Phonological variation and change in Palestinian Arabic Spoken in Israel: Jaffa as a bilingual *and* diglossic speech community

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1. The issues at hand

Since Ferguson (1959), linguists and scholars in Middle Eastern studies in various other disciplines have been aware of the concept of diglossia, whereby two distinctly different varieties of a language are used to fulfill different communicative functions. The speakers of Palestinian Arabic Spoken in Israel (henceforth PASII [pæsi]) are no exception. Their use of Modern Standard Arabic (MSA) and their native PASII vernacular is governed by the same social conventions that dictate this alternation in other Arabic-speaking[1] communities. Nevertheless, since Israeli Hebrew (henceforth Hebrew), not Arabic, is the language of the majority in Israel, members of the various Arabic speech communities in the country are for the most part bilingual Arabic-Hebrew speakers, adding to the two main varieties of Arabic that they command at least one variety of an additional language, which fulfills certain communicative functions as well.

My own impression from 19 years of involvement with Arabic regarding a number of historically quintessential features of Arabic phonology giving way to less marked features has recently been corroborated by Rosenhouse (1991, 2002), though with neither a quantitative analysis of the variability nor a detailed account of the impact of language contact on the extent of the change. The features I propose to investigate belong to two groups. The first pertains to segment length and the second has to do with primary and secondary pharyngeal place of articulation. In both cases, the outcomes seem to resemble those of similar processes that Hebrew underwent since its so-called revival in the late 19th century.

In what follows I will give a brief overview of the Jaffa speech community as an extreme case of language contact of the type experienced by many other speech communities in Israel where one variety or another of PASII is the primary language of its members. A preliminary synchronic description of the features under investigation in PASII will be provided, alongside an analogical synchronic account of parallel features in Hebrew. In order to establish that PASII may be undergoing a change in progress with respect to these features, some diachrony will be covered as well for both Hebrew and Arabic.

Following the demographic, sociopolitical and linguistic background of the speech community, I posit a hypothesis regarding the role of Hebrew as a change-

[1] In this proposal, *Arabic* will be a blanket term, when a distinction between varieties of Arabic is neither clear nor useful. In all other cases, specific varieties will be mentioned explicitly. I am not employing the same practice for *Hebrew*, as virtually the only variety mentioned in the proposal is Israeli Hebrew, the variety of Hebrew currently spoken by native speakers of Hebrew in the State of Israel. Only in one case will an older variety of Hebrew be mentioned, when I will make a brief excursus on the part of the history of Hebrew that is pertinent to the current research project, in which case *Old Hebrew* will be used in contrast with *Modern Hebrew*, the former referring to pre-demise varieties of the language and the latter to post-revival forms of it.

inducing contact language for PASII and lay out the methodology with which I propose to examine the hypothesis. For this I rely on previous work (e.g., Nagy 1996) that has dealt with contact-induced change from a variationist perspective. Thanks to Nagy's work, we have a solid theoretical basis and useful quantitative methods on which to base a study of situations similar to that of the Francoprovençal dialect of Faetar, which she examined in her dissertation.

Thomason & Kaufman (1988:67) argue that "long-term contact with widespread bilingualism among borrowing-language speakers is a prerequisite for extensive structural borrowing." Nagy (1996) provides us with a body of work which has taken this notion and incorporated it within the theoretical thinking and methodology of variationist sociolinguistics. Nagy lists (1996:41) three groups of intensity of contact factors: amount of contact, cultural identity and linguistic factors. Following a survey of contact situations in various speech communities and relying more heavily on two specific studies (Nagy, Moisset & Sankoff 1994 on Anglophone Montreal French and Nagy 1996 on Faetar), Nagy (1996:48) points out that "universal metrics" for intensity of contact may not be possible to establish.

At this juncture, I am not prepared to propose a universal approach myself, but like Nagy, I wish to build upon previous studies of variation and change in a contact environment and adapt a model that will be community-specific, yet comparable to these previous studies and further adaptable for future studies on other languages and communities. Some of the factor groups I propose at the end of this proposal are a reflection of both the cross-community and community-specific aspects of this issue.

In the case of the PASII—Hebrew interaction observed in central Israel, I see the contribution of my proposed dissertation research in implementing such an approach to a situation where the L2 (in this case, Hebrew), is in effect an L2.5 of sorts, as it is in fact learned not immediately following the acquisition of the L1, but after (or in conjunction with) the acquisition of a distinct variety of L1. L1 in this case is a local variety of PASII (e.g., Jaffa Arabic), and the distinct variety learned prior to the introduction of Hebrew is MSA, which may be viewed as L1.5.

2. An overview of the speech community

2.1 PASII within the taxonomy of Arabic dialects

The term *Palestinian Arabic* (PA) is widely used and in fact is suitable for various purposes of classifying the varieties of Arabic spoken by Palestinians, as long as one acknowledges that in virtually no case can a "national" label correspond precisely to a variety of Arabic. This is probably true of many other languages as well, as other factors play crucial roles in shaping the structure of a dialect, the vocabulary and the social value carried by using it in everyday life. In Arabic specifically, it is common to classify speakers by their "ecolinguistic" background. Cadora devotes a book-length study to the "three different ecological structures" (Cadora 1992:1) which have characterized the Arab World for over a thousand years. He stresses that there is a correlation between these structures and the linguistic systems used by their inhabitants. The three groups are:

(1) nomadic (bedouin)
(2) sedentary: rural

(3) sedentary: urban

Cadora also accounts for "[t]he development of one structure into another […] attributed to contactual phenomena which are often facilitated by migrations". As a result, he identifies such transitional stages as:

(4) bedouin-rural

(5) rural-urban

Subsequently, Cadora introduces the linguistic varieties corresponding to the ecological structures adding the *–ite* suffix to the latter, coining names for the former. The list of varieties thus includes the following:

(6) **Bedouinite → Bedouinite-Ruralite → Ruralite → Ruralite-Urbanite → Urbanite**

(Cadora 1992:2)

Another traditional taxonomy of Arabic dialects has to do with religious grouping. It was probably Blanc's (1964) work on the "communal" dialects of Baghdad that pioneered the notion that Muslims, Christians and Jews can have distinct dialects even though they not only live in the same country and share the same settlement patterns (in this case, urban), but actually dwell in the same city. This last point is of course a much more general and historically acknowledged notion, namely that dialects vary by region.

The problem with PA is that it includes all of the above, and an additional factor. While Palestinians are a group worthy of a uniform terminology to describe their national identity, their political convictions, their cultural and familial backgrounds, "Palestinian" is not quite parallel to, e.g., "Egyptian" or "Iraqi" or "Saudi". Palestinians, many of whom are speakers of what is typically known as PA, do not have their own state and are most prominently residents of one of three places: the West Bank, the Gaza Strip and the State of Israel. Of course, there are Palestinian refugees around the Arab World (e.g., in Syria, Kuwait, Saudi Arabia) and a large Palestinian population in Jordan who are full-fledged citizens (some claim that they comprise 50% or more of Jordan's entire population), but I will only focus here on those Palestinians who live in historical Palestine, i.e., Israel and the territories it has been occupying – in violation of International Law and United Nations resolutions – since June of 1967.

The variety of Arabic spoken in Gaza is an interesting and under-researched one. Like other varieties of PA, it exhibits features of Levantine Arabic, shared by many dialects east of the Mediterranean Sea and west of the Arabian Peninsula, but also some features of Egyptian Arabic and some pan-Eastern Arabic Bedouin(ite) features. Gaza Arabic is therefore probably entitled to a class of its own in the taxonomy of Palestinian dialects. It is also worthy of research like ours, which incorporates contact factors into the analysis.

However, the dialects of the West Bank and of Israel are very similar. And on many structural (mostly phonological and morphological) matters, the international border between Israel and the Occupied Territories has no bearing on the placing of isoglosses. A crucial difference does exist, however. Palestinians who live in Israel are Israeli citizens and conduct much of their everyday life in a language other than Arabic, namely Hebrew. Palestinians in neighboring West Bank towns and villages have much less contact with Hebrew. And while some West Bank Palestinians can manage small talk in Hebrew from the days in which they used to commute to Israel

for employment (mostly in construction and agriculture), and some have served in Israeli prisons as political prisoners and took the time to learn Hebrew, in many cases to a high degree of proficiency, many other are completely monolingual (insofar as the "regular" Arabic diglossia contexts qualifies as monolingualism).

2.2 Order of acquisition of languages

Palestinian citizens of Israel attend, for the most part, public schools whose main language of instruction is Arabic. Officially, the variety of Arabic used in the school system is MSA. Pupils study Hebrew starting in the third grade of elementary school (Amara 2001:160). However, scholars in educational linguistics raise serious doubt regarding the degree of proficiency these students typically achieve by the end of high school. In fact, studies by Amara & Mar'i (2002 and 1999, also in Amara 2001) argue that language teaching in general in Palestinian schools in Israel is lagging in comparison with parallel practices in Jewish schools in the country (where Hebrew is the main language of instruction). A host of factors are cited, such as the general degradation of anything Arab: the people, the language, the culture, in Israel, the monopoly of the Israeli Ministry of Education on devising curricula (often with no clear goals or principles), but also the uniqueness of Arabic diglossia in a context where MSA has even more limited uses than in countries where Arabs are the majority. After all, in Israel, the language of administration, politics, higher education, etc. is Hebrew. In addition, Palestinian schoolchildren in Israel, like their Jewish counterparts, must study English from fourth grade on, which for them is yet a third language; fourth if we consider that studying MSA, at least in the initial stages of primary education is (almost?) equivalent to learning a new language from scratch.

2.3 The Status of PA in Israel

We therefore see a variety of conflicting facts about the intensity of contact between Arabic and Hebrew, and these facts intertwine with the already complex state of affairs regarding Arabic dialects in general and the local varieties in Israel and Palestine as a subset of the Arabic-speaking world. Yet I maintain that in spite of the vagueness of the situation, a fundamental difference obtains between the varieties of PA spoken in the West Bank and those spoken in Israel. The former are more like the dialects in other Arab countries, while the latter is a minority language (and see Talmon 2000 for an account of some of the basic facts in this regard), similar in a sense to the varieties of Arabic spoken in Afghanistan, Chad, Eritrea, Ethiopia, Nigeria, Somalia, Turkey, Uzbekistan, etc.[2] In some countries minority Arabic is one of two or more official languages (only in Chad, Israel and Somalia, according to Spolsky & Shohamy 1999:116).

Spolsky & Shohamy (1999:117) compare Arabic's secondary role in Israel to "that of Swedish in Finland or of French in Canada [at large]" and not "like French in

[2] These are all indigenous Arabic speaking communities. There are also "large immigrant communities in the USA, Latin America and Western Europe" (Spolsky & Shohamy 1999:116), not to mention Arabic-based pidgins and creoles, e.g. Juba Arabic in Sudan and Ki-Nubi in Kenya and Uganda, as well as the fascinating case of Maltese, the only vernacular variety of Arabic which has raised to the status of an official language with a uniform (Romanized) orthography, divorcing itself from the diglossic nature of dialect vs. standard duality.

Québec or in Belgium". It is my impressionistic view that both non-Swedish Finns and Anglophone non-Québecois Canadians are more tolerant toward their respective minority language (and ethnicity) groups than are most Jewish Israelis toward their Palestinian "cousins".[3]

2.4 Justifying *PASII*

Given the analysis above, I find it imperative to coin a blanket term for the dialects of PA spoken in Israel, which are spoken by an ethnic minority, constantly exposed to,

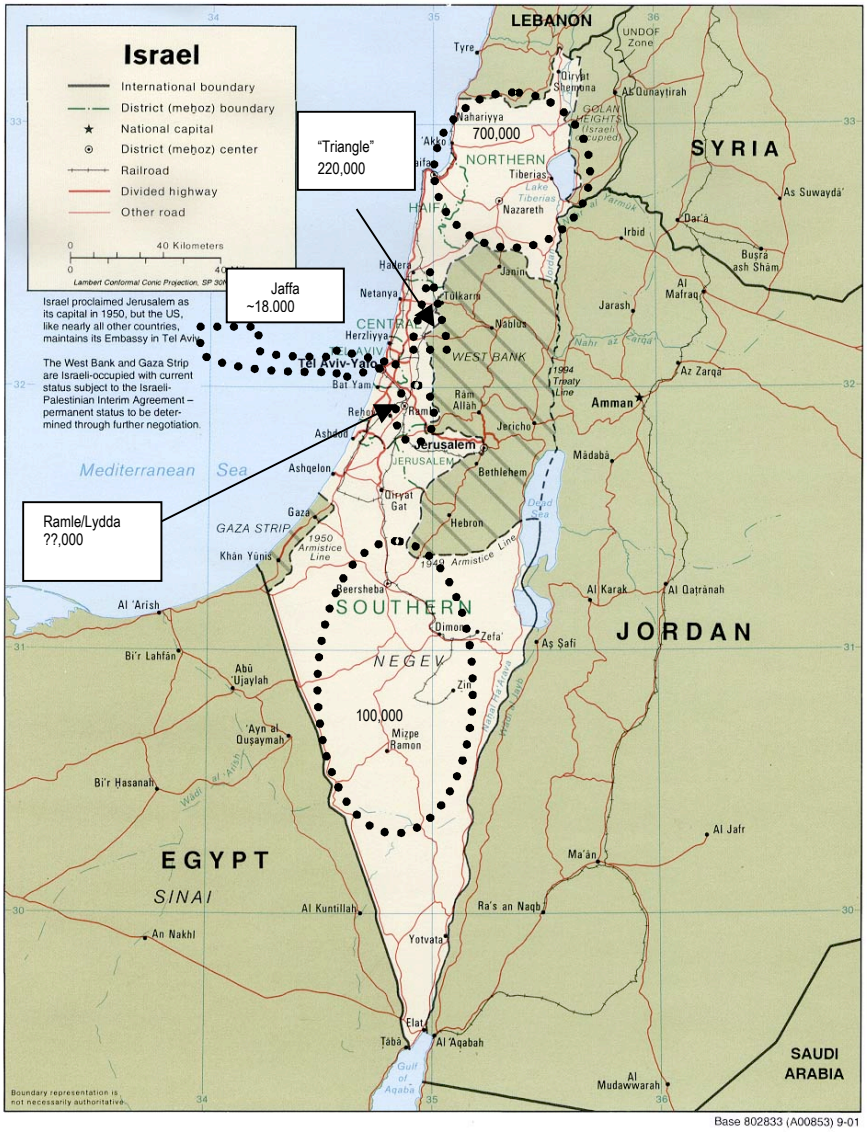

Figure 1: Map of Israel with estimated numbers of Arabic speakers per region

[3] Jews and Arabs are often referred to as cousins because of the mythological ancestry of both peoples originating from the patriarch Abraham, then diverging through his sons Isma:'i:l (Ishmael) and Icxak (Isaac). The former is regarded an Arab patriarch, the latter a Jewish one.

albeit not at all immersed in a community of speakers of Hebrew (and in fact many other immigrant languages, but only Hebrew, and to a much lesser extent Russian, as active participants). There is no universally accepted term for the population. Jews in Israel tend to call them *aʁviyey isʁael* 'the Arabs of Israel' or *aʁavim isʁaelim* 'Israeli Arabs'. In the Arab world they are either *ʕarab id-da:xil* 'the Arabs of the interior' (Talmon 2000:204) or *ʕarab 48* 'the Arabs of [19]48' (the year the State of Israel declared its independence from the British Mandate). Many of them have complex identities, such as "Palestinians who happen to be citizens of Israel" and so forth. Calling the dialects *Israeli Arabic* or *Israeli Palestinian Arabic* would be convenient, yet offensive and would disregard the problematic nature of identifying this group with Israel. I will therefore use the cumbersome term Palestinian Arabic Spoken in Israel and hope that the acronym PASII will somehow catch on and prevail.

2.5 The site of the main study, Jaffa

According to the September 2003 report of the Israeli Central Bureau of Statistics, "Arabs" (i.e., Palestinians) constitute 19.2% of Israel's population of 6,716,000. Talmon (2000) reports that while most (ca. 65%) of the speakers of PA within Israel are concentrated in the Galilee and in Haifa, i.e., in the northern part of the country, some 100,000 live in the southern Negev region, and over 200,000 live in the central region, within the greater metropolitan area whose core is in Tel Aviv-Jaffa. The Palestinians living in the *muθallaθ* 'Triangle' area north and northeast of Tel Aviv-Jaffa are not quite a part of the cluster of suburbs and semi-industrial towns of the metropolis. Those living in the mixed (i.e., Jewish-Arab) towns of Lydda and Ramle, in the vicinity of Ben Gurion International Airport are closer to that status.

Those living in Jaffa (PASII *yá:fa*; Hebrew *yáfo*, sometimes *yafó*) formerly an autonomous municipal entity and since shortly after the formation of the State of Israel part of the city of Tel Aviv–Jaffa, are in many ways full participants in the urban experience, culturally and financially. Extrapolating from various online sources, Jaffa's population is estimated at ca. 45,000 (out of ca. 360,000 in Tel Aviv–Jaffa at large). One source (http://www.jaffa.8m.net/custom.html) speaks of a 40% of Jaffa's population consisting of Arabs, while another (http://www.geocities.com/CapitolHill/Senate/8387/matzaya.html) alludes to Jaffa's Arab population constituting 5% of the city (which includes Jaffa *and* predominantly Jewish Tel Aviv).[4] Our current estimate of Jaffa's Palestinian population is therefore around 18,000.[5]

[4] I believe that these figures do not include several tens of thousands of *ovdim zaʁim* (Hebrew for 'gastarbeiter', mostly from Third World countries in Africa (e.g.,Nigeria, Ghana) and Asia (e.g., Thailand, the Philippines), as well as from former Eastern Bloc countries (e.g., Romania, Poland), many of whom are illegal immigrants, and almost none of whom are Israeli citizens.

[5] These numbers are preliminary estimates. The Tel Aviv—Jaffa Municipality web site reports of a total population of 358,800 in the city, only 3.9% (i.e., 13,993) of whom are "Arabs". Personal communication with Rifʿat Turk, a deputy mayor of Tel Aviv—Jaffa and resident of Jaffa, suggests an Arab constituency of 20,000 in Jaffa. Part of my fieldwork time will be devoted to obtaining more accurate numbers from more reliable sources, both official government sources (the Municipality of Tel Aviv–Jaffa, the Israeli Central Bureau of Statistics) and independent sources (e.g., Tel Aviv

What is yet to be determined is the internal composition of these 18,000 or so speakers. An important distinction that is often made is one between Muslim and Christian speakers of Arabic (not just in Israel; see Blanc 1964 for the case of Baghdad). Also relevant is the Urban/Rural distinction (see Cadora 1992). While Jaffa has retained some of its original urban population from the pre-1948 era, some of its current residents are refugees from surrounding villages, or descendants thereof. Figure 1 superimposes the figures discussed above on a map of Israel[6].

3 The Envelope of Variation

3.1 Overview

Having been exposed to Arabic extensively since I first started studying it in high school in 1984, I have long suspected that some of the rigid guidelines for pronunciation of the language are not followed as rigidly by native speakers as they are taught to non-native speakers such as myself. While Arabic and Hebrew are both Semitic languages of the Central Semitic branch (see Figure 2),[7] the phonemic inventory of Hebrew is impoverished in comparison with Arabic. Old Hebrew had already lost several Proto-Semitic (PS) consonantal phonemes. Modern Hebrew has lost several more.

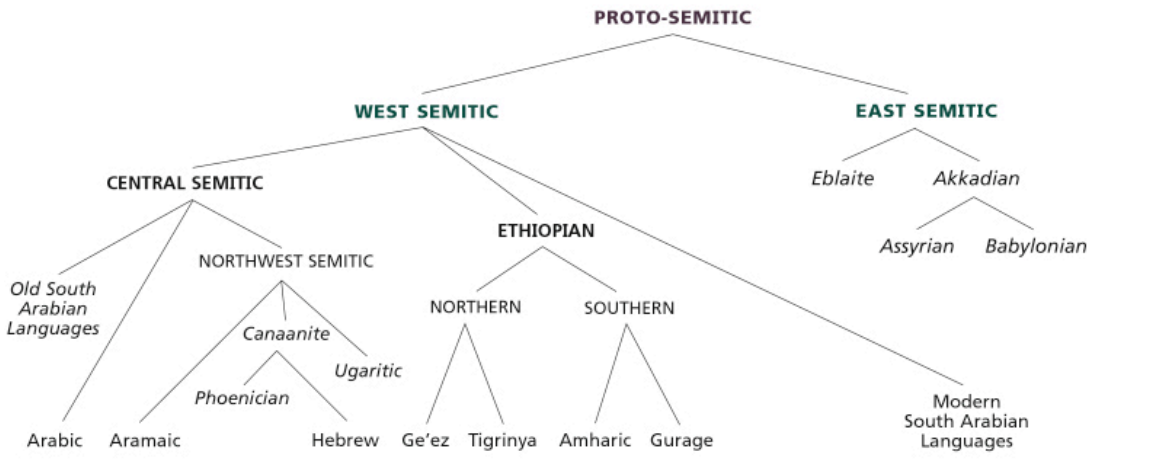

Figure 2: Chart of the Semitic Family Tree (Huenhergard 2000)

University, local grassroots political groups, *Kav La-Oved* '[hot-]line for laborers' – a group aiding gastarbeiter and other underprivileged laborers, Physicians for Human Rights).

[6] Original map (without the figures) by the CIA, downloaded from the University of Texas at Austin, Perry-Castañeda Library Map Collection (http://www.lib.utexas.edu/maps/israel.html).

[7] Arabic used to be classified as a Southern Semitic language, alongside the Ethiopian and South Arabian languages, but a newer classification has been proposed by Hetzron in 1972, and Huehnergard's (2000) family tree concurs. Figure 2 is available online at http://www.bartleby.com/61/JPG/tree.jpg.

3.1.1 Changes in MH Resulting in Divergence from Arabic

Classical Arabic (CA), with its 28 consonantal phonemes, has all but one of the PS consonants. The 29th, a voiceless lateral fricative /ś/, is found in Old Hebrew (at least judging by the Tiberian diacritics used in the orthography of Biblical Hebrew), but has merged in Modern Hebrew with the voiceless alveolar fricative /s/. CA has a set of emphatic (CA *mufaxxam*) consonants, which are pharyngealized or velarized (or, according to Shahin 1995b, 1996, uvularized[8]) counterparts of non-emphatic consonants: /ḍ/, /ṣ/, /ṭ/, /ð̣/[9]. Old Hebrew merged the first and fourth of these with the second, and Modern Hebrew merged the third with /t/ and the merged Old Hebrew /ṣ/ is pronounced as an affricate /c/ [t͡s]. In PASII as in virtually every contemporary vernacular of Arabic, /ḍ/ and /ð̣/ are merged either as a stop or a fricative, depending on whether the dialect in general has retained the pronunciation of interdental fricatives. Dialects that merged /θ/ and /ð/ with /t/ and /d/, respectively, typically only have a voiced emphatic alveolar stop as a reflex of both /ḍ/ and /ð̣/. Dialects that have retained the non-emphatic interdentals have a voiced emphatic interdental fricative as the merged fricative. In some dialects, a new variant, a voiced emphatic alveolar fricative /ẓ/ has emerged, usually by means of lexical diffusion and borrowing from CA or MSA into the vernacular. In the Jaffa dialect, a typical urban Mediterranean variety, all historical interdental fricatives have alveolar plosive reflexes.

Another difference between contemporary Hebrew and Arabic is that Arabic has distinctions of quantity: consonant gemination and vowel length. Biblical Hebrew (as far as the Tiberian "pointing" system for indication of vocalization can tell us) was beginning to lose some of the length distinctions for certain vowels, in some cases substituting different vowel qualities for a PS long vowel. Also in Biblical Hebrew, certain "guttural" consonants (pharyngeals, laryngeals and the liquid /r/) were not geminated, often with compensatory lengthening of a preceding vowel. Modern Hebrew is much more categorical: gemination and long vowels do not exist.

Finally, most speakers of Hebrew do not have the PS (and Old Hebrew) pharyngeal fricatives that most varieties of Arabic have retained. In MH, /ħ/ has merged with /x/ and /ʕ/ has merged with the glottal stop /ʔ/ (both of which, as well as /h/ are often realized as a phonetic zero).

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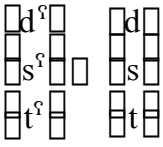
[8] I wish not to enter the debate on the precise phonetic nature of "emphasis" in Arabic. In Shahin 1996 it is strongly argued that pharyngealization and uvularization are two discrete processes. McCarthy 1994 is also of the view that: "The so-called pharyngealized consonants of Arabic should really be called uvularized." On the other hand, both traditional groupings of Arabic consonants and modern acoustic accounts find that the emphatics share features with the pharyngeal and uvular consonants alike and that the emphatics do have constriction in the pharynx. I will therefore use the term *pharyngealized* for the emphatics and transcribe them with a superscript ˁ accordingly.

[9] In this section only, I am transcribing the emphatics with an underdot, as is customary among Semitists. This is mostly because it is unclear what the exact nature of PS emphatics was. It is common to think that they were historically ejective. Cf. Bergsträsser (1983:4): "The oldest pronunciation of the emphatics was probably with following release of the glottal stop, as is still the case in modern Ethiopic; this is widely replaced by a weakened pronunciation with velarization – broader contact between tongue and palate, particularly the soft palate." Starting in section 2.1.2, I will use a more IPA-compliant transcription, as is explained in fn. 8.

3.1.2 Lenition in PASII

The processes of sound change that I am grouping together as *lenition* include the following:

(7)	Shortening of long vowels	V: → V[10]
(8)	Degemination of consonants	$C_1C_1 \rightarrow C_1$
(9)	Depharyngealization of the voiced pharyngeal fricative	ʕ → ʔ~∅
(10)	Depharyngealization of secondary pharyngeal articulation of emphatic alveolar stops and fricative[11]	

I am using *lenition* as a categorization of both types of features (those involving loss of pharyngeal articulation and those involving loss of length distinction), mainly because the end result of each of these processes is a less complex system, insofar as it includes fewer features from which the speaker needs to choose, and the features that are taking over are in a sense of simpler articulatory nature. This is in line with Campbell's (1998:41) definition: "Lenition is a reasonably loose notion applied to a variety of kinds of changes in which the resulting sound after the change is conceived of as somehow weaker in articulation than the original sounds". Curiously, in his list of examples of changes that may fall under the larger category of *lenition*, Campbell lists neither *degemination* nor *shortening*, each of which receives its own, separate definition (1998:42-43). Hock, however, lists at least degemination as one of the types of "changes which have been referred to as weakening" (1991:81; Hock uses *lenition* and *weakening* as synonyms). More suitable perhaps is the notion that lenition may be a by-product of the Principle of least effort. Labov (2001:16-18) reexamines Bloomfield's proposal that "…we speak as rapidly and with little effort as possible, approaching always the limit where our interlocutors ask us to repeat our utterance…" and posits three rephrased versions of the principle. From Principle of least effort I, whereby effort reduction in speech is restricted by the need to satisfy one's addressees' need to understand oneself, through Principle of least effort II, which recognizes *some* loss of meaning, and culminating in Principle of least effort III:

> Under the influence of factors $\mathbf{a}_1$, $\mathbf{a}_2$ … $\mathbf{a}_n$, we reduce the phonetic information that we convey to our addressees, sometimes to the point that they do not understand us. (2001:17)

The validity of Principle of least effort III with respect to variable rules (7) through (10) is probably worth examining. One way to examine whether these sound changes introduce ambiguity to an extent that may prevent interlocutors from

[10] In the formal representation of these processes I am using the synchronic arrow (→) rather than the diachronic angled bracket (>), as for now I am only treating these processes as variable rules, which do not necessarily affect the underlying phonological value of the features involved. Once the study is complete, it may be the case that some of these processes will turn out to be cases of regular sound change with little or no residual evidence of the old forms. If this proves to be the case, such changes will warrant an angled bracket rather than an arrow.

[11] I am already taking into account that Jaffa Arabic, an urban variety of PASII, has merged the two voiced pharyngealized alveolars: $ðˤ > dˤ$.

understanding one another may be by using matched guise tests. More on that in the section on methodology.

3.3 Previous treatments

3.3.1 General

In this section I will provide a non-exhaustive, yet representative sketch of works on variation in Arabic dialects, on descriptive works on Palestinian Arabic and on Arabic-Hebrew interaction in Israel. Perhaps at the forefront of the social and cultural evaluation of Arabic is the work of Haeri, who began her inquiry from the standpoint of a variationist sociolinguist, following work by Labov and his colleagues. Her 1991 Penn dissertation (published as Haeri 1997) studied phonological variation in Cairo using a quantitative approach to language variation, with qualitative insights on the role of gender in shaping language change. Much of her later work is devoted to contextualizing the linguistic situation in the Arab World within a broader culture-based approach. Her 2000 *Annual Review of Anthropology* paper points to the paucity of studies of urban/literate Arabic-speaking communities.

Two additional researchers whose work on Arabic is of sociolinguistic nature, are Holes and Walters. Holes has focused on dialects of the Persian Gulf, and his 1987 book examines questions of variation and change in Bahrain. Walters, mostly in papers published in the 1980s and 1990s, does the same for North Africa, with some insight into the general questions underlying variation in Arabic and its relation to language variation in general.

Linguistic research on Arabic dialects has been abundant in the past century or so. However, most of the work has been within dialectology proper. In other words, it involved the meticulous charting of regional dialects and careful descriptions of grammatical features thereof. Most notable in the Palestine/Israel case are works such as Bergsrässer's (1915) linguistic atlas of Syria and Palestine; Blanc's (1953) description of the Druze dialect of the Western Galilee and Mt. Carmel, as well as his later (1970) study of Negev Bedouin Arabic; Levin's ongoing study of Jerusalem Arabic, culminating in his 1994 grammar (in Hebrew) of the dialect; various works by Rosenhouse and Henkin on the Arabic of Bedouins in Israel, including Rosenhouse's (1984) monograph on the Bedouins of the Galilee and a series of papers by Henkin exploring various aspects of the Negev Bedouin dialect; Talmon, Jastrow and Behnstedt and their collaborators have been leading the field of PA dialectology in the past decade through a joint German-Israeli research project in which they have been mapping dozens of regional varieties of PASII, mostly in the northern parts of Israel (but more recently expanding to the central parts of the country as well).

Shahin's work on the phonetics and theoretical phonological aspects of rural PA, as well as her 1995 grammar of the Abu Shusha dialect (Abu Shusha was a village ruined in the 1948 War in what today is central Israel) are useful for our study, though the nature of the dialect she reports on is different, as it is rural and has not been in contact with Hebrew. Abdel-Jawad (1981) has written on variation in Amman. While the Jordanian capital has a considerable number of Palestinian refugees whose dialect is originally of the type PASII belongs to, they have fairly

successfully been integrated into Jordanian society and more recent works have shown that a Jordanian koiné may be forming. Shorrab's dissertation (1982) on phonological and stylistic variation in PA bears little relevance to the current study. The subjects he interviewed were from among Palestinians residing in Buffalo, NY, and his treatment of the one variable his study and my proposal have in common, the emphatic voiced alveolar stop /dˤ/, has to do with its alternation with its interdental counterpart /ðˤ/, a matter internal to Arabic diglossia (and see fn. 11).

Abu-Lughod's review of the anthropological literature on the Middle East mentions studies on Palestinians in Israel only in passing, and with no reference to the linguistic issues at hand. Gulick has done extensive ethnographic work in both rural and urban communities in neighboring Lebanon (whose dialect of Arabic is also closely related to PA). A dissertation in anthropology by Monterescu is underway at the University of Chicago focusing on Jaffa and other mixed (Palestinian-Jewish) urban communities in Israel. A dissertation on language and social identities in another mixed town, Haifa, was completed by Lefkowitz in 1995. Its linguistic accounts of the Palestinians living in Haifa are based on their Hebrew, not their Arabic, with the pharyngeals as a salient variable for asserting "Arab-ness". While Palestinians use pharyngeals in Hebrew more than Mizrahi Jews[12] (who have not lost the pharyngeal feature completely), they still show "a wide range of variation." My examination of their Arabic may shed some light on the manifestations of this variation in their Hebrew as well.

3.3.2 Previous work on the variables at hand

The four features (7) through (10), which are subject according to my hypothesis to variable rules, have received treatment in at least some dialect of Arabic, in at least one framework of descriptive, theoretical or variationist linguistics. They are renumbered here as (7') through (10') with brief summaries of the literature for each.

(7') **Shortening of long vowels**

In his 1994 grammar of Jerusalem Arabic, a dialect closely related to Jaffa Arabic, Levin writes (in Hebrew; my translation – UH):

> In Jerusalem Arabic, long vowels cannot exist in unstressed syllables. Therefore, any vowel which is a long vowel in Literary (i.e., Standard/Classical – UH) Arabic changes to a short vowel in Jerusalem Arabic, when it is contained in an unstressed syllable. Examples: mafa:tí:ħ > mafatí:ħ ('keys' – UH) […] sa:fárna > safárna 'we traveled'. (1994:27).

Raz (1996) is of the view that in pausal stressed syllables, historically long vowels in Jerusalem Arabic are only "potentially long vowels" (1996:196), unlike Damascus Arabic, in which vowel shortening does not occur. Raz questions the phonemic value of long vowels, but provides no further account of any factors which may govern variation other than stress, pause, and "vowel prominence".

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[12] *Mizrahi* (Hebrew *mizʁaxí*, literally 'eastern') refers to Jews of North African and Middle Eastern origin whose language background includes some regional dialect of Arabic, often a Jewish variation thereof. This term is nowadays preferred my many such Jews over the overarching *Sephardi* (Hebrew *sfaʁadí*, literally 'Spanish'), which was used until recently to denote virtually all Jews of non Ashkenazic origin.

(8') **Degemination of consonants**

I have not found much about this phenomenon in the literature about Arabic. Rosenhouse (2002:601) cites two environments in "colloquial Arabic in Israel" (i.e., PASII) in which "[w]eakening or complete loss of gemination" may occur: in cases where there is underlying cluster of the type $C_1C_1C_2$ (e.g., mʕallme mʕalme 'teacher-F'); and in word final position (e.g., sˁaff sˁaf). McCarthy (1994) mentions Semitic degemination in the known cases of Hebrew and Tigre (an Ethio-Semitic language), but only in the context of "guttural" consonants, and in any case, not in Arabic.

(9') **Depharyngealization of the voiced pharyngeal fricative**

Again, Rosenhouse (2002) shows some evidence of this phenomenon in PASII, which she co-classifies with the "weakening of the emphatics" (our "depharyngealization of secondary pharyngeal articulation of emphatic alveolar stops and fricative"; see (10) next). McCarthy (1994) and Shahin (1996) make the case that the fricatives /ħ/ and /ʕ/, which have primary pharyngeal articulation, share the feature [PHAR] with the emphatics, whose primary articulation is coronal, despite their assertion that a more precise characterization of their phonetic nature is as uvularized, not pharyngealized.

Shahin (1995) provides some evidence from acquisition of PA by her own son.[13] While at first glance it seems as if the child, Hosam, acquired both the glottal stop /ʔ/ and the voiced pharyngeal fricative /ʕ/ by age 1;11, it is mentioned in a footnote (Shahin 1995:115) that the two phones "have an identical UR for Hosam". Puzzled by that, I contacted the author via e-mail and her response (dated Nov. 25, 2003) was that "Hosam - in the corpus, which was from 1;11 - 2;8.5 - always produced a glottal stop for a target voiced pharyngeal ([/ʕ/]) (except postvocalically, where he omitted the target pharyngeal)." My understanding of this is that by the end of the data collection period he had not actually produced the voiced pharyngeal. This finding is consistent with Omar's (1970) study of the acquisition of Egyptian Arabic, PA's neighbor to the southwest. Omar shows that /ʕ/ is the fourth-to-last consonantal phoneme acquired by the Egyptian children, at an average age of 4;6. (Omar 1970:158). Furthermore it has not been found among Omar's sample before the age of 4, and is "continued to be mispronounced as [ʔ] or [∅] in isolated cases long after its acquisition as a phoneme." (1970:153). These data support the general hypothesis that the voiced pharyngeal is a phone prone to change or even elimination, but its vulnerability in dialects that cannot be suspect of being influenced by Hebrew seems, at least tentatively, to counter the hypothesis that contact with Hebrew is a contributor to such a change.

[13] This particular piece of evidence is not without problems. The reported child's mother is a native speaker of Canadian English. His father is of Palestinian origin, and the report refers to the child's first years of speech, which were predominantly in British Columbia. Unfortunately, it may be the only available report on the phonological acquisition of PA.

(10') **Depharyngealization of secondary pharyngeal articulation of emphatic alveolar stops and fricative**

As part of her study of palatalization of alveolar stops in Cairene Arabic, Haeri (1997: Ch. 3) has found that the probability (indicated by Varbrul weights) of palatalization for /t$^{\varsigma}$/ (.53) is higher than that of /d/ (.43), even though the [+back] feature of pharyngealization is inconsistent with the [-back] feature of palatalization. Citing previous studies by Royal (1985) and Kahn (1975), Haeri concludes (1997:57) that the pharyngealized voiceless alveolar stop "loses its pharyngealization variably and becomes a plain [t] […] Probably some of the pharyngeal[ized] phonemes are merging with the pharyngeal[ized] phonemes." Once again, Egyptian Arabic exhibits processes similar to those observed (so far, impressionistically) in PASII. For this reason, the contact hypothesis must be scrutinized and tested using acoustic measures followed my multivariate analysis, with intensity of contact as a category of factor groups to be examined.

4 Methodology

This section will describe the type of fieldwork I am planning to conduct, it will discuss the rationale behind my sampling of the subjects, outline the basic structure of the interviews, and provide a preliminary list of factor groups.

4.1 The Fieldwork

The main bulk of data needed for any study of sociolinguistic variation and change in a contemporary spoken language consists of extensive samples of spontaneously produced speech. The observer's paradox notwithstanding (Labov 1984), face-to-face sociolinguistic interviews have been the most fruitful means of obtaining a large amount of speech in the vernacular, "in which the minimum amount of attention is paid to speech" (Ibid.). It is the vernacular which is considered, following Labov, to be "the most systematic data for linguistic analysis" (Ibid.). The vernacular is defined, for our purpose, as the variety of language acquired by the speaker in her/his pre-adolescent years, in which minimum attention is paid to speech. Stylistic variation within the interviews will be evaluated through comparisons with media speech (see below) and with a small sample of recordings of family and peer group interactions.

I am setting aside a period of 7 months during which I will be absent from Philadelphia and present in the proverbial urban field in central coastal Israel for the purpose of data collection. Following a period of 3-5 weeks of adjustment, locating an apartment in Jaffa, gaining library access (at Ben Gurion University of the Negev and probably at Tel Aviv University as well) and renewing some academic and community connections, I hope to start forming a list of subjects to interview, according to the sampling method indicated below. I will conduct sociolinguistic interviews, which will be recorded either on a Marantz PMD-670 PC Card/Flash Memory portable recorder (funding pending) or on a lower priced MiniDisc recorder or DAT cassette recorder using an omni-directional lavalier condenser microphone. All recordings will be transferred digitally to a Macintosh computer with a G4 processor (either my current iMac desktop or a newer PowerBook laptop) for backup and analysis.

4.2 The Sample

4.2.1 The main sample

My main pool of subjects will consist of 60 people age 16 and up, who have lived all or most of their life, since childhood, in Jaffa. The subjects will be chosen to fill a grid of three age groups and three emulations of socioeconomic statuses, as seen in Table 1. The number of females and males in each cell will be equal.

Age / SoEcSt	16-35	36-60	61+
Blue collar	8	8	4
Food & services	8	8	4
White collar	8	8	4

Table 1: Number of speakers sampled by age and socioeconomic status

The rationale behind this sampling is as follows. There is expected to be some correlation between each age and SoEcSt category and the intensity of contact with Hebrew. Blue collar is defined here as workers in the auto businesses (mechanics, body shop workers, tire shops, etc.), whose clientele often includes many Jewish customers, and perhaps construction workers, whose bosses (contractors, etc.) tend to be Jewish. People in the food & services category include restaurant waiters, grocery store workers, etc., who may encounter Hebrew speakers in their line of work as well. White collar speakers include teachers, doctors, pharmacists, business owners, etc. these are typically the more educated and/or wealthier members of the community. They have probably been in contact with Hebrew speakers at least for some period of time, during their time as students of higher education, as virtually all post-secondary schooling in Israel is conducted in Hebrew. Some of them, however, may have studied abroad, in which case they have had a prolonged exposure to some other languages (typically Russian, Romanian or English). Yet many of them are employed within the Arab community and may not have a lot of daily contact with Jews in the workplace. What remains to be resolved is where to classify high school and university students, who are not yet full members of the job market. One option is to classify them be type of high school: vocational high schools (ones training their pupils for various trades, e.g., welding, auto mechanics) may be considered equivalent to “blue collar”; mainstream academic high schools leading to an Israeli Matriculation Diploma would be equivalent to “white collar”; high school dropouts (if any) would be classified according to their current occupation as either “blue collar” or “food & services”.

The age categories were chosen for the following reasons. All speakers up to age 60 are expected to have been taught Hebrew in school as a second language (or, as suggested above, as an L2.5, after MSA), as they have had all begun their primary schooling after the founding of the State of Israel in 1948. The older speakers (61 and up) may or may not have had a full curriculum of Hebrew, and for that reason I have chosen to include fewer of them in the sample. The 35/36 cutoff line between the two younger groups roughly corresponds to the 1966 ending of martial law for most

Palestinians in Israel. This may not have affected Palestinian citizens of Israel in a mixed town like Jaffa as much as it had in other locales, but it may have some impact on attitude toward the state nonetheless. The youngest speakers will be 16 years old to enable a glimpse into the high school community. Teenagers in Jaffa have more choice nowadays. Some go to the municipal Arab high schools, where Arabic is the language of instruction; others go to Jewish schools (some of which are by now mixed Jewish/Arab), where Hebrew is used as the primary language; and some go to church-run schools, where French is used extensively.

4.2.2 The control group

A smaller sample of speakers (20-25) will be sampled from within a Palestinian speech community that is not in close contact with Hebrew and Hebrew speakers. The most likely site for this part of the study is Ramallah, a West Bank town some 60 km southeast of Jaffa. It is an urban setting within the same dialect region as Jaffa, but its speakers do not necessarily know any Hebrew, and in any case are not involved in interactions in Hebrew on a daily basis. Through this control group I hope to determine whether having no contact with Hebrew still yields the same processes that otherwise seem to be very much Hebrew-like.

4.3 The interviews

In addition to some of the standard urban topics of discussion that sociolinguists use to elicit vernacular forms (danger of death, premonitions, childhood games, etc.), I will need to construct a number of modules that will address questions of language contact and language attitude. Examples of questions of this sort can be found in the interview excerpts in a study of Anglophones in Quebec, by Nagy, Moisset & Sankoff (1996).

In the Jaffa case, similar modules will be adapted to fit the local setting. Part of my strategy will be to conduct the interview with a short Hebrew component, leading to a longer portion in Arabic. It has been my experience that as a non-Arab who happens to speak Arabic, I am often identified as an "other" and even when I initiate a dialogue in Arabic, many of my Arab interlocutors will reply in Hebrew and switch the language of the interaction. Since I want to gather some information not only about the speakers' own assessment of their Hebrew and their level of contact with Hebrew speakers, but also about their actual level of proficiency in Hebrew and the degree to which their Hebrew resembles that of native speakers, it seems like a good idea to start off each interview with the Hebrew component, including a short reading passage as well, and then introducing Arabic through a matter-of-fact remark of the sort, "Oh, by the way, I can speak Arabic as well. Do you mind if we speak Arabic from now on?" (This will be said in PASII, of course).

The interviews will also include a component of formal methods of elicitation. Given the diglossic nature of these speakers, I envision the formal methods to include elicitation of both MSA (through reading passages, with and without pronunciation diacritics) and of PASII (e.g., semantic differentials, picture naming tasks, minimal pairs). Other, more complex techniques, can be modeled after Lambert's matched guise tests, as discussed in Labov (2001:194-195). Recordings that may be included in such tests are of Palestinian speakers with and without pharyngeals, gemitates, etc.;

non-Palestinian Arabs with "exaggerated" pronunciations of such features; Jewish speakers of Mizrahi and Ashkenazi backgrounds speaking Arabic. Another way of manipulating these features can be based on what we know about the phonetics and phonology of, e.g., the emphatics. As pointed out by Kahn (1975), emphasis often involves pharyngealization of neighboring vowels, as well as of the emphatic consonant itself. A test may thus be designed whereby speakers will be exposed to stimuli with pharyngealized consonants followed by non-pharyngealized vowels, and vice versa, in order to establish what it is that constitutes the perception of a phone as emphatic.

4.4 Supplemental materials

The interviews will be supplemented by recordings of formal speech in MSA from Israeli, Palestinian, Lebanese and pan-Arab (e.g., MBC, Al Jazeera) TV stations, where more formal, MSA-like utterances are expected. The concept of diglossia as a salient feature of speech communities like those in which Arabic is the main language of communication has to do with different varieties of a language fulfilling different communicative functions. In the case of the Palestinian community in Israel, there are several communicative functions, which elsewhere in the Arab World are fulfilled by Standard Arabic, but in Israel are fulfilled by Israeli Hebrew, e.g.:

- Government administration
- National and (some) municipal politics
- (Some) newspapers
- (Some) TV & radio

In addition, a number of communicative functions, which elsewhere in the Arab World are fulfilled by regional spoken dialects, are fulfilled by Israeli Hebrew, e.g.:

- Everyday verbal interactions with (some) friends and neighbors.
- Interactions with (some) clients, service providers, employees, employers.

One goal of this study will therefore be to tease out the various functions fulfilled in everyday communication in a speech community where PASII is the speakers' native language, and the language variety (PASII, MSA, Israeli Hebrew), which is used in everyday communication to fulfill each such function.

4.5 Treatment of the data

Once the data is collected, coustic analysis will be done using the freeware application Praat. Quantitative analysis will rely mostly on GoldVarb, but other statistical packages will be considered for purposes other than the standard Varbrul multivariate analysis. I am also looking in to the advantages of using a qualitative analysis software package (e.g., HyperRESEARCH™ 2.6). A package such as HyperRESEARCH can serve as a useful tool to keep track of the various components of this type of research and synthesize them into a coherent analysis, including smoothening the transition between verbal data emerging from the interviews to quantifiable data for statistical analysis.

Appendix A provides a tentative list of factor groups for the Varbrul analysis. Each token examined will be coded for one dependent variable reflecting its actual realization by the speaker and by a number of independent variable. Some independent variables pertain to all tokens, such as those relating to speaker

demographic information and speech style. Most of the phonological independent variables are variable-specific. In what follows, I will list the factor groups, and for those that are not self-explanatory, I will add a brief explanation.

5. Conclusion

In this proposal, I have described the issues that I wish to examine in my study of variation of change in Palestinian Arabic Spoken in Israel. Sociolinguistic studies of the kind we are so used to reading of at Penn and for which many of us are trained here are virtually non-existent for the languages of Israel. My proposed dissertation study will benefit from prior work on variation in general, from work on Arabic phonology and dialectology, and from buds of work on variation and change in other dialects of Arabic (most notably Haeri 1997) and of other cases of minority languages in contact with politically and numerically more dominant languages of the state (e.g., Nagy 1996). My own background in Semitic linguistics and more recently in the study of variation in other communities will hopefully complement and enhance this study, which I expect to lead the way for myself and others to continue the study of sociolinguistics in Israel, in Arabic as well as in Hebrew and in the various minority and immigrant languages still spoken there.

Appendix A: Factor groups for multivariate analysis

DEPENDENT VARIABLES

For /ʕ/

Code	Pronunciation
1	[ʕ]
G	[ʔ]
0	[∅]

For pharyngealized alveolar stops/fricatives

Code	Pronunciation
1	pharyngealized
0	non-pharyngealized

For underlying long vowels and geminated consonants

Code	Pronunciation
1	long (more than 50% longer than average underlying short V/singleton C)
0	short
M	“medium” (35%-50% longer than average underlying short V/singleton C)

INDEPENDENT VARIABLES

SOCIAL FACTORS / SPEAKER INFO

Age

Code	Age range
1	16-35
2	36-60
3	61+

Sex

Code	Sex
f	female
m	male

Religious background

Code	Religion
m	Muslim
c	Christian (Greek Orthodox, Roman Catholic)
o	Other

Currently, I do not believe it should be necessary to distinguish between the Christian denominations. This may be modified if I find indication of denominational identity issues between the groups.

Occupational group

Code	Group
b	"blue collar" (auto mechanics, construction, etc.)
f	food & services (waiters, shopkeepers, etc.)
w	"white collar" (teachers, doctors, pharmacists, business owners, etc.)

Education level

Code	Schooling
e	elementary school (up to 8 years)
h	high school (9-12 years)
u	university/college (including grad/professional degrees)

Primary language of schooling

Code	Language
a	Arabic all the way
h	Hebrew in high school or college
f	French in high school
o	Other (Russian, Romanian, etc.)

Contact with Hebrew

Code	Frequency of contact
0	no contact
1	occasional contact (1-2 times a week)
2	extensive contact (works/studies/lives with Hebrew speakers)

The values for this factor group will be determined by asking each speaker explicit questions about their frequency of contact with Hebrew.

Hebrew proficiency

Code	Level
0	none
1	interme diate
2	high

These values will be determined by my judgment of the Hebrew component of each interview.

Hebrew phonology

Code	Status of Hebrew pharyngeals
0	N/A
1	pharyngeals intact
2	no pharyngeals

Ditto.

Community

Code	Community
j	Jaffa
r	Ramallah
i	Israel-general (e.g., TV/radio broadcasters)
n	neighboring countries (Jordan, Lebanon, Syria)
a	other Arab World countries

LINGUISTIC FACTORS

For geminates:

Place of articulation

Code	Place
l	labial
c	coronal
d	dorsal
p	post-velar

Manner of articulation

Code	Manner
s	stop
f	fricative
n	nasal
l	liquid

Part of speech

Code	POS
v	verbal
n	nominal (including adjectives, noun-derived adverbs)
p	particle (preposition, conjunction, complementizer)

Gemination

Code	Analysis
t	true (templatic)
f	fake (assimilatory))

Fake geminates refer mostly to the assimilated definite article *l-* followed by a coronal.

Stress

Code	Location of stress
1	stressed syllable immediately preceding geminate
0	elsewhere

For long vowels:

Part of speech

Code	POS
v	verbal
n	nominal (including adjectives, noun-derived adverbs)
p	particle (preposition, conjunction, complementizer)

Origin of length

Code	Origin
h	historically long
m	result of monophthongization

The vowels /aː/, /ɪː/, /uː/ are historically long. The other two are results of historical processes: *ay>eː and *aw>oː

Vowel

Code indicates vowel quality
a
i
u
e
o

Stress

Code	Location of stress
1	vowel is nucleus of stressed syllable
0	elsewhere

For pharyngeal(ized) Cs

Part of speech

Code	POS
v	verbal
n	nominal (including adjectives, noun-derived adverbs)
p	particle (preposition, conjunction, complementizer)

Position

Code	Position
o	onset (incl. 1st segment in complex onset)
c	coda (incl. 1st segment in complex coda)
l	cluster (2nd or higher segment therein)

Preceding segment

Code	Segment
v	vowel
0	utterance initial
h	homorganic non-pharyngealized C
c	heterorganic non- pharyngealized C
p	homorganic pharyngealized C
q	heterorganic pharyngealized C

Following segment

Code	Segment
v	vowel
0	utterance initial
h	homorganic non- pharyngealized C
c	heterorganic non- pharyngealized C
p	homorganic pharyngealized C
q	heterorganic pharyngealized C

Stress

Code	Location of stress
1	C is in stressed syllable
0	elsewhere

FACTORS OF STYLE, ETC.

Variety of Arabic

Code	Variety
u	urban PA
r	rural PA
t	TV Standard Arabic
r	radio Standard Arabic
d	reading Standard Arabic

Style

Code	Style
1	casual
2	careful
3	reading

Appendix B: Expected schedule of work

Fieldwork and data collection (in Israel)	February—August 2004
Data analysis (in Israel)	April—August 2004
Continue data analysis (In Philadelphia)	September—November 2004
Dissertation writing (in Philadelphia)	September 2004—April 2005
Dissertation filing	May 2005

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