Linguistic analysis of dialect “correction” and its interaction with cognitive salience

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ABSTRACT

This article considers language variation within one “ethnic” group: Israelis of Middle Eastern origins. Earlier studies (Yaeger-Dror, 1988, 1991) found that singers from the dominant “Koine”-speaking social group (Blanc, 1968) use [r] in pop songs and [R] in casual interviews. This can be defined as a register distinction. On the other hand, singers from a MidEastern ethnolinguistic background, whose underlying dialect includes [r], use [R] even in songs. Given that singers whose vernacular consonant inventory does not even include [r] use it categorically in songs, why do those whose consonant inventory includes [r], and who should find it easier to use it categorically, have such a difficult time maintaining [r] consistently (and appropriately) in the song register? One of the recorded variants for these singers “merges” the [r] and [R] into coarticulated [rR]. Why does this previously untested sound arise, and what does it tell us about the linguistic and sociolinguistic situation? Data from various registers are analyzed in order to discover the answers to these questions. This analysis is concerned with the quantifiable evidence of systematic patterns in the use of these three pronunciations for (r) and uses this evidence to demonstrate that subconscious sociolinguistic pressures on members of the minority community influence them to assimilate to the dominant social group while still retaining ethnolinguistic proof of a narrower ethnic identity. For example, the use of [rR] is found to be correlated with a wish to affiliate with both an [R]-using group and an [r]-using group, showing that sociolinguistic techniques can reveal social psychological ethnic affiliation. Like Trudgill’s (1986) discussions of dialects in contact, the present theoretical discussion takes advantage of proposals advanced by Giles, to explain why the data reveal both convergence (toward the dominant out-group) and divergence (toward the in-group) (Giles & Coupland, 1991). Sociolinguistic methods permit a quantitative analysis of the strength of these conflicting tendencies, both of which are subsumed under the technical term “accommodation.” Methods are proposed to determine if choice of the

Although this work was not directly supported by NSF, the questions that led to this analysis would never have been raised without the help of the NSF (#860-8714-3) and the opportunity NSF and the Université de Montréal provided for me to consider the problems of linguistic variation in ethnolinguistically sensitive situations. I thank the students of my 1988–89 sociolinguistics seminar, my children, Fortuné Sitbon and Bracha Resnick, who all helped to locate and tape appropriate data from the radio and television; Karen Alkalay-Gut, Eliezer Ben-Rafael, Bryna Bogoch, Larry Davis, Howard Giles, Bob Hoberman, Pam Kidron, David Sankoff, and Pierrette Thibault for interesting discussions concerning the article; and the editors and anonymous referees for their careful reading of the manuscript and the help that reading gave me in clarifying my argument. Any remaining shortcomings are my own.
[R] or [rR] variant is conscious or not, and variable rule analysis reveals that for most of the singers the less cognitive salience, the greater the degree of convergence to the Koiné norm [R]. The linguistic factors that are correlated with the relative degree of salience can be used in future studies when the relationship between convergence toward another dialect or language and relative cognitive salience is also at issue.

This article describes and analyzes (r) variation measured from radio broadcast interviews and Top 20 songs of specific Israeli Hebrew-speaking pop singers, as well as from variation among the singers.¹ Evidence is presented to demonstrate that, for most of these singers, their dialect use varies with register, social setting, and other interactional factors, and that (r) variation in the direction of the standard—which we often define as “correction” or “hypercorrection”—is in fact not a conscious change, but reveals the speakers’ complex subconscious social psychological motivation.²

In the analysis of Israeli Hebrew singing, three paradoxes became apparent:

1. Professional pop singers who use [R] categorically when speaking generally use [r] categorically when singing; these can (temporarily) be referred to as sociolinguistic group 1. However, those whose vernacular consonant inventory includes [r], who will (temporarily) be referred to as sociolinguistic group 2, do not use it categorically when singing.

2. Group 2 singers also use [rR] when singing, although the categorical [r]-singing group never do. A subset may even use [rR] in interviews and can be considered sociolinguistic group 3. An implicational scalar representation of (r) use implies that even use of [rR] is rule governed (see Table 1).

3. Those who use [rR] generally do so in environments that cognitive scientists have determined to be cognitively less salient, despite the fact that [rR] is articulatorily more complex than either of the other articulations.

The present analysis should resolve these paradoxes and in the process should provide a generalizable technique for implementing information about cognitive salience to further our understanding of linguistic variation and change.
In order to understand the analysis, it is first important to introduce information about the relevant social groups in the society, language norms within the community, the relevant sociophonetic variables for speakers of Israeli Hebrew, and the dialect norms that govern the registers being analyzed.

**Some Linguistic and Ethnographic Background**

*Relevant “ethnic” social groups*

The present article takes as a point of departure a greatly simplified picture of the ethnonationalistic breakdown of the Israeli population. The simplified ethnicity model used is developed in great detail in sociological references, most recently in Ben-Rafael and Sharot (1991), and is roughly outlined in Figure 1. There are a number of Israeli ethnic communities, with three primary metacommunities. While acknowledging that each of these communities considers itself in some ways ethnically unique, and each comes to the Israeli ethnic “melting pot” with a different set of attitudes toward the larger community and toward their own ethnic group (Ben-Rafael & Sharot, 1991), within the Jewish community there is a strong positive social psychological value attached to a melting pot (assimilative) ideology.
Relevant ethnolinguistic factors

A speaker's choice of ethnic affiliation is correlated with certain ethnolinguistic choices. Yaeger-Dror (1988) presented evidence that the native Israeli Hebrew-speaking community is triglossic: there are dominant and stigmatized vernaculars, as well as an Academy-defined prescriptive (zikni) norm. That these dialects differ in their realization of the variable (r) is discussed in this article.

Postdental (r), [r], whether flapped or trilled (but not fricative), is the articulation officially prescribed by the Hebrew Language Academy (Fellman, 1974; Nahir, 1978; Rabin, 1983) and prescriptive "speech therapists" (Gumperz & Tell-Bauberger, 1966). The choice of (r) was based on a wish to demonstrate unity with the regional Sprachbund (Blanc, 1968). Members of the Academy feel strongly enough to maintain this position on national TV (on late night "cultural" panels), as well as on op-ed pages of the middle-class oriented press (Haaretz, Jerusalem Post) and in the Academy journal, Le-shonenu. Professional speakers (e.g., broadcasters, classical actors, singers) are taught to use this prescriptive form.

Israelis of whatever ancestry, whose primary self-identification is Israeli, will be referred to as "Koiné Israelis" (henceforth, KI), as that term implies that the group is a product of a social melting pot, and that its dialect is the product of convergent linguistic factors. The Koiné dialect is the dominant vernacular standard, or "legitimated" (Thibault, 1983) dialect, and members of the KI metagroup have a coherent set of cultural rules (Ben-Rafael, 1989; Ben-Rafael & Sharot, 1991), as well as a clearly defined dialect (Yaeger-Dror, 1991) that differs from the prescriptive Academy norm. Among other differences, the Koiné has a uvular rather than a postdental (r). 4

Some Israelis may choose to identify themselves with a specific ethnic group. Figure 1 shows that the two primary Jewish (meta)ethnic groups are the North European and the MidEastern (or Mizrahi) groups. Secular (hiloni 'nonreligious') European group members generally regard their primary allegiance as Israeli and speak the Koiné. It is the Mizrahi members of the secular community who are more likely to define their ethnicity narrowly and who retain an ethnic dialect after the first generation; those who retain this divergent ethnolinguistic stance are referred to as "Mizrahi Israelis" (henceforth, MI) group members. Given the melting pot ideology within the larger community, the divergent ethnic self-identification and the dialect are both stigmatized and for the most part are only retained by working-class speakers. However, this stigmatized dialect, whose speakers are working-class members of a nondominant ethnic group, conforms more closely to the prescriptive norm than to the Koiné, using [r] for (r). 7

The literature shows that in the 1960s [R] was categorical in KI, and even MI speakers had begun to avoid the use of [r] (Blanc, 1968; Gumperz & Tell-Baugarter, 1966). In the late 1970s, two sets of sociolinguistic interviews with speakers from this ethnic community were collected and analyzed. In a study
of a judgment sample of 61 Mizrahi speakers from different towns, Davis (1983, 1984) found that nonrural working-class Mizrahi speakers had almost categorically adopted [R] in a casual unmonitored interview style. However, in an exhaustive study of one group of rural moshav speakers, Bentolilla (1983) found lower [R] percentages; even those adults with most network contacts outside the moshav used [r] more than the nonrural group. These studies showed that by the late 1970s only rural MI speakers with little access to the larger community retained a high percentage of [r].

Yaeger-Dror (1988) found that despite Academic prescriptions and claims to the contrary, and despite a required course in Academic language-use given to all broadcasters, the [R] is used consistently in most spoken broadcasts by speakers of any ethnic background. Based partly on these results, I concluded that, although [r] is the legislated prescriptive norm, it has no limit for use in the Koiné, or even for most public-speaking situations, as it is stigmatized by its use in MI. The article hypothesized that this avoidance is related to the fact that the prescriptive [r] is indistinguishable from the stigmatized [r]. A parallel was drawn with other triglossic language groups (e.g., Norwegian, Arabic) where similar conditions appear to obtain. That is, if the prescriptive phonology reflects that of a stigmatized (rural or working-class) dialect within the society, it will be avoided, whereas the vernacular of one prestigious group within the society will become the legitimated vernacular.9

Because of the triglossic situation and the avoidance of the prescriptive norm in favor of the Koiné, by the late 1980s the prescriptive norm took precedence over the Koiné norm only in the most carefully read broadcasts (e.g., formal reading or acting; headline news, news in easy Hebrew [Yaeger-Dror, 1988], and the weekly Cultural Bulletin Board [Yaeger-Dror, 1991]), as well as in popular singing registers.

If all singers used [R] in speech but [r] categorically in song, this would reflect a simple distinction between register norms (Finegan & Biber, 1993). However, I found sung data to be of particular interest because, while [r] versus [R] served as a categorical register distinction for singers of European ancestry, this was not the case for singers of Mizrahi ancestry. This article documents that the three sociolinguistic groups shown in Table 1 are correlated with specific groups of singers: (1) Adult KI singers use [r] categorically in song because it is the accepted prescriptive norm for trained reading, recitation, and song; they use [R] categorically in conversation (or interviews) because that is their vernacular usage. (2) In casual interviews, MI singers’ (r) varies between [r] and [R]. Although we would project that it would be easier for these speakers to use [r] categorically in song than for the KI singers, they actually use [r] variably in song as well. The analysis seeks to explain why this complex and unlikely pattern of (r) use occurs.

Convergence of (r) from [r] to [R] requires an articulatory shift that should be relatively complex for singers who do not include both [r] and [R] in their consonant inventory. However, the difficulty only appears to arise where both are included in the inventory; thus, the difficulty is less likely to be an
articulatory learning difficulty and more likely to be sociopsychologically determined.

A third pronunciation that occurred in these songs and interviews is the coarticulated [rR]: the tongue tip and the uvula are generally both trilling simultaneously. The [rR] pronunciation has no attested occurrence in any of the world's languages. This is consistent with the linguistic axiom that speakers generally simplify rather than complicate their language use (e.g., Finegan & Biber, 1993; Kroch, 1978), as phoneticians and typologists agree that (r) pronunciation is relatively complex at best (Maddieson, 1994), and that therefore coarticulating would be doubly complex.

Chambers and Trudgill (1980:§8.4) discussed a linguistically related problem that occurs in British dialect phonology. They found that in transitional areas between [u] users and [ʌ] users, there exist both mixed lect areas and fudged lect areas. In mixed lect areas, both [u] and [ʌ] are used variably. Such speakers can be compared to those who use [r] and [R] variably. Similarly, in the British example used by Chambers and Trudgill, in some transition areas speakers vary not between [u] and [ʌ], but between their local variety and [y], which is midway between the two. Chambers and Trudgill defined such a case as a fudged lect; Trudgill (1986) redefined this case as being an example of interdialect, because the new phonetic variant does not exist in either dialect. Of course, vowels are much easier to fudge articulatorily than consonants, but in a sense [rR] can be referred to as a perfect example of interdialect, with the new articulation incorporating features from both MI and KI dialects. Moreover, in this particular case, [rR] is actually an example of simultaneous use of both phonetic options rather than creation of a third intermediate option.

One difference between the British case and the present one is that, while certain areas of Britain use mixed lect and others use fudged lect, the present case shows that the same speakers who mix [r] and [R] also use fudged [rR]. Another, more important difference is the purpose to which the variation is put: the British mixed or fudged lect speakers live in a geographical transitional area; the Israeli mixed lect speakers are in a social psychological transition from affiliation with their narrowly defined ethnic group and affiliation with a broader ethnic category. In the British case, the speakers' possible motivation is considered irrelevant, whereas in the present case, it becomes clear that both mixed and fudged usage are directly related to the singers'/speakers' attitudes toward their multiethnic audience. Mixed [r] and [R] usage may reflect a speaker's mixed rule system, but fudged [rR] usage reveals the wish to affiliate with both audiences simultaneously. Some singers neither mix nor fudge their (r) use; others mix and fudge their (r) use, with fudged [rR] preferred in most cases.

For the moment, let us compare this variation with variation in behaviors studied by psychologists. Psychologists define a behavior that advances a specific goal as approach behavior, and its opposite is referred to as avoidance behavior. Two incompatible positive goals (e.g., when food pellets are on one
side of the cage and water is on the other) lead to approach–approach behavior, which entails attempting to meet the two goals as nearly simultaneously as possible. Although it is very difficult to be on two sides of an experimental cage simultaneously, humans are quite capable of trilling the tongue tip and the uvula simultaneously. The psychological parallel would lead us to hypothesize that the fudged lect [rR] is evidence of an approach–approach mechanism. But what is the speaker approaching in this case?

Social psychology and linguistic variation

No discussion of linguistic choice in the complex modern world is possible without a social psychological model, and the one that appears to best fit these data was devised by Howard Giles. Giles and his co-workers have done a great deal of research to determine what social psychological influences cause a speaker to choose one dialect over another (Genesee & Holobow, 1989; Giles & Coupland, 1991; Leets & Giles, 1993), and this work has been discussed in the sociolinguistic literature (Fasold, 1984; Trudgill, 1986; Yaeger-Dror, 1991, in press). In the process, Giles developed an analytical framework, called Communicative Accommodation Theory (CAT), in which speech is understood to be influenced by speakers’ attitudes toward their interlocutors (Giles & Coupland, 1991). If that attitude is positive, speakers will converge—that is, will speak more like their interlocutors from the out-group; if the attitude is negative, speakers will diverge—that is, will avoid speaking like their interlocutors and will emphasize phonetic variants that mark their own in-group as different.

Data gathered and analyzed systematically using sociolinguistic methods reveal both convergence toward the dominant out-group (Giles & Coupland, 1991) and divergence (toward the in-group), permitting a quantitative analysis of the strength of these conflicting tendencies, both of which are subsumed under the technical term accommodation. The convergent/divergent tendencies are only partly determined by the audience and are partly determined by the singers’ sense of ethnonlinguistic vitality. The data have been analyzed simultaneously to reveal the degree to which the convergence is conscious or not. It is shown that singers who primarily direct their energy toward the acquisition of a large general (KI) audience do not use [rR] in speech, although they may use it in song, whereas those who are attempting to retain a marked MI audience, while simultaneously acquiring a broader audience, are quite likely to use [rR] in songs and even in interviews.

The present analysis discusses who uses [rR] and how prevalent [rR] use is; with the help of a variable rule statistical analysis, it attempts to explain how and why this coarticulated usage arose. In order to answer the questions posed earlier, I describe the corpus, introduce the theoretical model, present the data and the analysis to explain the variable patterns found in the data, and draw conclusions that should be relevant to any study of sociolinguistic variation.
THE PRESENT CORPUS

Despite reservations about the linguistic significance of self-conscious speech, several important studies have used careful speech, analyzing phonetic variation in the speech of radio announcers (Bell, 1984, 1991a, 1991b, 1992; Brunel, 1970; Coupland, 1985; Hirschberg, 1990; Kumar, 1975; Selting, 1985, 1992; Yaeger-Dror, 1988), travel agents (Coupland, 1984; Hindle, 1980), and second language learners (e.g., Zuengler, 1991), as well as popular singers (Prince, 1987; Trudgill, 1983; Yaeger-Dror, 1988, 1991, in press). The present corpus consists entirely of interview and song data collected from the Israeli publicly financed radio and TV stations.

Initially, for a given singer, the data were analyzed to reveal a four-way split: (r) usage was divided between two registers (song and interview) as used by the members of the two ethnic communities (MI and KI). Because many singers record more than one song genre (here defined as register), and the audience for a given musical register or interview program is generally segregated, the present study initially distinguishes two song registers (pop, cassette) and two interview situations (KI and MI).

Interviews

Speech data discussed here were gathered from recorded interviews (IV) appearing either on the general pop music ‘Sabbath Star’ (Kovav Hashabbat) program or on a noontime program (primarily) for an MI audience, which is heard six days a week, the ‘Mediterranean Medley’ (Ma’arav Yam Tixoni). Far more men than women singers were interviewed on these programs, so the sample does not include equal numbers of male and female stars.

Songs

On the Israeli pop scene, just as in Western popular music circles, there are different widely recognized popular song registers (which are sometimes referred to as genres). Several song registers were differentiated with the help of a local ethnomusicological researcher (P. Kidron); data from two of these singing registers—which are reported to have significantly different audiences—are used for this analysis:

1. Pop (referred to in Regev, 1986, as “mainstream pop/rock”) conforms to conventions prevalent for rock or pop music elsewhere. The Israeli audience for this register is ethnically quite general (Benski, 1988, 1989), although older members of the upper middle class are least likely to become fans (Benski, 1989).
2. Cassette or Mizrahi register (Kidron, 1988; Regev, 1986:347f) is characterized by the use of Mediterranean instruments and musical techniques. Lyrics are often translated from traditional Greek, Turkish, or Arab songs, and some Arabic lyrics may be included. Not surprisingly, although occasionally songs from this register become popular in the larger community,
or are sung by KI singers (Regev, 1986), those who generally sing in this register are members of the Mizrahi or Israeli Arab community, and the primary audience for this music is Mizrahi and Israeli Arab (Benski, 1988, 1989). 14

For the present study, singers were chosen whose songs were played consistently on the Top 20 KI program 'A Hit on the Top' (Lahit Barosh) 15 and on the equivalent MI program 'The Most, the Most' (Haxi, Haxi), 16 between 1988 and 1990.

The two registers under analysis not only have different audiences—as measured by the national radio and TV programs' claims, the singers' own claims, 17 and the callers' conversations, as well as community questionnaires, carried out and reported by Benski (1988, 1989; Benski, Braun, & Sharvit, 1986)—they are also (linguistically and musicologically) measurably different. The corpus is limited to those singers whose songs consistently reach Top 20 status on one of these programs and for whom an interview could be taped. Based on their Top 20 hits, these singers are considered ethnolinguistically identified either with the largely melded Koiné affiliated pan-ethnic (KI) group, with the Mizrahi (MI) metaethnic group, or with both. The names of the singers whose speech was analyzed appear in Table 2, along with information concerning the data sources that were taped and analyzed for each singer. 18 In addition, one politician's speech is used for comparison.

True KI singers (KI group) are totally integrated into the KI metaethnic group, singing pop songs on the programs targeted for the broadest audience. All of the pop singers of European ancestry whose speech is analyzed here are Koiné speakers and present themselves as KI. At first, these European/KI singers were distinguished from KI singers of Mizrahi ancestry (Mizrahi/KI singers), but in the course of the analysis, it became clear that the KI singers need not be subdivided according to family ancestry. 19

Both the European and the Mizrahi ancestry KI singers who have come to stardom via the traditional route (henceforth, KI1) are not included in the statistical analysis, because they use [R] categorically in their interviews and [r] categorically in their songs and thus belong to the sociolinguistic group 1. However, KI singers should be further divided into those who have followed the traditional route to local stardom (having been members of one of the army singing troupes in their youth) and those who began their singing career later. The (r) use of those who became pop professionals after the army (henceforth, KI2) are included in the variable rule analysis, because their (r) use is variable, and they belong to sociolinguistic group 2.

In cases where the difference between the out-group and the in-group is related to speakers' choice of ethnic self-identification, CAT theory has been extended to permit its use as a diagnostic of that ethnolinguistic choice and is used as evidence of relative ethnolinguistic vitality (Giles & Coupland, 1991). This extension of the initial theory is relevant to the present analysis. According to the theory, those who perform primarily for the pop market, who began in their youth, and who have always done so, can be considered
natives, with no need to converge toward a given market segment, and will use language like other native KI speakers. Those who perform primarily for that market, but who are not natively KI (i.e., the KI₂ singers), may have a greater tendency to converge to their new audience, whereas those who have begun to accommodate to that market more recently, after having developed their career in the cassette market (MI>KI), are likely to be converging both musically and linguistically. Those defined as MI singers (MI group) sing only cassette songs, which are played only on the programs targeted for the MI audience. MI singers can be expected to diverge from the Koiné musical pop norms and to emphasize their ethnic background, with no contradictory convergent tendencies. Singers’ interviews reflect such a pattern. In interviews, MI singers often maintain that the musical divergence is related to their group pride (Kidron, 1988), whereas the KI singers emphasize in interviews their Israeli (KI) ethnic pride, and the MI>KI singers often emphasize that they feel a dual loyalty. The third group (MI>KI group) began as cassette singers, but at the time the data were collected had broadened their appeal by singing pop songs as well, and were invited onto the programs targeted for the broadest audience, as well as onto the MI programs. These singers retain a strong sense of ethnic loyalty, but wish to take part in (and reap the prestige attached to) the larger, more general musical market. Not surprisingly, those

<table>
<thead>
<tr>
<th>Singer</th>
<th>Song Register</th>
<th>Speech Register</th>
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<tbody>
<tr>
<td></td>
<td>Sex</td>
<td>Lahit Barosh (or other prime time)</td>
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<tr>
<td>European/KI singers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rami Kleinstein</td>
<td>M</td>
<td>x</td>
</tr>
<tr>
<td>Reuven Lavi</td>
<td>M</td>
<td>x</td>
</tr>
<tr>
<td>Sarai Tsuriel</td>
<td>F</td>
<td>x</td>
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<tr>
<td>Mizrahi/</td>
<td></td>
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<tr>
<td>KI₁ group (integrated in the army)</td>
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<tr>
<td>Gali Atari</td>
<td>F</td>
<td>x</td>
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<tr>
<td>Yizhar Cohen</td>
<td>M</td>
<td>x</td>
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<tr>
<td>Avi Toledano</td>
<td>M</td>
<td>x</td>
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<tr>
<td>KI₂ group (integrated after the army)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meir Banai</td>
<td>M</td>
<td>x</td>
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<tr>
<td>Yoram Gaon</td>
<td>M</td>
<td>x</td>
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<tr>
<td>Older, MI &gt; KI group</td>
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<td></td>
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<tr>
<td>Boaz Shar’abí</td>
<td>M</td>
<td>x</td>
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<tr>
<td>Margalit Ts.</td>
<td>F</td>
<td>x</td>
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<tr>
<td>Rivka Zohar</td>
<td>F</td>
<td>x</td>
</tr>
<tr>
<td>Young, MI &gt; KI group</td>
<td></td>
<td></td>
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<tr>
<td>Haim Moshe</td>
<td>M</td>
<td>x</td>
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<tr>
<td>MI group</td>
<td></td>
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<tr>
<td>Nissim Garame</td>
<td>M</td>
<td>x</td>
</tr>
<tr>
<td>Avihu Medina</td>
<td>M</td>
<td></td>
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<tr>
<td>Shimi Tavori</td>
<td>M</td>
<td></td>
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</table>
TABLE 3. Percentages of different (r) realizations for singers in different registers

<table>
<thead>
<tr>
<th>Singer</th>
<th>((N))</th>
<th>Percent ([r])</th>
<th>Percent ([R])</th>
<th>Percent ([rR])</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>((S/IV))</td>
<td>(S)</td>
<td>(IV)</td>
<td>(S)</td>
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<tr>
<td><strong>European/KI singers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rami Kleinstein/k</td>
<td>(120/95)</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Reuven Lavi/k</td>
<td>(95/93)</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>*Sarai Tsuriel/k</td>
<td>(76/100)</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>All</td>
<td>(291/288)</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td><strong>Mizrahi singers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>*KI₁ group (integrated in the army)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>*Gali Alari/k</td>
<td>(85/146)</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Yizhar Cohen/k</td>
<td>(88/108)</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Avi Toledano/k</td>
<td>(95/120)</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>All</td>
<td>(268/374)</td>
<td>100</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td><strong>KI₂ group (integrated after the army)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meir Banai/k</td>
<td>(97/178)</td>
<td>72</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>Yoram Gaon/k</td>
<td>(88/137)</td>
<td>55</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>All</td>
<td>(185/315)</td>
<td>66</td>
<td>2</td>
<td>12</td>
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<tr>
<td><strong>MI &gt; KI group</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>*Margalit Ts./m</td>
<td>(122/161)</td>
<td>86</td>
<td>.5</td>
<td>0</td>
</tr>
<tr>
<td>*Rivka Zohar/k</td>
<td>(149/70)</td>
<td>70</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>All women</td>
<td>(271/231)</td>
<td>77</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(older)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boaz Sharabi/m</td>
<td>(138/107)</td>
<td>30</td>
<td>0</td>
<td>43</td>
</tr>
<tr>
<td>(younger)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haiim Moshe/k</td>
<td>(98/106)</td>
<td>62</td>
<td>63</td>
<td>0</td>
</tr>
<tr>
<td><strong>MI group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nissim Garame/mk</td>
<td>(92/122)</td>
<td>67</td>
<td>56</td>
<td>2</td>
</tr>
<tr>
<td>(Avihu Medina/k</td>
<td>(−/75)</td>
<td>−</td>
<td>79</td>
<td>−</td>
</tr>
<tr>
<td>Shimi Tavori</td>
<td>(163/−)</td>
<td>67</td>
<td>−</td>
<td>2</td>
</tr>
<tr>
<td>All</td>
<td>(255/197)</td>
<td>67</td>
<td>64</td>
<td>2</td>
</tr>
<tr>
<td>(*Geula Cohen/k</td>
<td>(−/234)</td>
<td>−</td>
<td>68</td>
<td>−</td>
</tr>
</tbody>
</table>

Note: \(S\) = song; IV = interview; k = KI program interview; m = MI program interview. *Woman.

who assimilated to the pop canon in the 1970s are more integrated into the KI social and linguistic system than those who assimilated in the late 1980s. ²⁰

Table 3 gives the relative percentages of \([r]\), \([R]\), and \([rR]\) for each singer in song (S) and interview (IV). There are consistent differences among the three groups of singers who use (r) variably, and this study shows that use of (r) helps to clarify singers' sense of ethnonational pride or ambivalence. It is obvious that both the singers of European ancestry and the experienced singers of Mizrahi ancestry who have joined the Koiné group use [r] categorically in songs and [R] categorically in the interviews. ²¹ As a result, they fall into the sociolinguistic group 1. In contrast, cassette singers, who have to a
greater (M1>KI group) or lesser (M1 group) extent decided to accommodate to the broader community after having developed their following among cassette listeners, are more likely to reveal their dual loyalties in their (r) use. On the other hand, KI2 singers and M1>KI singers use [R] almost categorically in interviews, demonstrating that their primary goal is to accommodate to the larger audience. But they use (r) more variably in song, using [R] and [rR], so they belong in sociolinguistic group 2. Their ambivalence is apparent from their use of both mixed lect [R] and fudged [rR] in song, where [r] is called for. M1 singers' (r) was even more variable in both registers, placing them in group 3. The table has clarified that there are consistent differences in usage across the three groups of singers, and that these differences are connected with the singers' ethnolinguistic identity.

The KI singers (at least, the KI1 singers) should follow the same rules as other KI singers, and so they do. However, (r) variation does not reflect choice of audience in the straightforward way that ethnolinguistic theory would propose. The KI1 group retains categorical [r] in song and categorical [R] in speech, which reflects their lack of ethnolinguistic ambivalence. The KI2 and M1>KI groups use [R] almost categorically in interview register, converging to the Koiné, but use both [R] and [rR] in song. This contradicts our ethnolinguistic expectations. The M1 singers are even more surprising. They have no need to conform to a KI audience and thus should have no need to use [R], much less [rR]; but their (r) usage reflects even more extensive convergence and ambivalence than that of the two groups with transparently dual loyalty.

The singers, or at least some of them, appear to want to use both [r] and [R]: that is, to return to the earlier theoretical discussion, they wish to accommodate to, or affiliate with, both their MI [r]-using listeners and their KI [R]-using listeners. That could be accomplished with a mixed lect using some of each, (r) being a fairly common sound in Hebrew. A singer who is comfortable with his or her own dual goal will use both [r] and [R] appropriately. When singing pop or cassette songs, or when talking to a primarily MI audience, the singer will use [r], but when being interviewed on a program with a KI audience, the singer will use [R].

I make the case that a singer who wants to affiliate with the larger audience, but wants simultaneously to demonstrate ethnolinguistic bona fides, is more likely to insert some [R] when singing (to emphasize affinity with the KI community) or some [r] when being interviewed for a KI audience (to emphasize affinity with the MI community). Note that only those with the strongest MI group loyalty use [r] in interviews.

I also claim that singers who use both pronunciations simultaneously are the most concerned with this dual goal. Inappropriate choice of (r) variant can be used as quantifiable evidence of ethnolinguistic insecurity, whereas coarticulated [rR] provides even stronger evidence that two incompatible goals are being attempted at the same time. The evidence presented in Table 3 demonstrates that only the true MI singers intrude MI loyalty into IV register
by using [r]. No KI₁ singers use any [rR]. Even KI₂ and MI>KI singers use [rR], reflecting their dual loyalty, as do the MI singers who have any aspiration to pop singer status. Consistent with our expectations, the MI>KI men, who have broken into the popular market but still retain their MI audience, have the greatest tendency to choose [rR]: Ḥaim Moshe, Nissim Garame. Even the MI singers are relatively likely to demonstrate dual ethnic loyalty. Only the two singers who were most likely to use [R] have relatively less tendency to use [rR]: Meir Banai and Boaz Shar'abi. These are the singers who have always sung only for the pop audience, and their preference for [R] reflects their ethnolinguistic loyalty to the larger community. Table 4 presents the various options, and the subsequent tables follow this grouping of the singers.

Given that, unlike KI singers, cassette singers did not distinguish categorically between the two registers, one might expect that the bulk of their convergent (r) use would consist of [R] use in song or [r] use in interviews. This theory is only partly supported by the data. Only those singers with the least contact with the Koiné community, who perform only cassette music (as well as the singer most newly attempting to accommodate to both markets at once), use a significant amount of [r] in interviews. Neither those who have been accommodating to the Koiné market for a longer time (Gaon, Shar'abi, Tsan'ani, Zohar), nor young singers who have never “done time” in the cassette market (Banai) have significant percentages of [r] in interviews. Nor is there a significant percentage of [R] use in songs for most of the singers. Only the two (Banai, Shar'abi) of three (Banai, Shar'abi, Gaon) KI₂ singers with the largest Koiné audiences use significant percentages of [R] in song.

By far the most significant finding is that all the singers who attempt to accommodate to/converge toward the larger community while retaining a distinctive cassette following have surprisingly high percentages of the approach—

<table>
<thead>
<tr>
<th>Ethnic Background</th>
<th>KI</th>
<th>MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>European/KI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mizrachi/KI₁</td>
<td>always</td>
<td>never</td>
</tr>
<tr>
<td>Group 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mizrachi/KI₂</td>
<td>always</td>
<td>often</td>
</tr>
<tr>
<td>Mizrachi/MI &gt; KI</td>
<td>often</td>
<td>always</td>
</tr>
<tr>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mizrachi/MI</td>
<td>never</td>
<td>always</td>
</tr>
</tbody>
</table>
approach variant [rR], which we earlier categorized as highly complex and (phonologically) "unnatural." The M1>K1 singers are those who should be most ambivalent and use fudged lect most, as they are attempting to capture both audiences. The women from this group appear to distinguish between appropriate (r) variants more consistently than the men, whose fudged lect usage is quite obvious.

Yaeger-Dror (1988) attempted to determine if environmental phonetic influences contributed to the (r) variation, but such a purely phonetic/linguistic influence was not significant. However, those preliminary results implied that the relative cognitive salience of the (r) and the ethnolinguistic significance of the (r) variable were more important than the phonetic environment in determining variation. These influences are now analyzed in greater detail.

From Giles's perspective, the M1 group should diverge from the K1 norm and use [r] consistently in both IV and song. Both sociolinguistic and social psychological theory would project that cassette singers, who use [r] for speaking and who specifically claim that their divergence from pop norms is related to their group pride, should have less problem using [r] consistently when singing than the pop musicians who never use [r] in speech. Table 3 shows that the K1 singers' results reflect their native ability, but does not entirely support the initial claims for the other groups of singers. M1 singers are the only group that uses a high percentage of [r] in interviews, and this is consistent with Giles's claims. However, in song they used [r] much more erratically than K1 singers, and this fact should be accounted for. Linguistic theory would claim that the M1>K1 singers, like the M1 singers, should use [r] categorically in song, whereas Giles's theory would project that they would accommodate to the K1 norm in song, or that their dual loyalty would lead them to converge to the K1 [R] only inconsistently in interviews. The contrasting tendency to accommodate to a dispreferred or unlegitimated dialect— even a stigmatized dialect—is consistent with Giles and Coupland's (1991) claims and has been documented in Prince (1987), Baugh (1992), and Rickford and McNair-Knox (1993).

Given that there is a great deal of sociolinguistic variation in the use of (r), and given that the review of the literature on such variation reveals that in cases like this, where ethnic (or ethnolinguistic) identity is at issue, it would be appropriate to consider linguistic variables that reflect relative degrees of consciousness. The present analysis follows that course.

Both Trudgill (1983) and Prince (1987) demonstrated it to be quite possible for singers to vary the dialect they use over time. Trudgill found that, as British pop music became more popular and began to rival American rock 'n' roll, British musicians converged less toward their concept of a pan-American dialect. Prince (1987) performed a variable rule analysis that showed that a popular Yiddish singer chose to retain her own local dialect, in spite of unconscious influences pushing her toward a more standard dialect. But as she spent more time among those from more standard dialect areas, her dialect (as heard in songs) shifted toward the Yiddish used by her listeners. Prince took
advantage of the literature on cognitive salience, assuming that relatively salient linguistic environments would be favored for consciously divergent (or convergent) tendencies, whereas relatively nonsalient environments would be favored for unconscious accommodation. In this way, cognitive salience permitted the sociolinguistic researcher to distinguish among accommodative tendencies.

In the present instance, the linguistic variation found does not reflect the overt claims of the singers, much less the linguistic and social psychological theories. The intriguing paradoxes caused by the mismatch between the singers’ claims and the actual results urged me to attempt to unravel the causes for the variation using Prince’s methods. Unfortunately, the specific cognitive variable tapped by Prince could not be used. However, it is possible to generalize Prince’s theory to analyze (r) variation based on the relative cognitive and phonetic prominence assigned to the word that includes (r). A review of the cognitive literature was required to determine appropriate cognitive variables for the analysis.

**Choice of appropriate cognitive/linguistic variables**

Following Prince (1987, based on Labov, 1972, 1987), the assumption was made that variation that occurs in cognitively salient positions reflects a choice that is relatively conscious, whereas ethnolinguistic choices made in less salient positions reflect correspondingly less conscious ethnolinguistic decisions. Prince found that her singer used her divergent dialect primarily in cognitively salient positions and converged to the more general Yiddish Koiné unwittingly (and against her avowed judgment) in less salient positions. This discussion might be construed as implying that ethnolinguistic choices are conscious if they occur in salient positions. Although a review of recent cognitive psycholinguistic literature revealed several variables that could possibly influence linguistic variation, if cognitive salience (and accommodative attitude) were relevant to the analysis, even cognitive scientists preface such a discussion with a disclaimer, because they have concluded that the continuum from more to less salient is valid, and that there is a correlation between cognitive and linguistic salience. But that salience does not imply truly conscious choice, because even cognitively salient linguistic variation is “executed without intention or conscious awareness... The structure of the process is ‘wired in’, either genetically or by learning (or both)” (Levelt, 1989:20). Taking advantage of the cognitive literature, I have found three linguistic variables that can be tapped to reveal relative cognitive salience, with the understanding that even the most salient positions do not entail truly conscious choices.

**Phonetic prominence reflecting word-internal prominence.** High pitched loud speech takes more energy to produce (Ladefoged, 1983; Lehiste, 1970; Lieberman, 1967). Phoneticians have found that words succeeding a pause are highest in pitch and amplitude (loudness) and are therefore perceptually
salient, whereas those immediately preceding a pause are lowest in pitch and
amplitude and are perceptually least salient (Ladefoged, 1983; Lehiste, 1970).
Noncoincidentally, cognitive scientists have generally found that words at the
beginning of a string (i.e., right after a pause) are cognitively most salient,
whereas words nearing the end of a string are less salient (Levlt, 1989). Thus,
all things being equal, it can be assumed that the words succeeding a pause
are productively, perceptually, and cognitively salient, and those preceding
a pause are productively, perceptually, and cognitively nonsalient. Postpausal
(r) occurred quite rarely in these data, so this option is not discussed further.
However, prepausal (r) is coded and is tentatively assumed to be a sign of rel-
ative nonsalience.

Similarly, consonants in an intervocalic position are more phonetically sali-
ent than those near a consonant (Lehiste, 1970), and a three-way factor can
be proposed, with intervocalic position most salient, (r) as the weak member
of a cluster less salient, and prepausal (r) least salient. This is referred to as
the phonetic factor group.

Lexical ordering. Cognitive scientists have analyzed the cohesion and
importance of cognitive and phonetic criteria for understanding and have
determined that, even within the word, there are cognitive and phonetic cri-
teria for salience as well. They determined that syllable onset is distinct from
rime, which can then be subdivided into the nucleus (vowel) and coda (off-
set). There is a rather strict linear ordering of the importance to understand-
ing, decreasing serially from left to right (Dell, 1988; Meyer, 1988, cited in
Levlt, 1989), with the coda being most redundant and least critical to under-
standing (Cooper & Danley, 1981) and therefore compressible. This is
referred to as the lexical factor group. The beginning of the word is cogni-
tively salient, the end of the word is least salient, and internal unstressed syll-
ables are also nonsalient (see especially Cole, 1976; Forster & Bednall, 1976;
Marslen-Wilson & Welsh, 1978). This word-level prominence/salience con-
tinuum can also be tapped for the analysis: onset, nucleus, and coda can each
be distinguished, with onset theoretically the most salient position, nucleus
both salient (because of its proximity to the vowel) and nonsalient (because
noninitial), and coda the least salient position.

Prosodic factors. Words in any language can be divided into closed-class,
function words and open-class, meaningful words (Prince, 1987). Closed-class
words occur more frequently, are known to be relatively shortened and low-
ered in amplitude (Fowler, 1988; Klatt, 1975; Umeda, 1975) and are presumed
to be less cognitively salient (Prince, 1987). Conversely, open-class words are
phonetically unreduced, as well as cognitively more salient (Prince, 1987).
Because all but one of the (r) words are open-class, content words, this spe-
cific source of variation was not usable.

Another related finding is that prosodic prominence, like cognitive promi-
ience, is based on the newness, contrastiveness, and/or change of claim for
the prominent item (Levlt, 1989). Any analysis of focal stress or pitch accent
will reflect the fact that accented words are phonetically accented: that is, lengthened and pitch and amplitude prominent (Beckman, 1986; Cutler & Ladd, 1983; Cooper, Klouda, Mueller, & Lotts, 1986; Fowler & Housum, 1987; Hirschberg, 1990) and cognitively salient (Eady et al., 1986; Levelt, 1989; Marslen-Wilson, 1973; Marslen-Wilson & Tyler, 1975, 1982; Marslen-Wilson, Tyler, & Seidenberg, 1978). Unaccented words are not. Cognitively salient words are made prosodically salient (Brown & Yule, 1983; Fowler & Housum, 1987; Marslen-Wilson, Levy, & Tyler, 1982; Terken, 1984). Cognitive scientists (Bock, 1982, 1986; Carlson, 1984; Clark & Haviland, 1977; Levelt, 1989) and theoretical linguists (Brown, 1983; Brown & Yule, 1983; Nootenboom & Kruyt, 1987; Prince, 1981; Selkirk, 1984) agree that this claim is consistent with both cognitive needs (of the speaker) and practical perceptual needs (of the hearer).

In addition, both psychologists (Levelt, 1989:265) and linguists (Fillmore, 1977) have found that the salient items are preferably fronted, even if that requires syntactic clefting, to retain the salient words near the front of the sentence. Again, as with lexical access, initial items are produced with greater amplitude and higher pitch, whereas phrase, sentence, and topic are finished with pitch (e.g., Schuetze-Coburn, Shapley, & Weber, 1991) and amplitude (Goldberg, 1978) decreasingly prominent. Phonetic, semantic, and syntactic studies cumulatively demonstrate that languages with relatively fixed syntactic ordering implement linguistic resources differently from those languages with less fixed syntactic ordering: "emphasized entities in the message typically find their grammatical encoding . . . earlier in the sentence than foregrounded or nonnuclear entities" (Levelt, 1989:265; see also Fillmore 1977). MacWhinney and Bates (1978) tested this proposition and found it valid for the analysis of English, Italian, and Hungarian. Sridhar (1988) found it valid for all ten languages he studied. MacWhinney and Bates (1978) also showed that the fine line dividing where pitch accent was required (to demonstrate focus and permit cognitive salience) was different for their speakers from the three language backgrounds, with Hungarian using pitch prominence most sparingly, and English most lavishly. Cognitive scientists concluded that this difference was traceable to the fact that English is least able to signal salience by fronting the syntactic position, whereas Hungarian has most word-position flexibility.

Further support for this hierarchy can be inferred from self-repair studies. In separate studies of self-repair of speech errors, both Levelt (1983) and Cutler (1983) found that not all trouble sources were given equal attention, and that even in critically salient word positions errors were only self-repaired approximately 46% (Levelt, 1983) to 50% (Cutler, 1983) of the time. When comparing the relative self-repair percentages for different positions, both researchers found that initial position is most salient (whether in the syllable, the word, the clause, or the sentence) and final position is least salient. Levelt hypothesized that the onset is most salient because an error in this position is significantly more disruptive for a listener; the coda is least salient because it is the most redundant.
I have hypothesized that one key to cognitive prominence is the continuum from highly salient prosodic positions, through more neutral positions, to the nonprominent and nonsalient positions at the end of the clause or sentence. This is referred to as the prosodic factor group.

The parallelism among the salience/prominence hierarchies. According to the cognitive studies cited, the beginning of a syllable, word, or sentence is most salient. A vowel nucleus or intervocalic position is also salient (because more acoustically prominent), as is the semantic nucleus (the focus) of a sentence. The coda (of a syllable, of a word, or of a sentence) is the most redundant and least salient.

Variables and their relevance to the analysis

Based on the clarity of cognitive scientists' results and the present study's hypothesis that cognitive salience plays an important part in dialect variation when ethnolinguistic self-identification is involved, it is now possible to propose specific variable factor groups for the analysis of (r) variation. Given that there is only a limited amount of data for each singer, and given that of the singers whose songs and interviews were analyzed only half of them vary (r) in a single register, we may not find the results totally conclusive. However, if for the most part cognitively salient variables favor [r], and nonsalient variables favor [R] (or vice versa), we can conclude that cognitive salience is indeed a relevant influence on (r) variation. If the influence of cognitive salience is found to be robust in this corpus, we can also conclude that the factors we have used can be fruitfully adopted for other analyses in which sociolinguistic attitudes are at issue (whether ethnic or class based). The three proposed factor groups follow:

First, as proximity to a vowel nucleus is said to be phonetically and cognitively salient, whereas proximity to another consonant is said to be nonsalient, and prepausal position is least salient, a three-factor group distinguishes intervocalic (as in harbe 'a lot', or yisrael 'Israel') or prepausal (as in or 'light') positions. These are factors of the phonetic factor group.

Second, as onset, nucleus, and coda are said to be on a continuum from more to less salient, another three-factor group distinguishes word-initial (as in or 'light') from coda (as in or 'light') and other (more nuclear) positions (as in harbe 'healthy'; yisrael 'Israeli'; harbe 'a lot'). These are factors in the lexical factor group.

Third, as semantic and syntactic factors interact to produce prosodic variation, a five-factor group for prosodic position and prominence was coded. In line with the results cited, prosodic and cognitive salience was presumed to be strongest on focally accented words, and phrase-internal prominence (or accent) was initially distinguished from phrase-final prominence. In addition, two degrees of phrase-final reduction were distinguished, with (nonprominent) phrase-final distinguished from sentence-final. These were all
TABLE 5. Factor groups proposed for the GOLDVARB 2.0 runs

<table>
<thead>
<tr>
<th>Factor Groups</th>
<th>+Salient</th>
<th>-Salient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive salience:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonetic environment</td>
<td>intervocalic (V) consonant cluster (K) prepausal (P)</td>
<td></td>
</tr>
<tr>
<td>Word position-related</td>
<td>nonfinal (bo) final (e)</td>
<td></td>
</tr>
<tr>
<td>Stress/sentence-related</td>
<td>focal (f) neutral (z) syntactic boundary (q)</td>
<td></td>
</tr>
</tbody>
</table>

distinguished from an intonationally neutral position. Following the hierarchical pattern proposed by the cognitive science results, both accented positions should be salient, whereas phrase- or sentence-final should be nonsalient. These are factors in the prosodic factor group.

Note that these three factor groups are not redundant. (r) can be the last word in a sentence, without being prepausal, if (as is most common) it is intervocalic in the word. In addition, (r) can be prepausal (the last sound before a pause), despite the fact that the word in which it is embedded may be focal.

Other factor groups were also coded in the analysis and are discussed in greater detail elsewhere (Yaeger-Dror, in press). A chronology variable was included in the analysis. For singers who were already popular in the 1970s, songs recorded in the 1970s were distinguished from those recorded in the 1980s. Where register or decade of recording was significant, that is noted but is not discussed in detail here.

Thus, there are three factor groups that reflect relative cognitive salience and that are relevant to this analysis: reduced prepausal (P) position (contrasted with others, especially intervocalic (v) positions) within the phonetic continuum; reduced final (e) (vs. nonfinal (bo)) position within the lexical item; and prosodically reduced positions (q,z) (contrasted with focally (f) salient). Each of these groups has been considered an independent variable in the analysis. Table 5 provides the list of factor groups considered in variable rule (GOLDVARB 2.0) runs for the data, along with their codes and their presumed position in the continuum of perceptual and cognitive salience (+) to nonsalience (–). The analysis should determine whether these factors reflect a consistent tendency to shift (r) in relatively salient or nonsalient contexts.

THE ANALYSIS

The independent variables

The coded data were analyzed using GOLDVARB 2.0 (Rand & Sankoff, 1991; Sankoff, 1988). The mathematical model was set up to permit the statistics to weigh the relative importance of both social and linguistic factors on the
choice of (r) for each singer. For each singer chosen, approximately 100
tokens of (r) in a given register were listened to and coded by a native
Hebrew-speaking assistant and checked by myself. (Exact number of tokens
can be found in the appropriate column in Table 3.) These tokens were coded
for the independent variables defined earlier and shown in Table 5. Phonetic
salience (PVk), lexical-ordering salience (bep), and prosodic salience (f!q,z)
were included as factor groups, as were register and decade of recording.
Other groups were discarded because there was no evidence that they were
significant. The variable rule program was set up to permit simultaneous con-
sideration of the different salience-related factors and of all apparent socio-
logically related factors that could be studied in this corpus. For sung
material, data for each speaker were run separately, without the personal
sociolinguistic factors, and subsequently the sung data for all singers who did
not use [r] categorically were run as a group. The same system was followed
for interview materials.

The dependent variable (r)

Three values of the dependent variable were isolated and coded: postdental
[R], uvular [R], and coarticulated [rR]. For those singers whose (r) use var-
ied, each singer’s data were run using [r], [R], and [rR] as the dependent vari-
able (“application value”). Then, all of those singers’ results were run
simultaneously. The data were also analyzed systematically for song and
interview combined, although the results reported on the figures that follow
were for song or interview (measured separately).

The variable rule results for song register

Although [R] percentages were too low to permit analysis of speaker by
speaker results, all singers who use [R] in song were combined, to permit the
comparison of (r) use within that group. The results of the statistics again sup-
port division of the singers into three groups, which was based on their pro-
fessional histories:

1. The singers who most favor [R] are those who have built their singing rep-
utation in the KI market (Boaz Shar’abi, Meir Banai).
2. The singers who have a weaker tendency to use [R] are those who are
attempting to enter the KI market, but have a strong sense of ethnic iden-
tity (MI>KI group) (Haim Moshe, Nissim Garame, Margalit Tsan’ani).
3. The neutral group combines both older singers who have maintained a
Mizrahi identity (Shimi Tavori) with those who have sung KI songs for a long
time (Rivka Zohar, Yoram Gaon). These findings are consistent with accom-
modation theory: [R] is not used in the song register that these singers are
emulating; thus, the singers show almost no tendency to use [R] when sing-
ing. However, when that slight tendency to converge is measured, it also
reflects the subconscious desire to converge toward the audience. Those sing-
ers whose primary audience is KI have the highest factor weights.
### Table 6. Significant variables included for use of [r]/[rR] in the goldvarb 2.0 runs for sung data

<table>
<thead>
<tr>
<th>Singer</th>
<th>Salience</th>
<th>Register or Decade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phonetic</td>
<td>Lexical</td>
</tr>
<tr>
<td>KI2 group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meir Banai</td>
<td>xy</td>
<td>xy</td>
</tr>
<tr>
<td>Yoram Gaon</td>
<td>xy</td>
<td>xy</td>
</tr>
<tr>
<td>MI &gt; KI group</td>
<td></td>
<td></td>
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<tr>
<td>Margalit Tsan'ani</td>
<td>xy</td>
<td>xy</td>
</tr>
<tr>
<td>Rivka Zohar</td>
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<td>xy</td>
</tr>
<tr>
<td>Boaz Shar'abi</td>
<td>x</td>
<td>y</td>
</tr>
<tr>
<td>Haïm Moshe</td>
<td>xy</td>
<td>xy</td>
</tr>
<tr>
<td>MI group</td>
<td>Nissim Garame</td>
<td>y</td>
</tr>
<tr>
<td>Shimi Tavori</td>
<td>xy</td>
<td>xy</td>
</tr>
<tr>
<td>Total no. of runs entered</td>
<td>14</td>
<td>15</td>
</tr>
</tbody>
</table>

*Note: x = significant for [r] runs; y = significant for [rR] runs.*

Not surprisingly, the combined results show that cassette songs are less likely to use [R] than pop songs. So, although only the cassette singers use [R] in song, they are more likely to use it when they imagine themselves faced with a broader audience.

We now attempt to determine if the choice of Koiné over Mizrahi variant, or the combined use of both, is conscious or not. This is an especially interesting question in that, if the preliminary studies were correct, the singers who consciously diverge from Koiné musical patterns and who proclaim themselves as ethnic separatists (as it were) are also those who converge toward the Koiné [R] exactly in the linguistic environment where neither the assimilated Mizrahi Koiné singers (Gali Atari, Avi Toledano) nor the European-ancestry Koiné singers (Rami Kleinstein, Sarai Tsuriel) do. Table 6 shows which of these factor groups were significant for the different singers in singing register. As Table 3 shows, the [R] percentages for most of the singers were too low to permit statistical analysis; the effects that do occur are knockout effects and do not permit significant results. Consequently, Table 6 only shows results for [r] and [rR] runs. As there were eight singers whose (r) use in song was sufficiently variable to permit statistical analysis, a given factor group can potentially be significant (enter the goldvarb run) a maximum of 16 times. Our hypothesis was that variables dependent on cognitive salience would be significant for most of these singers, and the results shown in Table 6 confirm this hypothesis. The phonetic factor group is significant 14 of 16 possible times, the lexical factor group is significant 15 of 16 possible times, and the prosodic factor group is significant 7 of 16 possible times.
These results demonstrate that for most of the speakers salience is a relevant variable, as witnessed by the significance of the salience factor groups in the analysis. Figures 2–8 permit us to look at the results more carefully. Each figure shows the results for one analysis. All factor weights for a given factor group that entered the best run are included. +Salient factors are shown as darker bars than –Salient factors. The figures are bisected by the .5 factor weight line: if the factor favors [r], that is, is above .5, it favors a shift; weights below .5 disfavor the shift. Only factors that differ significantly are included in the figures.

Figure 2 shows the results of the analyses for the influence of the phonetic factor group on [r] in the singing of each of the singers. The theory predicts that, as [r] is the appropriate realization of (r) in song, [r] will be favored in salient environments and disfavored in nonsalient environments. Figure 2 confirms this hypothesis: for all singers whose results are significant, the (+Salient) intervocalic factor weight is greater than .5, whereas the (–Salient) prepausal factor weight is the lowest for all but one singer. Figure 3 also confirms the hypothesis for the lexical factor group: the factor weights for (+Salient) word-initial are systematically greater than .5, whereas those for (–Salient) word-final coda are consistently lower than .5. The results in Fig-
Figure 3. Factor weights for lexical position: Analysis for [r] in sung data.

Figures 2 and 3 demonstrate that for these singers, even though they do not use [r] categorically in song, [r] is used more consistently in cognitively salient positions and less consistently in nonsalient positions.

To discover that one singer uses [r] at all is already significant; to determine that the entire group of singers uses [r] systematically, following the same salience patterning, confirms that the pattern of salience we proposed has been effectively implemented as a tool for the evaluation of social psychological–ethnolinguistic choices. It is also possible that information about salience as a tool will be useful for a much broader range of studies.

Given that [r] can be perceived as a sign of ethnolinguistic ambivalence, we expected that the most ambivalent singers would be most likely to use this fudged variant. The theory also predicted that, because [R] and [r] are not appropriate for singing register, they will be favored only in nonsalient environments. Here, the results should be just the opposite of those for [r], and in fact they are. For most of these singers the theory is confirmed. Figure 4 shows that, for the phonetic factor group, the least salient environment (pre-
pausal) has the highest factor weight in 4 of 6 possible cases, whereas the most salient environment (intervocalic) has the lowest factor weight in 5 of 6 possible cases. Using the same data set, Figure 5 shows that, when the lexical factor group is considered, the hypothesis is confirmed as well. In 8 of 8 possible cases, the nonsalient factor (word-final) has the highest factor weight, and the salient environment has the lowest factor weight. [rR] is clearly favored by final (coda) word position for all the singers and is disfavored by both word-initial and central position. Figure 6 shows that the factor weights for the prosodic factor group on [rR] also reveal that the least salient position (coda) favors [rR] for all those whose [rR] percentages permit an analysis and for the pooled data for all singers. In 3 of 3 possible cases, the prosodic factor that favors [rR] is the least salient (phrase- or sentence-final), whereas the most salient factor (focal) has the lowest factor weight. Thus, when analyzing sung data, [r] is favored by salient environments in 14 of 14 cases and disfavored by nonsalient environments in 13 of 14 cases. [rR] is favored by nonsalient environments in 15 of 17 cases and disfavored by salient environments in 16 of 17 cases. Whereas 27 of 28 factor weights support the claim that [r] occurs preferably in salient position in songs, 31 of 34 fac-

**Figure 4.** Factor weights for phonetic factor group: Analysis for [rR] in sung data.
tor weights support the claim that [rR] occurs preferably in nonsalient position in those same songs.

In support of the initial hypothesis, the figures show that cognitive and phonetic salience are consistent significant influences on singers' use of (r). The analysis demonstrates that these singers know that [r] is appropriate and use [r] more consistently in salient environments, but subconsciously (in the less salient environments—at the end of a word, phrase, or sentence, or in prepausal position) they converge linguistically toward the mainstream Koiné audience, even if they are performing cassette register.

The variable rule results for interviews

Table 3 shows that all of the KI singers, and even most of the MI>KI singers, use [R] categorically in interviews; therefore, only a few singers' results permitted variable rule runs for interviews. The raw percentages demonstrate the overwhelming convergence to KI in casual interviews for all but the MI singers and the politician.

As already mentioned, most interviewers use [R] categorically or use isolated instances of [r] to foreground jokes or caricature MI ethnicity.26 Thus, a singer is being interviewed by (and listened to by) those who use the Koiné
[R]. Not surprisingly, almost all of the singers analyzed used (nearly) categorical [R] in interviews, as shown in Table 3. Only those whose primary audience is MI use a separatist [r]-ful interview articulation. Table 7 shows which factor groups entered the runs for [r] in interview register. It shows that in IV register the salience factors enter the GOLDVARB run 9 of 12 possible times.

Given that most singers retained at least near-categorical [R] in interviews, and that variable rule analysis was only possible for the IV register of MI singers, two other speakers were included in the interview sample. One (Avihu Medina) is a cassette composer/singer for whom no songs reached the Top 20 during the time of the study, but who is a well-known member of the cassette composer/singer community (he not only sings, but composes and arranges music for other professional cassette singers). The other additional analysis was of an older right-wing Likud member of parliament (Geula Cohen), discussing political issues at a preelection debate and giving a speech before the Knesset. Theoretically, in both of these settings she would want to maximize her appeal to the general KI audience.
TABLE 7. Significant variables included in the goldvarb 2.0 runs of [r] for spoken data

<table>
<thead>
<tr>
<th>Singer</th>
<th>Variables Indicative of</th>
<th>Register or Decade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Salience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phonetic</td>
<td>Lexical</td>
</tr>
<tr>
<td>MI &gt; KI group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haim Moshe</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>MI group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nissim Garame</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Avihu Medina</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Geula Cohen</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Total no. of runs entered</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

For the three singers and the politician whose interview register warranted goldvarb analysis, [r] is favored by salient environments for the separatist MI singers and by nonsalient environments for the MI>KI singer and mainstream politician (see Figures 7–8). This is probably because these speakers’ social psychological attitude toward their MI background and their mainstream (KI) listeners differs. In Figure 8 the same pattern obtains. The mainstream politician favors [r] only in the least salient environment, but the MI singer/composer does not follow a consistent pattern.28

The variable rule analysis found that only two singers show significant changes over time. Both Boaz Shar’abi and Rivka Zohar used he [rR] more consistently in the 1970s than in the 1980s; this confirms our understanding that, as singers develop greater control, they are less likely to use [rR].

DISCUSSION

This study began with certain initial assumptions that have been confirmed. Giles’s accommodation theory has been supported by the data: convergent and divergent change can both stem from similar social psychological motivations and can result in similar patterns of linguistic change. In this corpus, the singers whose audience is pop have the greatest tendency to use the KI [R] consistently in interviews, whereas those with an MI cassette audience are most likely to use [r] in interviews.

Another theory discussed here was initially proposed by Kroch (1978) and has recently been reintroduced by Finegan and Biber (1993). The claim is that change from above, which occurs in salient positions, is erratic and not rule governed—unlike change from below, which is governed by linguistic and sociolinguistic rules. Analysis of the present corpus provided conclusions
somewhat at variance with this sociolinguistic assumption. A careful reading of the cognitive literature, combined with an informed analysis of these data, lead one to the conclusion that this accommodative change being measured is not necessarily conscious, or even closer to consciousness, even when linguistically most unnatural. Multivariate analysis reveals that this accommodative use of an inappropriate pronunciation is a display of the singers’ social psychological accommodative needs. Change toward the speech of more prestigious listeners, which we would normally assume to be a change from above, can be subconscious. Although this change from below is phonologically most surprising, it nonetheless follows fairly strict sociolinguistic rules.

The intent of this article was to demonstrate that speech (including speech in fairly careful situations, and singing) can reflect the speaker’s attitude toward his or her own and other ethnic groups within a society and the desire to converge toward an out-group (by using [R]) or to diverge from it and maintain one’s ethnic identity (by using [r] in the interview). We see that, although KI singers from both Mizrahi and European ancestry maintain categorical [r] in pop songs, those whose MI ethnic heritage is psychologically salient are most likely to use [r] in interview situations. Those who only sing
for the KI audience are most likely to use [R] in songs. Those who have chosen to sing for both MI and KI audiences are more likely to attempt to converge toward both groups, using [rR]. I conclude that this type of analysis is useful, even in this very limiting situation, and it would be more useful if the analysis were carried out more systematically on a larger corpus.

**Future Research**

The present study presents a set of tools to test language usage for (relative) consciousness of variable choice. Using those tools, I found that, even in quite self-conscious interactive settings, accommodation toward the legitimated language can follow the same unconscious rules as accommodation toward the vernacular, and that both convergence toward the legitimated language and divergence from it can take place simultaneously. Contradictory (or supportive) evidence brought from other linguistic groups would be useful in providing comparative data for the analysis of language convergence and divergence.

There are other questions that a more expanded study should address. Do native listeners use the [r]/[R] distinction to determine the ethnicity of inter-
locutors? (Anecdotal evidence implies that they do, but this has not been confirmed by quantitative research.) Do they perceive the distinction between the two polar (r)s and the [rR]? How do they judge speakers’ (r) use? A valuable research study would be based on a twin- or multigulise analysis (see Fasold, 1984; Genesee & Holobow, 1989; Giles & Coupland, 1991) to supplement the present analysis.

NOTES

1. We follow the sociolinguistic convention of using slashes to represent stable phonological units /x/, square brackets to represent phonetic details [rR], and parentheses to indicate an unstable phonological unit (r), referred to as a sociolinguistic variable.

2. The term “register” has recently come into use in both sociolinguistic (Finegan & Biber, 1993; Yaeger-Dror, 1991) and psycholinguistic (Levent, 1989) circles to distinguish different speech situations.

3. See Siegel (1985, 1993) and Trudgill (1986) for discussions of Koiné dialect formation—which they have characterized as being the product of dialect mixing, leveling, and simplification. See Blanc (1968) for a specific description of the convergent linguistic influences that led to Koinéization in Israeli Hebrew.

4. Israeli [R] is generally realized as a fricative, although large segments of the population realize it as a uvular trill. French native speakers often use a velar [r] instead, which is locally recognized as a foreign (nonnative) accent accommodating to the Koiné (Yaeger-Dror, 1991); for this analysis, uvular and velar (r) were not distinguished or coded separately, and all posterior (r) were coded as [R].

5. Literally, this can be glossed as ‘Eastern’. The choice of this term over the religious designation Sephardi (etymologically ‘Spanish’), along with the choice of “(North) European” over the designation Ashkenazi (etymologically ‘Germanic’) is favored by sociologists and is addressed in greater detail in Yaeger-Dror (1988), Ben-Rafael (1982, 1989), and Ben-Rafael and Sharot (1991). The reader should not conflate ethnicity (as a technical designation) with parental language background, which is a different cross-cutting division. Although many North European settlers bring [r] with them (e.g., Argentinians and native Russian-speaking immigrants), their Hebrew-speaking offspring adopt the Koiné [R], as do the middle-class children of North African parentage, whether their parents use [r] or [R].

6. Religious observance has been shown to be an important factor in Israeli ethnic affiliation (Ben-Rafael & Sharot, 1991:160). It has been shown elsewhere that religious group members, who are more likely to have dense multiplex networks (see Milroy, 1980), are more likely to retain divergent ethnolinguistic tendencies, and that in Israeli society, the distinction between religious and nonreligious is considered more consistently divisive and conflictual than class. Religious observance has also been shown to be a factor in dialect choice in Israel, particularly in liturgical settings (Spolsky & Walters, 1985). For the moment, the discussion is limited to the secular communities, as religious singers are only marginally involved in the popular song community that forms the basis for this study.

7. The fact that [r] is used by Arabic-speaking Israelis provides an additional reason for its stigmatization in the MI vernacular, as well as its inclusion in the prescriptive norm. Just as the Academy chose [r] to integrate Israel into the local circums-Mediterranean Sprachbun, Israeli-born speakers who replace [r] with [R] do so at least partly to distance themselves from their neighbors (Yaeger-Dror, 1988).

8. A moshav is a semisocialized rural community. The data were collected on an ethnically homogeneous moshav of settlers from one town in the Moroccan Atlas Mountains where their native dialect included [r].


10. As inferred from the inventory of Maddieson (1984).

11. The issue of manner (rather than place) of articulation was considered, although it has not been discussed here. If the [R] were more consistently realized as a fricative, the contrast between flapped/trilled [r] and fricative [R] would provide a more satisfying contrast permitting the iso-
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loration of a fudged trilled [R] realization. However, although some Israelis "prefer" a fricative [R], the trill is too common within the community (even among those of Yiddish-speaking ancestry) to permit trilled [R] to be linguistically analyzed as a mixed or fudged phonetic realization. So, although manner of articulation remains an interesting subject for a future phonetic analysis, it is not an interesting variable for the social psychological analysis proposed here.

12. Note that "ethnic" is not a choice between two marked ethnic groups but a between a marked umbrella ethnic group (Mirrahi) and a post-melting pot Koine dialect used by speakers of all ethnic backgrounds. Independent evidence for this conclusion is adduced in Ben-Rafael and Sharot (1991).

13. Halper, Seroussi, and Kidron (1988) specified that this register uses melismatic-style imitation of the last few notes and the use of musical modes with augmented seconds, or modes like the pishig, as well as a greater tendency to improvise. Often tight, nasal voice features are used, as Lomax (1968/1978) found was common in the North African musical area.

14. Interviewers often maintain that a singer is popular in Egypt and other Arab countries, as witnessed by the singer's engagements, but no systematic study of the audience in Arab countries, comparable to the Benski (1989) study, has been published.

15. Or 'A Hit on [your] Mind'. This program bills itself as evaluating "the most popular songs on the Israeli scene today."

16. This program bills itself as evaluating "the most popular Mirrahi songs heard on Channel Gimel." A parallel to (say) U.S. culture would compare songs from a Top 20 pop music program with a Country & Western Top 20. Although more than half of the music actually sold in Israel is cassette register (Halper et al., 1988; Kidron, 1988), within the entertainment community more prestige is attached to pop than cassette entertainers (Halper et al., 1988; Kidron, 1988).

17. For example, "I'm the king of the cassettes" (line in a Nissim Garame [MI] song) versus "I see no conflict between my audience and my new songs" (from an interview with Haim Moshe [MI > KI]), or "I'm not an ethnic singer, I'm a soul singer" (from an interview with Meir Banai, one of the KI singers who only began his singing career after the army [KI]).

18. In earlier work, I adopted a system of numbering the singers; however, in this article I have chosen to use the singers' own names. This choice is consistent with the recent sociolinguistic trend to use speakers' names and with the fact that subsequent researchers will now be able to compare the present corpus with more recent recordings.

19. For discussions of finer ethnic distinctions, the interested reader should see the appropriate anthropological literature, as well as the extensive literature on ethnic dialects that can be found in the journal Leshonenu. Interviews with these singers that reveal their professed ethnic loyalties can be found in the musical review sections of the major weekend newspapers, the South Tel Aviv newspaper Ha'aretz, or a variety of teen magazines available on the newsstands. Some singers present themselves as primarily belonging to one of the more narrowly defined ethnic groups and only attempt to accommodate to that narrowly defined ethnic audience (Halper et al., 1988; Kidron, 1988), but none of the singers analyzed here belongs to this latter group.

20. Many readers will recognize that the composition of this corpus makes it amenable to an analysis based on the theory proposed by Bell (1984, 1985, 1990, 1991a, 1991b), who showed that linguistic variables can be monitored by a researcher to quantifiably measure a given speaker's adoption of different dialect characteristics for different audiences. Such convergent adaptation he labeled "audience design." Consideration of the data from this perspective can be found in Yaeger-Dror (in press).

21. Singers of Mirrahi ancestry who are religious retain [r] categorically in all registers. These results are consistent with earlier reported evidence that relative religiosity is a more divisive influence in Israeli Jewish society than ethnicity.

22. Even the more refined variable rule analysis used as the basis for the present study found that only one singer had a (very limited) statistically significant tendency to use [R] in one phonetic environment rather than another. Consequently, this potential influence is not discussed further in this article.

23. Note that all these results were obtained for English. However, Hebrew does not have many multisyllabic words, and final syllables tend to be semantically more redundant: in inflected languages like Hebrew than in English. Consequently, cognitive scientists project that this tendency would be even stronger in Hebrew than in English (Yossi Tzelgov, personal communication).

24. In all cases, this factor group was initially run with three factors, but in all but one case word-initial and intermediate had factor weights so similar that they were recoded as one factor group. The results presented in Figures 3, 5, and 8 are those using the recoded factor group.
25. In all cases, this factor group was initially run with five factors, but in every case phrase-and sentence-final had factor weights so similar that they were recoded as one factor group, and the different focal/pitch prominent factors had such similar weights that they were recombined as one factor group. The results presented in Figures 6 and 8 are those using the recoded factor group.

26. A similar pattern is said to occur in Montreal French: older speakers use [r], whereas younger speakers use [R], saving [r] for jokes, especially (but not only) about old-fogey (S. Laberge, personal communication).

27. That is, from a mainstream Ki party, rather than from an ethnic party. Geula Cohen is of Yemenite ancestry.

28. Nissim Garame's results are the most surprising in this regard because [r] occurs both in salient environments and in nonsalient positions (prepausally). Perhaps for this reason, neither [R] nor [rR] runs for Garame revealed any systematic pattern.

REFERENCES


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