mother:	dˁʊfdˁɑʕ	ja-ʕne	
	frog	3M.SG.PRES.PRF-mean	
	'That means frog'		
F5 (rolling her eyes and ignoring mother's comment):			
	ðə fɹɔːːg	ma leːʔ-a . . .	
	the frog	not find.past-3M.SG	
	'The frog didn't find . . .'		
Mother:	ʃu	ʕɪml-i-t	baʕdeːn
	what	do-3F.SG-PST	after
	'What did she do afterwards?'		
F5:	**spəlæːʃ**		
	'Splash!'		
Mother:	**splæːʃ**	kabː-ɪt-o	weːn
	splash,	throw-3F.SG.PST-OBJ.3M.SG	where
	'Splash, where did she throw him?'		
F5:	bi-l-maj		
	LOC-DEF.ART-water		
	'In the water'		

Here F5 initially produces the word *frog* in the first utterance with Arabic-like phonetics, realizing it with a tap and a close [o] vowel typical of Arabic /o/. The mother provides the Arabic translation but F5 looks defiant and decides to produce it again in English, this time with an approximant [ɹ] and a more open vowel, both more typical of her native-English pronunciations. The mother does not give up and keeps asking open-ended questions in Arabic to encourage F5, who obliges by producing English *splash* the Arabic way, breaking the consonant cluster with a schwa and producing a raised vowel (F5 had produced that word [splæʃ] in the English sessions). The mother incorporates F5's answer into an Arabic utterance, and F5 finally responds in Arabic.

(8) (Looking at pictures):
F5: **θʌndəɾ**
'Thunder'
Mother: ɾaʕed w-haɪd-a
thunder and-this-3M.SG?
'Thunder, and this?'
F5 (looking offended and shouting):
sʌndal θʊndɐ gɔʊz wɪððɪs (points at another unrelated picture)
'Sandal! thunder goes with this'

Here, F5 initially produces the word *thunder* with a postvocalic tap and a standard-like [ʌ] vowel. Then the mother tries to help out by providing the Arabic translation, F5 refuses to be corrected by her mother and chooses a phonetically similar word to *thunder* in Arabic (*sandal*, which is a loan word) which happens to be in the same set of pictures and pretends that she was aiming for that as her target. Then, switching to native English with a pronounced Yorkshire vowel in *thunder* and a nonrhotic production, she points out to her mother that *thunder* can be seen in a different picture.

(9) (looking at a picture of a photographer)

M7:	b-j-eːxʊd	**pɪktʃəˠz**
	PRS.PROG-3M.SG-take	pictures
	'He takes pictures'	
Mother:	ʃu	
	'What?'	
M7 (annoyed):	**pʰɪktʃəz**	
	'Pictures!'	

Here M7 first switch English in his production of the word *pictures* with an unaspirated /p/ and a rhotacized schwa. When the mother pretends she did not hear what he said, M7 looks annoyed and decides to switch to native-like realization, which is more typical of how he realizes this word in English. This happened on two occasions.

4.3.2 Role of Arabic-like phonetics

4.3.2.1 Influence of the Arabic base

Bearing in mind that the main language of the sessions was Arabic (at least as driven by the mothers and reinforced throughout the recordings), the base language is bound to have had an influence on the phonetics of the codeswitches to English, triggering Arabic-like phonetics, especially in mixed language utterances within clause boundaries (Examples (10)–(11).

(10) (while telling a frog story)

M7:	ʕatˤ-a	l-**lɪtəl**	**frɔg**	j-ʔul
	gave-3M.SG.SBJ	DEF.ART-little	frog	PROG-say
	hɛloʊ	la-l	**bɪg frɔg**	
	hello	to-DEF.ART	big frog	

'(He) brought the little frog to say hello to the big frog'

Here M7 was telling a frog story in Arabic and frequently switched to English. In Example (10), he makes three switches to English within clause boundaries, and the base language can be seen to have influenced the phonetics of his realization of the English words in these switches (e.g., *little* is produced with an epenthetic schwa and a final clear [l], *frog* with a tapped [ɾ], and *hello* with a close [o] in the [oʊ] diphthong). M7 produced these words as [lɪtɬ], [hɛləʊ] and [fɹɔg] respectively during the English sessions.

(11) (while telling a story)

M10:	fatt<a>ʃ	bi-ʔˤaɬb-ɪl	**tɾi**	**wɪv ə hoːl ɪnsæɪd ɪt**
	search<PST>3M.SG	LOC-heart-the	tree	with a hole inside it

'He looked inside a tree with a hole inside it'

Here apart from an instance of (th) fronting in *with*, which M10 realizes as [wɪv], the rest of the English switch shows Arabic-like features, including a tapped /ɾ/ in *tree*, a close monophthongal [oː] and a clear [l] in *hole*, and a raised [æ] in the diphthong in *inside*. With regards to *with*, [ð] is not part of the sound inventory of

Lebanese Arabic so it would not have been easy to produce an Arabicized variant. Instead, M10 used the local variant [v] which he had acquired for this sound in final position.

However, there were other comparable switches where the base language did not trigger Arabic-like phonetics (see (12)–(13)):

(12) (signaling that he is ready to move on to the following page):

M10:	fiː-na	n-ɾuːħ	ʕa-s-**sɛkəm**	**pʰɛɪdʒ**
	can-1PL	1PL.PRS-go	on-DEF.ART-second	page
	'We can move to the second page'			

Here the definite article *the* in Arabic, which normally phonetically assimilates to a following alveolar sound, triggered Arabic-like phonetics in the rest of the clause in Example (10) ([al] + _ [l] → [llɪtəl frɔg]) but English-like phonetics in Example (12) ([ʕal] + _ [s] → [ʕassɛkəm *pʰɛɪdʒ*]); the rest of the utterance has English-like phonetics with an assimilated nasal before /p/, an aspirated [pʰ], and an open-mid diphthong [ɛɪ] in *page*.

(13) (While he was choosing a story to tell)

M10:	ha	ʔɪl-ne-ha	ʕɪnd	**sʊmwʊn**
	this-3F.SG	say.PST-1PL.SBJ-3F.SG	at	someone
	'This, we said it at someone' (meaning at someone's house)			

Here M10 produces *someone* with a Yorkshire [ʊ] vowel in both syllables, similar to how he produced it in the English sessions. Since the base language and grammatical structure were not the primary factors influencing the phonetic patterns of the codeswitched utterances in our data, other discourse-related factors below were more fruitful.

4.3.2.2 Improvised translation equivalents as part of Arabic avoidance

As opposed to cases where the children were using English codeswitches to fill gaps in their knowledge (see (4) and (5)), there were instances where the children knew the intended utterances in Arabic but chose to produce them in English with Arabic phonetics, often with a cheeky tone suggesting that this was a perfectly acceptable Arabic answer. This was always evidenced by the mother overtly asking for the real Arabic word with a tone suggesting that the child knew it (see (14) and (15) below), as opposed to moving on when they believed the switch to be genuine.

(14) (Looking at pictures of different seasons):

Mother:	ʃu	haɪd-e?	
	what	this-3F.SG?	
	‘What’s this?’		
F5 (with a cheeky tone):	**ʔʌmbrɛlla**		
	‘Umbrella’		
Mother (calling her bluff):	w-bɪ-l-ʕarabe?		
	and-LOC-DEF.ART-Arabic?		
	‘And in Arabic?’		
F5:	ʃamsijje		
	‘Umbrella’		

Here F5 produces a glottally reinforced initial vowel in *umbrella*, a standard-like [ʌ], a trilled /r/, and a geminate [l], all typical features of Arabic (regarding the initial glottal, the phonology of Arabic does not allow syllable-initial vowels). F5 had produced *umbrella* as [ʊmbɹɛlə] during the English sessions, with a northern-style [ʊ] for the STRUT vowel, an approximant [ɹ], a singleton [l] and a schwa, typical of unstressed syllables in English. When the mother requests the Arabic word for it F5 provides it begrudgingly.

(15) (Looking at a picture of a chicken):

M7:	tʃɪkən		
	‘Chicken’		
Mother (smiling):	ʃu	ʔɪsm-a	t-**tʃɪkən**
	what	name-3F.SG	DEF.ART-CHICKEN
	bɪ-l ʕarabe		
	LOC-DEF.ART Arabic?		
	‘What’s chicken called in Arabic?’		
M7 (with a cheeky face):	**ʃʃɪkən**		
	‘Chicken’		
Mother (not giving up):	dʒe . . . ?		
	‘Chi . . .’		
M7:	dʒeːʒe		
	‘Chicken’		

Here, M7 names the picture of a chicken in English. When asked for the Arabic target, M7 tries to avoid it by reproducing the English target with deaffrication and lengthening of the initial fricative (gemination is a feature of Arabic). But the mother is aware that M7 knows the Arabic target so she perseveres until he produces it. Occasionally when the mothers requested the Arabic word for what

the child had just said in Arabic-accented English, the child would protest and explain that they had actually produced it in Arabic, either as another avoidance strategy or because they had genuinely created a representation of Arabic-accented English words as actually Arabic (Example (16)).

(16) (Looking at a picture of a deer):

M7:	**diːɾ**			
	'Deer'			
Mother:	ʃu	ʔɪsm-o	bɪ-l	ʕarabe
	What	name-3M.SG	LOC-DEF-ART	Arabic?
	'What is it called in Arabic?'			
M7 (annoyed):	**diːɾ**	ʔ<o>le-t	**diːɾ**	
	Deer	said<1SG>PST	deer	
	'Deer, I said deer!'			

Here M7 was surprised that his mother asked for the Arabic word for *deer* because he was convinced that he had just produced it. His realization of this word in English is [diə]. This occasionally influenced the mother's acceptance of an English answer by the children, as demonstrated in (17):

(17) (F5's mother helping out as she realizes F5 does not know the word for *whale* in Arabic):

Mother:	l-**weɪl**	ʔɪsm-o	ħuːt	ʃu
	DEF.ART-whale	name-3M.SG.POSS	whale	what
	ʔɪsm-o	l-**weɪl**		
	name-3M.SGPOSS	DEF.ART-whale		
	'The whale is called whale, what's the whale called?'			
F5:	ħuːt			
	'Whale'			
Mother:	w-haɪd-a?			
	and-this-3M.SG?			
	'And this?'			
F5:	**ʃa̤ːɾk**			
	'Shark'			
Mother:	**ʃɑːɾk** braːvo maːgi			
	'Shark, bravo Maguy'			

Here, the mother produces *whale* with a final clear /l/ and sounds non-native. F5 in turn produces the word *shark* with a fronted vowel and a post-vocalic /ɾ/ despite the fact that her English accent is nonrhotic and that she had produced this

word during the English sessions as [ʃɑ:k]. The mother unconsciously accepts that as the Arabic answer and moves on to the next picture, despite the fact *shark* has a commonly used Arabic word (/quɾʃ/).

Interestingly, switches to Arabic-like phonetics in the English codeswitches triggered Arabic-specific developmental features that were only seen when the children spoke Arabic for instance, in (18) below, F5 substitutes /ɾ/ for [l] in *screaming*, which is a normal developmental pattern in Arabic but not English. Her production of this word in English was [skɹi:mɪŋ].

(18) Mother: ʃu ʕam ja-ʕmɪl?
what is 3M.PRES.PROG-do?
'What is he doing?'
F5: **skli:mɪŋ**
'Screaming'

More creative translation equivalents occurred in the children's production of cognates, which had a mixture of English and Arabic phonetics (Examples (19)–(20)). As opposed to other forms of Arabic-accented English which the children will have heard modeled by the parents, these forms were the result of the children's own amalgamation of sounds and sound structure from their languages.

(19) (looking at a picture of a circus):
M7: **sɪɾkəs**
'Circus'

The Arabic word for 'circus' is [si:ɾk], and M7 produced English 'circus' as [sɜ:kəs] during the English sessions, so the realization in Example (18) combines a disyllabic English structure with a first syllable that is closer to the Arabic production of *circus* (postvocalic tap, high front vowel).

(20) (looking at pictures of animals):
Mother: haɪd-e ʃu ma b̥-taʕərf-i-a
This-3F.SG what not know-2F.SG-it.3F.SG
haɪd-e zaɾa:fe
this-3F.SG giraffe
'What's this? You don't know it? That's a giraffe'
F5: **ʒɪɾɑ:f**-e
giraffe-3F.SG
'Giraffe'

Here F5's tries to imitate the mother but instead produces the English cognate for *giraffe* with mostly Arabic features (deaffricated [dʒ], tapped /r/, feminine [e] marker), but also a back [ɑː] vowel, which is more typical of the English pronunciation. Interestingly, the parents produced *giraffe* in English as [ʒɪrɑːf] and it could be that the child in this case was converging towards the mother's English accent (more on this in the next section). F5 had produced *giraffe* as [dʒɪaːf] in the English sessions.

4.3.2.3 Resistance to speak Arabic, leading to compromised Arabic-accented English

The same strategy of Arabic avoidance illustrated in the single-word production above was followed by the children in longer discourse interactions. Instead of speaking Arabic, they produced Arabic-accented English either from the start (Examples (8)–(9) earlier and (21)–(22) below), or gradually throughout the conversation as a strategy to keep speaking English (Example ((7) earlier and (23) below).

(21) (looking at the Little Red Riding Hood story):

Mother:	jalla	xabb<i>ɾ-ne		l-ʔʊsˁsˁɑ	
	come	tell<2.SG.IMP>1SG.A		DEF.ART-story	
	'Come on, tell me the story'				
M7:	l-**litəl**	**ɾɛd ɾaɪdɪŋ** . . .		aː	ma fijj-e
	DEF.ART-little	red riding . . .		ah	not can-1.SG
	'The little red riding . . . ah, I can't!'				
Mother:	mbala				
	'Yes (you can)'				
M7:	**həɾ mʌm kold əɾ**				
	'Her mum called her'				
Mother:	**tɾaɪ**				
	'Try'				
M7:	ʔal-ɪ-t-l-a		weːn	ɾaɪħ-a . . .	
	said-3F.SG-PST-A-3F.SG		where	go.PRS.PROG-3F.SG	
	'She said to her 'where are you going?'				

Here M7 is convinced he would be making mistakes in Arabic and initially decides he cannot proceed. In his English utterances in the first two turns, M7 uses taps for /r/s and has rhotic productions, his final /l/'s are clear and his vowel in *called* is a back close vowel typical of Arabic /o/. None of these features appeared in M7's production in the English-only sessions. When his mother sympathizes

by saying *try* in English, M7 decides to make an effort and produces a few Arabic utterances.

(22) (Feeling frustrated because he was not getting through the activities fast enough):

M7:	fijj-e	ʔul-a	bɪ-l	ʔɪŋgliːz-e
	can-1SG	say-OBJ-3F.SG	LOC-DEF.ART	English-3M.SG
	iːvən moˤ fæstəɾ			
	even more faster			
	‘I can say it in English even more faster’			

Here M7’s mother was praising him for all the Arabic utterances that he was producing but he was still feeling frustrated because he knew he would be able to get through the task quicker in English. He suggests to his mum that he could tell the stories faster in English, and grins during the production of the codeswitch, looking for approval of his suggestion. The switch is produced with Arabic-like phonetics, including a rhotic accent and a close vowel in *more*.

(23) (Starting a story):

M7:	**wʊn**	**dɛɪ . . .**			
	‘One	day . . .’			
Mother:	ʔəmː . . .	fi	joːm		
	Uhm	in	day.SG		
	‘Uhm, one day’				
M7 (whispers):	**wʌn mɔːnɪŋ**				
	‘One morning’				
Mother:	**wʌn moːɾnɪŋg**	jaʕn-e		mara	ʕa-bʊkra
	one morning	mean-1M.SG		once	LOC-morning
	‘One morning means one morning’				
M7:	mara	ʕabʊkra	ʔɪʒ-a		sˤabe
	once	LOC-morning	came-3M.SG.GEN		boy
	ʔɪʒ-e	**pɾɛzənt**			
	BEN.3M.SG	present			
	‘Once morning came a boy, he got a present’				

Here, M7 had started a story in English with English-like phonetics, using a Yorkshire [ʊ] in *one*. As the mother intervenes and provides M7 with Arabic ways to start the story, M7’s production gradually moves away from the local English vernacular towards a more standard-like one in the production of *one morning* (with [ʌ] rather than [ʊ]) and then when the mother perseveres again he switches

to Arabic but also inserts the English word *present*, this time with and Arabic-accented tap and an unaspirated [p].

The children's Arabic-accented productions were often reminiscent of the parents' own English accent, and were occasionally used as a convergence strategy (Example (24)):

(24) (Looking at a picture of sunglasses):

Mother (trying to help):	ʕwaɪn-eːt		
	glasses-PL		
	'Glasses'		
M7:	man-ha	ʕwaɪn-eːt	**sʌ̹nglæsəz**
	Not-that-3F.SG	glasses-PL	sunglasses
	'It is not glasses, (it's) sunglasses'		

The Arabic word for *glasses* could mean both reading glasses and sunglasses (the latter can be qualified by adding *sun* to it: /ʕwaɪn-eːt ʃams/). The mother's use of the generic/ambiguous term [ʕwaɪn-eːt] prompted M7 to 'correct' her point by producing the more specific target (*sunglasses*) in English but with phonetic patterns that were typical of how the mother would normally produce this word (with a fronted and unrounded [ʌ̹] for STRUT, an unassimilated [n] followed by a velar stop, and a raised [æ] in *glasses*). M7 had produced the same word as [sʊŋglasəz] in English, with a northern [ʊ], a velar [ŋ] and a lower [a].

5 Summary and discussion

This paper looked at the codeswitching patterns of English-Arabic bilingual children growing up in Yorkshire, England, who were English-dominant. The data were drawn from family interactions during which the subjects' mothers were engaged in picture-naming and story-telling activities with the children in Arabic. The bilinguals had a clear preference for speaking English and expressed that in various ways, including not only switching back to the native-like English they normally produced when interacting with monolingual English speakers, but also producing English with an Arabic accent. A detailed examination of the interactions between the children and their mothers revealed a systematic use of English-like or Arabic-like phonetics in the production of English codeswitches which correlated with a host of discourse strategies, including instigating a change of the language of interaction, filling gaps in their Arabic lexicon, converging or diverging away from the accent of the interlocutor, and Arabic avoidance.

Predictable factors that influenced the codeswitching patterns include proficiency, the type of activity and the language of the interaction. For instance, a proportion of the switches that were produced with English-like phonetics occurred when the children did not know the Arabic target (Example (4)). These could be considered cases of nonce borrowing, i.e., of lexical items borrowed from English due to the inevitability of lexical gaps in the children's Arabic vocabulary (Ervin-Tripp and Reyes 2005: 89). Myers-Scotton (2006: 205) argues for these to be called "codeswitches" and to be distinguished from established borrowings which have morphological "tags" for both languages and which are thought to be adapted to the host language as part of low level phonetic implementation. This division is, however, too rigid to account for the patterns observed in this study, as not all the so-called borrowings had Arabic-like phonetics and the bilinguals played a more active role in the codeswitching process. Moreover, there were many more cases of what Auer refers to as functional codeswitching, i.e., switching for a particular communicative purpose.

In terms of type of activity, certain subjects triggered English production the most, such as discussing the latest English films which the children chose to re-tell using a combination of English-only and mixed utterances. These utterances had more English-like phonetic patterns than Arabic-like ones, unless the mothers interfered and encouraged them to speak Arabic. On the other hand, after a long stretch of Arabic conversation between the children and their mothers, an English switch was more likely to have Arabic-like phonetic features than English ones, especially intrasentential switches. This points to the influence of the active (or base) language and of grammatical structure on the phonetic characteristics of the codeswitched utterances. But as can be seen in Example (3), the level of activation leading to an English or Arabic mode can quickly change depending on communicative requirements; moreover, social rather than grammatical or psycholinguistic motivations were often responsible for the phonetic patterns found. These are summarized below.

All three children showed awareness, whether conscious or subconscious, of the communicative role that English and Arabic phonetics patterns can convey if applied to their English switches. They all resisted speaking Arabic due to the scarcity of Arabic speakers in their environment and the lack of motivation to do so; one way Arabic avoidance was achieved was by producing English utterances with Arabic phonetics for targets that they knew in Arabic, as evidenced by the mothers' request for the Arabic target and the children subsequently providing it. But the children were not always co-operative. Their interactions with their mothers varied between convergence towards Arabic or Arabic-accented English and divergence from it depending on the needs of the situation and on their co-operative mood. Examples of convergence included reverting back to Arabic

when the mothers encouraged them to do so or persevering with the English switches but applying Arabic phonetics to them (Examples (15), (17), (18), (20), (21), (23)). The resulting accented pronunciations were very similar to those found in the parents' English accent, as evidenced in some of the examples here (Examples (2), (17), (21), (23)) but also elsewhere (Khattab 2002a, 2002b, 2002c, 2003, 2006, 2007, 2011), and suggest that the children might be applying phonetic accommodation as a way of converging to the speech of their interlocutor. Sometimes, the accented patterns were exaggerated versions of the parents' foreign accent (Examples (7), (15)) and may suggest that the children are aware of particular phonetic features that convey "Arabic-ness" and can exaggerate them for particular effects. Some other times, the children's behavior seemed less conscious but rather driven by the mothers' use of accented English in the same interaction (Example (17)) or the child's treatment of an accented English word as Arabic (Example (16)). Examples of divergence away from the mothers' foreign accent include switching back to native English as a reaction to a conflict in the conversation (Examples (7), (8), (9)).

Examples showing divergence and convergence behavior within the same interaction provided more direct evidence for a link between accommodation strategies and phonetic behavior. For instance, the children sometimes repeated lexical items during the course of an interaction (Examples (3), (7) and (9)), which allowed comparison of the *same* word/utterance in different accommodation states: an initial production with Arabic-like phonetics accompanied by verbal and nonverbal behavior suggesting convergence, followed later on by a conflict and a repeat production with English-like phonetics accompanied by behavior which suggested divergence. These and other examples suggest that the children had worked out equivalence rules between the realization of various consonantal and vocalic variables in each of their languages and were applying these to sound more "English" or more "Arabic" depending on the needs of the situation, mainly whether or not they chose to accommodate the mother's request to speak "Arabic". This suggests that the children had stored multiple representations for various phonological variables, with phonetic detail spanning both languages and being accessed depending on the sociolinguistic needs of the situation. In using English-like phonetics, the children were sometimes diverging away from the language of the interaction and asserting their own language of choice. Their English exhibited a mixture of Yorkshire and standard-like accent features and was typical of the accent spoken in their immediate network of friends. When they were being more co-operative, however, the children used more English with Arabic-like phonetics, projecting a foreign accent. The mothers had also learned to pick up on phonetic (amongst other) cues from the children's codeswitches which revealed whether they were avoiding answering in Arabic due to genuine

lack of knowledge or due to refusal to speak Arabic, and were reacting accordingly (e.g., by insisting on eliciting the Arabic word when they knew the child had it in their vocabulary).

The linguistic situation for the families in this study is typical of what is often found in isolated communities in immigrant contexts where the parents struggle to maintain the home language. The mothers played an important role in raising the children's awareness of the role of Arabic in their background, culture and religion. During the sessions they played a facilitative role in the way they encouraged the children to use Arabic, helped them with words they did not know, coaxed them to produce words they knew, and constantly worked hard to bring the language of the interaction back to Arabic. Following informal observations of family interactions that took place outside the recordings, it was established that the kind of exchanges which were examined in the recorded sessions were not atypical of the type of discourse that normally took place in the family home, but with an overall lower degree of insistence on the part of the mothers for the children to produce Arabic. Nevertheless, the children had developed a sense of awareness of the role that each language played in their everyday life and this may have heightened their linguistic awareness and the way they harnessed fine phonetic detail for communicative purposes. While their Arabic competence was in some cases too weak to enable them to accommodate their mothers' request to speak Arabic, the bilinguals found an original way to introduce Arabic features in their speech while still speaking English, i.e., to produce a phonetic switch as opposed to a full blown codeswitch to Arabic. They produced Arabic-accented English which was certainly different from the English accent that the children used in the English sessions.

Early studies reviewed in this paper (e.g., Agnihotri 1979; Heselwood and McChrystal 2000; Verma et al. 1992) raised awareness of the mixed accent features that bilinguals acquire due to their exposure to several varieties of English, including an L1-accented variety. These studies have also shown that the degree of influence of each variety correlates with social factors such as gender, identity and social affiliation, resulting in different accent features being acquired/adopted by subgroups of speakers within the same immigrant community. What very few studies have looked at, however, is within-speaker variation, i.e., the bilingual speaker's ability to use features from some or all of the varieties that they are exposed to depending on the needs of the situation (Braña-Straw 2007; Lambert et al. 2007; Stuart-Smith et al. 2012). While the children in this study cannot yet be said to have command over the multiple registers that they are using, they certainly exhibit similar linguistic behavior to what has been found for older bilinguals in terms of their use of these varieties to serve different communicative purposes and to project different identities.

The availability of several models of English in the children's environment highlights the importance of looking at variability not only in monolingual children's phonological development (e.g., Foulkes et al. 2006; Docherty et al. 2006; Kerswill and Williams 2000; Roberts 1997), but also in that of bilinguals. As Roberts (1997: 354) points out, variability is rule-governed and is part of the overall linguistic competence which a child must acquire in order to be a speaker of his/her language. The data presented here show that bilinguals acquire multiple varieties of the host language, which include an L1-influenced variety, and that they use switches within these varieties to achieve functions that have been reported to operate when bilinguals switch from one language to the other. These include negotiation meaning, resolving conflict, asserting choice of language, amongst others. Yet, socio-phonetic variability has for long been neglected in bilingual acquisition and in approaches to the study of codeswitching due to the usual focus on higher levels of the grammar such as morphology and syntax and their potential role in shaping the switch (Bullock and Torribio 2009). The phonetic codeswitching behavior of bilinguals, or what Woolard (1998: 3) calls "bivalency", reflects complex sociophonetic learning which is part of the phonological acquisition process and which results in a rich store of phonological representations which allow the bilinguals to use language-specific as well as crosslinguistic phonetic patterns in their production strategies depending on the social requirements of the interaction.

In conclusion, bilingual speech accommodation operates similar principles of convergence and divergence to monolingual situations, except that bilinguals can draw on language as well as varieties within each language. Bilinguals can use mixed language utterances as well as multiple varieties of the same language as part of a set of intermediate strategies towards adapting to the needs of their interlocutor, and therefore possess a larger repertoire of adaptive strategies than monolinguals (Hamers and Blanc 2000: 255).

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