

THE PHONETICS OF MODERN (ISRAELI) HEBREW

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<sup>\*</sup> M.I.H. = Modern (Israeli) Hebrew



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Note: The recordings in Section E are separately attached to the thesis, owing to their format and nature.

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## SUMMARY

It is the purpose of the present work to provide a description of the phonetics of Modern (Israeli) Hebrew. This it proceeds to do in five parts, leading (after an introduction) from the syllable and its segments, through the foot and the syntagm to connected discourse.

The first part, an introduction, consists of two chapters; of these, the first gives a historical account of the revival of Hebrew and traces some of the socio-linguistic aspects connected with the pronunciation of M.I.H.\* -- more particularly outlining the major points distinguishing the two main dialectal varieties, Sabra Hebrew and Oriental Hebrew, and their various styles (of which this work will deal in particular with the Colloquial Style of Sabra Hebrew). The second chapter outlines the basic theory behind the description, as well as the methods by which it is to be conducted.

Part Two is in three chapters. The first of these attempts a phonological formulation of the M.I.H. syllable-structure, the second lists and describes the vowels, and the third does the same for the consonants and their phono-tactic patterning. The diagrams are based on palatograms and kymograms of M.I.H. citation-form speech, for which the author served as informant (the photographs of these materials are contained in Appendix iii). Statistical frequency-figures are also listed for the segments, and reference is made to their acoustic features.

The third part deals with the foot, and is in two chapters, the first of which describes word-accent (an abstract potentiality) and the second rhythmical stress (a concrete realisation). A theoretical model is here developed -- and continued in parts four and five -- for the description of M.I.H. intonation-patterns.

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\* M.I.H. = Modern (Israeli) Hebrew

Part Four, describing the features of the syntagm, contains two chapters, the first of which lists and describes the intonation-patterns of M.I.H. according to a system of binary features, and the second of which deals with segmental sound-changes in connected speech. The corpus of materials for this part (as well as for the one preceding and the one following it) consists of continuous Hebrew speech and 12 readings of "The North Wind and the Sun",<sup>\*</sup> as well as modern Hebrew poetry, totalling some 90 minutes, as recorded by various native speakers of M.I.H. This material is transcribed (with tonetic notation) in Appendix ii. to this work, and a standardised phonemic transcription of the I.P.A. piece, "The North Wind and the Sun" (with tonetic marks), followed by notes on the phonetic realisation of the phonemic segments, is contained in Appendix i, the tapes themselves being attached to the thesis.

The final section -- Part Five -- also consists of two chapters, of which the first deals with tone-groups and the second contains notes on such para-linguistic features as kinesics and proxemics, vocalisations, articulatory set, phonation types and phonaesthesia. The work concludes with some general remarks to sum up the status of Modern (Israeli) Hebrew as a successfully revived national language. Throughout this and the preceding two parts, reference is continually made to spectrographic materials connected with the corpus (the photographs of the actual materials being contained in Appendix iii), and to synthesis of M.I.H. speech with the aid of the Edinburgh University's Parametric Artificial Talker (PAT), evidence for which is likewise contained in Appendix iii.

\* The International Phonetic Association's test-passage for phonetic descriptions of languages.



Footnotes are given on the pages of the text to which they refer, and there is therefore no separate footnote section at the end of the work, which concludes with a Bibliography in two sections, the first of which lists works of a general phonetic and linguistic nature, the second comprising only works referring to Hebrew specifically.

PART ONE - INTRODUCTORY

1. THE SOCIAL AND HISTORICAL BACKGROUND.

1.01. GENERAL DESCRIPTION AND STATISTICAL SURVEY OF MODERN (ISRAELI) HEBREW.

1. General:

Ephraim Kishon, the (non-native) Israeli humorist, once pointed out that Israel is the only country in the world where parents learn their mother-tongue from their children. There is some truth in this remark: M.I.H.\* is a language whose first native speaker was born in 1882 (see 1.02.2a below) of a mother who spoke little Hebrew and a father who, almost single-handed, was responsible for the revival of Hebrew as a spoken vernacular.

2. Who speaks Hebrew?

M.I.H. is the native language currently spoken by one million Israelis, the primary, though acquired, language used by a further one million people in that country, and a secondary language mastered by an estimated further one million people throughout the world.

3. What is M.I.H.?

"Israeli Hebrew is a western language while never ceasing to be a Semitic language. It is a vehicle of expression that has in common with its Semitic sisters the formal elements (roots, prefixes, suffixes, word-grouping mechanisms, sentence-patterns) that make expression as such possible, while its notional structure ... is shared by it with the principal languages of Europe ... Another Western-type aspect of Hebrew (is) its stratified character: not only can vulgar, familiar, learned,

\* M.I.H. = Modern (Israeli) Hebrew

religious, journalistic, administrative and other (varieties) be clearly distinguished, but the more noteworthy of their distinctive traits lie in the morphological and syntactic areas, as ... is the case with the European languages." (Rosen, 1969, pp. 94/5, 105)

#### 4. Character of M.I.H.

According to Blanc (1961), Israeli Hebrew is made up of three essential components:

- a. The basic grammar and vocabulary of the Hebrew Classics (Biblical and post-Biblical).
- b. The non-Hebrew influence of the different backgrounds from which came the founders of M.I.H. and the parents of the native Israeli Hebrew-speakers.
- c. The new forms created by the native speakers.

"The relative weight of each component may vary ... In phonology, the influence on the vernaculars of the bilingual predecessors is decisive ... Speech innovations created by the native speakers themselves ... can also be discerned. In morphology, however, component a is alone of decisive weight, which is also visible in syntax ... As far as vocabulary is concerned, the non-Hebrew linguistic background left its mark in the form of noun-loans. But in the inventory of roots -- which is the skeleton of Hebrew vocabulary -- these loans are very few in number on the expression plane (in the inventory of signifiers), which means that the number of loan-translations is overwhelming ... The share of the two varieties of Classical Hebrew -- Biblical and Mishnaic -- is not equal in all areas. In the morphology of native Israeli Hebrew it is that of Biblical Hebrew which is conspicuous. In the syntax of native Israeli Hebrew, it is the syntactical features common to both Biblical

and Mishnaic Hebrew that are prominent ... (and) also ... the specific features of Mishnaic syntax, whereas the specific features of Biblical syntax are almost unrepresented ... The outstanding feature of native Israeli phonology is its (partial) desemitization. There are two varieties of native speech ...: the pharynx is used as a place of articulation in one and not in the other" (Tene, 1969, pp. 51/2)

5. Number of M.I.H. speakers in Israel:

Official statistics show that the percentage of Hebrew speakers grew from about 25% of the Jewish population of Palestine in 1914 to some 75% of the Jewish population of Israel in 1954. Israel Government census figures show that, in May 1961, of the 2.2 million residents in the country, 0.5 million (about 25% of the Jewish population) declared Hebrew to be their first language, 1.5 million gave a variety of non-Semitic languages as their primary vernacular, and 0.2 million were Arabic-speakers. Towards the end of 1968, it was estimated that, out of a total Jewish population of some 2.5 million Israelis, about 40% (i.e. about 1 million) were native (or near-native) speakers of Hebrew, divided more or less equally into the two dialects described in 1.03 below.



## 1.02 THE DEVELOPMENT OF ISRAELI HEBREW (HISTORICAL OUTLINE)

### 1. Before 1880:

- a. Classical Hebrew is generally recognized to have had two stages of development -- the Biblical (up to about the first century before the Christian era) and the Mishnaic (up to about 2-3 centuries after the Arab conquest of Palestine). Indeed, from the little that is known about the pronunciation of Biblical Hebrew, three major linguistic periods may be said to have existed -- namely, a pre-Canaanite Hebrew (with unstressed vocalic word-endings, as featured in the Amarna letters), an early Canaanite Hebrew lasting until the era of the later kings of Judah and Israel (with <sup>word-</sup>final consonant-clusters, as featured in a number of Biblical lexical items), and a post-Babylonian Hebrew -- which is, in the main, the language of the Old Testament. This latter seems to have died out as a generally spoken language as early as a hundred years before the Christian era, giving place partly to Aramaic (the lingua franca of the Middle East about that time), and partly -- especially among the Hellenizing upper class -- to Greek (the international culture-language of ancient times). However, a considerable body of Rabbinical literature (including linguistic descriptions of Hebrew) was written in the course of something like a millennium after that, in what is generally known as Mishnaic Hebrew -- often with lexical items and syntactic structures different from (or additional to) those of Biblical Hebrew, and strongly influenced by Aramaic and Greek. In fact, most of what is known of the pronunciation of Biblical Hebrew (which was written without any vocalic notation) is based on the

system of notating vocalization devised by the Tiberian grammarians late in the Mishnaic period.

- b. During the medieval and early modern eras, Hebrew was mainly a liturgical and written language. As such, it was commonly used by at least the vast majority of the male Jewish population of the Diaspora, who, for religious reasons, were required to be conversant with, and literate in, the language of worship -- though the number of religious-instructional books directed specifically at the female part of the congregation is ample proof that many of the womenfolk were familiar (at least to some degree) with the language. Moreover, in most parts of the Moslem world, and especially in Moorish Spain, a large body of devotional and artistic literature was created in Hebrew (with a well-defined Arabic-orientated element of language-growth and creativity, so that it is possible to speak of Medieval Hebrew as a linguistic entity). During the latter part of this period, and especially from about 200 years before the Jewish expulsion from Spain, Hebrew was a language used mainly in its liturgical and written form. In Moorish Spain, serious prose was often written in Arabic -- but elsewhere Mishnaic Hebrew served for letter-writing and administrative purposes, and everywhere Biblical Hebrew was used for poetry and artistic writing.
- c. At the beginning of the early modern period, speech was usually conducted in the vernacular of the country (often in Hebrew-affected dialectal variants), but two major Jewish vernaculars became influential about this time: Yiddish, in Central and Eastern Europe -- a dialect of Middle High German enriched by Slavonic and Hebrew lexical items and affected syntactically by these two languages -- and Ladino, in Spain and later in the Mediterranean area and in the Ottoman Empire --

a dialect of Medieval Spanish affected by Hebrew in a manner similar to that in which German was in the case of Yiddish. Both languages were, and still are, written in Hebrew characters. The linguistic situation was, in this respect, very similar to that of most literate Europeans in the Middle Ages, who spoke one language (the vernacular), but were literate in another, which was also used for liturgical purposes (Latin, Greek, Old Slavonic) -- except that, while the majority of the non-Jewish population was illiterate at that time, most medieval Jewish people were literate (in Hebrew, at least) and generally bi-lingual.

d. In point of pronunciation, the Hebrew in current religious use from the Middle Ages onwards differed regionally to a considerable extent. There are at least three major types of Hebrew liturgical pronunciation (and a number of additional minor ones) that are still current today, and have greatly affected Colloquial Israeli Hebrew -- namely:

i. Ashkenazic Hebrew (Ashkenaz being the Hebrew for Germany), in which the favoured word-stress pattern is for the penultimate syllable to be potentially salient, the ante-penultimate carrying primary accent occasionally and the final almost never. Vowels which are open in M.I.H. are often diphthongized or mid-close in Ashkenazic Hebrew (e.g. /'tov/ - /'t<sup>o</sup>uv/, "good"), and there is a morpho-phonemic stop/fricative alternation for the voiceless alveolar oral consonant paralleling the voiceless labial oral alternation (e.g. /t̂sa'vot/ - /'t̂sores/, "trouble", <sup>as</sup>against /'teven/, "straw" - parallelling /'pe/, "mouth" - /k̂s'laf/, "parchment"). /r/ is usually realized as a velar or uvular fricative.



- ii. Sephardic Hebrew (Sepharad being the Hebrew for Spain), which is closest to the pronunciation of M.I.H. prescribed by the Hebrew Language Academy (see below, 1.02.2b), but does not feature pharyngeal fricatives or approximants.
- iii. Oriental (<sup>a</sup>Arabicized) Hebrew, which usually has the stress-pattern of M.I.H., but raises the low <sup>(open)</sup>back vowel to mid-close position and is slightly nasalized.

Note 1: The influence of liturgical Hebrew on the revival of the language as spoken today has been most convincingly stated by Rosen (1969): "It was not the Biblical and other classical texts that served as the foundation for the reconstruction of the Hebrew linguistic system: the point of departure for the revival was rather the way these texts were understood and traditionally interpreted and conceptually digested." (p. 98)

Note 2: In its choice of the Sephardi liturgical accent (though consonantally somewhat Arabicized) as the proper pronunciation of Hebrew, the fore-runner of the Hebrew Language Academy -- the Hebrew Language Committee -- chose the median rather than the extreme position. That this choice was eminently valid has been proved by the practice actually followed in M.I.H.: its de-semiticized character is evinced by the rejection of Arabicized consonantal realizations, and by the considerable influence exerted by the Ashkenazic stress-pattern upon the dominant Israeli dialect.

- e. The first major impetus for the revival of Hebrew dates from the Age of Enlightenment in the second half of the eighteenth century, and found expression in the publication of Hebrew periodicals, fiction and other art-prose, and Romantic poetry (often inspired



by the general upsurge of interest in the past as a source of literary inspiration). Biblical, rather than Mishnaic, Hebrew was favoured -- indeed, in novels with a contemporary background, the enemies of the Enlightenment were characterized in dialogue by their use of Mishnaic Hebrew. (In keeping with the Romantic Movement sweeping Europe at the time, Mishnaic Hebrew was used to characterize the older, classicising, conservative educated element -- according to W. Chomsky, 1962,\* not more than 10% of the Jewish population at any time pursued Rabbinical studies, grounded in Mishnaic Hebrew, the vast majority of the others being familiar with Biblical Hebrew only). However, the Biblical vocabulary contains fewer than 10,000 items, and the exigencies of the modern world demanded a considerable extension of this set, in order that the language should not prove a hindrance to free verbal expression. Accordingly, in the second half of the nineteenth century, a new form of "Total Hebrew" was devised by the novelist and story writer Shalom Abramovitch (writing under the pen-name "Mendele Mokher Sefarim" -- i.e. Mendel Bookseller), using syntactic structures common to both Biblical and Mishnaic Hebrew, and more than doubling the lexis. Meanwhile, as reported by Kodesh (1969),\*\* "Biblical Hebrew was being used in the markets of Jerusalem, Hebron and Tiberias as the means of intercourse between members of the Sephardic, Ahkenazic and other communities" -- for the Jewish settlement in Palestine, never discontinued at any time in its long history (though often quite small), had been steadily growing since the beginning of the early modern period with the constant accession of pilgrims settling in the Holy Land. And, even earlier, some religious Jews had

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\* p. 110

\*\* p. 83

initiated the practice of speaking only Hebrew on the Sabbath and on festival days, to celebrate the holiness of the day.

2. From the Zionist Revival to the Establishment of the State of Israel:

- a. The pogroms in Russia during the latter half of the nineteenth century led to the beginnings of the modern Jewish settlement of Palestine. A young Lithuanian-born medical student, who had already Hebraized his name to Eliezer Ben Yehuda, joined this group of immigrants in 1881, and by precept and personal example established Hebrew as the spoken language of the small community. His son, born in 1882, was thus the first native speaker of Modern Hebrew. Ben Yehuda chose to work mainly as a teacher and journalist, in order to disseminate the practice of the language. 1886 saw the publication of the first Hebrew daily, by 1890 the village schools were largely conducted in Hebrew, and that same year the Hebrew Language Committee was founded, with Ben Yehuda its president until his death in 1922. He initiated the publication of the great Modern Hebrew Dictionary (the first five volumes of which appeared in his lifetime, and the seventeenth -- and last -- in 1959) and established some of the principles still followed by the Hebrew Language Academy in adjusting Classical Hebrew to the needs of the modern world - most significantly, the re-lexicalization and re-lexification of Classical words, the activation of Classical Hebrew roots in patterns for which they had not previously been used, the creation of new words and phrases on analogies with other Semitic languages (especially Arabic), and an occasional loan-translation for technical (Greek-stem) words, on the model of current practice in Russian and German (e.g. *רֶפִּי-נוֹסָא* = cinema, i.e. "moving image").

In this way, the vocabulary was enriched not only with technical words, but also with items of similar denotation but different connotations.

- b. Around the turn of the century, the Hebrew Language Committee laid down its statutes and defined its functions so as to include the following:
  - i. To render the Hebrew Language fit for use as a spoken vernacular in all domains of life -- in the home, at school, in public affairs, in trade and commerce, in industry, in art, in the sciences and in the humanities.
  - ii. To preserve "the Oriental character of the language, its unique patterns in the pronunciation of letters, the formation of words and in literary style," to imbue it with the required degree of flexibility and thereby to make it "suitable to serve as a vehicle for contemporary thought".

In 1913, the Committee adopted a position (still held by the Hebrew Language Academy) in respect of pronunciation -- namely that the phonemes of Hebrew (with the exception of /p/, /b/ and /ts/) be realized as in Arabic, though without any distinctive feature of emphaticity (pharyngalization), except for /ʕ/ and /ħ/, and that the word-stress pattern, following the strict rules of Biblical Hebrew grammar, favour last-syllable accent, with penultimate-syllable accent required in a minority of cases motivated by morpho-phonemic rules.

The same year saw the rejection of German in favour of Hebrew as the language of instruction at the only technical college serving the Jewish community in Palestine. By that year, it is estimated



that about one quarter of the community used Hebrew as its major vehicle of verbal communication.

- c. The Zionist Movement is traditionally said to have gathered into Palestine members of Jewish communities from the Diaspora speaking some 70 languages. However, it is obvious that the greatest influence was exerted upon the development of M.I.H. pronunciation by the native languages spoken by members of the major immigration waves -- Yiddish, Russian, Polish, Arabic, German, Romanian and Ladino -- as well as by the official languages in use under the Ottoman and Mandatory régimes -- Turkish and English. This includes the establishment in common use of such features as initial consonant-clusters, the conflation of the vowel-system, the current use of non-Hebrew phonemic segments (such as /ʒ/ and /tʃ/) and the falling into desuetude of some Hebrew phonemic segments (such as /ħ/, /ʕ/, /ʔ/ and /h/), the preference of the [ʁ] allophone to [r] as the realization of /r/, the introduction of alternative ante-penultimate syllable word-stress patterns, and the establishment of a (still marginally fluctuating) intonation-system modelled on a cross between Yiddish, Russian, Arabic and English.

Note: At this stage it might be interesting to quote Sappan (1969): "In their influence on the local slang, Yiddish and Arabic occupy first (and second) place, English ... third." (p. 78, Note 2)

3. After the Establishment of the State of Israel:

- a. The law setting up the Hebrew Language Academy was enacted by the Israel parliament and published in 1953. It defines the function of that body with a membership of 15 (to rise later to a maximum of 23) appointed by a special nomination committee (later additions of members and advisors being made by the Academy itself, independently



of any other body) as "guiding the development of the Hebrew language, on the basis of research into its different periods and branches". Another major provision of this law is that "decisions of the Academy in matters of grammar, spelling, terminology and transliteration, duly published in the Official Government Gazette, shall be binding on educational and scientific bodies, on the Government, its departments and institutions, and on local authorities". The supreme body of the Academy, its plenum, meets five or six times a year, the ordinary work being done by a number of committees, each comprising at least two Academy members, the rest being specialist-advisors in various fields. Its publications include the annual Proceedings of the Hebrew Language Academy, the philological quarterly Leshonenu (Our Language), a series of monographs and annotated editions of the classics of Hebrew grammar, and an occasional popularizing magazine entitled Leshonenu la-'Am (Our Language -- Popular Edition). It is also currently engaged in compiling a Hebrew dictionary on historical principles. Since 1966, the Academy has exercised permanent supervision over the Hebrew used by the Israel Broadcasting Services, instructing announcers and other staff in the currently prescribed pronunciation and usage of the language. A further point worth making here is that the State and the World Zionist Organization provide subsidized instruction in M.I.H. within the framework of special language courses for prospective and actual immigrants. This is conducted in Israel at 6-month "total immersion" living-in courses in Hebrew, Geography, History and Citizenship given at educational institutions known as Ulpanim (Intensive Study Academies) -- of which the first

was established in Jerusalem in September 1949 -- and outside Israel at courses conducted by qualified teachers sent out for this purpose by the Jewish Agency. Under the aegis of the Academy, a daily and a weekly newspaper are published in "Basic" Vocalized Hebrew, as well as a series of popular books in, and studies on, this simplified version of the vernacular -- mainly for the use of immigrant learners of Hebrew. In addition, it is reported by Fischler (1969) that "about one third of all Jewish children in the Diaspora are ... given the opportunity to acquire at least the rudiments of Hebrew ... (and), furthermore, in the U.S.A. (alone) about 200 universities offer courses in modern literary Hebrew." (p. 89)

- b. The Jewish population of Israel has grown since the establishment of the State from below 0.7 million in 1948 to over 2.5 million in 1970, of whom the majority consider their main language to be M.I.H. This sudden and unprecedented growth has entailed a great deal of change in the development of the language, the extent and rapidity of which may be gauged from the following statement (Rosén, 1969, p. 109)
- "A contrastive observation of 'Early Israeli Hebrew' (the written language of the twenties and thirties) compared to the usages of our own generation ... is striking: quotations taken from the early layer have either to be 'translated' or re-interpreted, lest the immediate impression they create be one of ridiculous language. But a distinct direction can be observed in this development: ... it is astonishing how much closer present-day Hebrew is, in morphological and syntactic constructions, to what is apparent to the linguist in the structure of Classical Hebrew." A further point worth mentioning here is that made by W. Chomsky (1962), p. 108)

who estimates that over one third of the lexical items in any current dictionary of Hebrew are neologisms created during the past 2-3 decades. In one respect, however, the changes over the past decades have been far fewer -- namely in pronunciation. To quote Chomsky again, "It is interesting to note ... that the borrowed words in Modern Hebrew generally retain their original phonetic pattern, while submitting to the grammatical structure of the Hebrew language." It would thus seem that it is in the domain of pronunciation that there exists the greatest consistency between "Early" and "Current" Israeli Hebrew -- and, at the same time, the greatest divergence between Classical and Modern Hebrew. This is hardly surprising, since such changes have been going on all the time in the course of the millennia. They include the laternation of /r/ and /h/ (noted already in Mishnaic times, as evidenced by such lexically and morphologically identical items as noun-forms beginning respectively with he or with alef), the alternative realization of /r/ as either /ʁ/ or /r/ (noted already in early medieval times), the loss of the emphatic/non-emphatic distinction (e.g. between tet and tav), and the loss of the stop/fricative distinction for /d/, /g/, and later also /t/ in early modern times.

\* pp. 112/3

1.03: PRONUNCIATION-VARIETIES, REGISTERS AND STYLES IN COLLOQUIAL ISRAELI HEBREW

1. Pronunciation-Varieties ("Accents")

a. As has been repeatedly pointed out in the rather scanty literature on the subject, there are two major pronunciation-varieties (or "accents").\* These may be contrasted by the following listing of their segmental phonemes:

	I. <u>Sabra Hebrew</u>	II. <u>Oriental Hebrew</u>
Stops	p/b, t/d, k/g, (ʔ)	p/b, t/d, k/g, (ʔ)
Nasals	m, n, <u>[ŋ]</u>	m, n
Lateral	l	l
Tap/Trills	[ʀ]	r-[ʀ], [r]
Affricates	tʃ, <u>(tʃ/dʒ)</u>	tʃ, <u>(tʃ/dʒ)</u>
Fricatives	f/v, s/z, <u>[ʃ]</u> , x/r- <u>[ʁ]</u> , (h)	f/v, s/z, <u>[ʃ]</u> , x, h/ħ, (h)
Approximant	j	j
Transition	ə- <u>[ɛ]</u>	ə- <u>[ɛ]</u>
Vowels	i- <u>[i]</u> , e- <u>[ɛ]</u> , a- <u>[a]</u> , o- <u>[o]</u> u- <u>[u]</u>	i- <u>[i]</u> , e, a- <u>[a]</u> , o, u

Note: The symbols in round brackets indicate diaphonic realizations (in free variation with  $\emptyset$ ), the square brackets denote variety-significant phonetic realizations of phonemes (including allophones of /r/ in free variation with either the dorso-velar fricative or the apico-alveolar tap), the italicized (i.e. underlined) square brackets represent an allophone of /n/, in free variation with the dento-alveolar nasal before velar stops, and the italicized round brackets identify loan-phonemes.

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\* According to some researchers - particularly Blanc (1956, 1964) - this is but one aspect of actual dialectal divergences.



- b. While it is reported by some linguists that among the younger (under 18) native speakers there is numerical parity between the two pronunciation-varieties, it would be a more accurate estimate (in view of the socio-cultural aspect outlined in 1.03.2b below) to say that Sabra Hebrew is the dominant "accent" of M.I.H. -- at least numerically and as regards developmental trends.

## 2. Registers:

The major division, so far as pronunciation is concerned, is between Formal and Colloquial (but see also below, 1.03.3).

- a. The Formal register of pronunciation, as prescribed by the Academy, may be outlined by quoting from the instructions listed in a circular issued to its staff members by the Israel Broadcasting Authority, and entitled "The Rules of Pronunciation Mandatory for the Israel Broadcasting Services".\* This circular lists four normative stages, in descending order of "correctness" namely --
- i. - for staff announcers and programme presenters:

"Pronunciation of /ʔ/, /q/, /ħ/, shwa mobile, and the stop/fricative distinctions (i.e. p/f, b/v, k/x), as well as dagqesh forte (gemination of consonants)" according to the rules laid down by the Hebrew Language Academy.

- ii. - for scheduled outside commentators and programme presenters:

"Correct pronunciation of /q/ and /ħ/ need not be required -- although, whenever a choice is possible, preference should be given to those capable of doing so; /h/ and [ʕ/ħ], /ʔ/, shwa mobile in word-initial syllables, the short vowels characteristically attached to guttural consonants (i.e. /ʔ/, /ħ/, /q/ and /h/), and correct accentuation patterns in Hebrew words shall, however, be required."

\* Under "Klaluy", etc. in Bibliography.

iii. - for occasional speakers reading from scripts:

"While these shall not be required to observe the correct pronunciation rules for [r̄/r̄], /ɹ/, and shwa mobile, if they do not realize /h/ their programme shall be cancelled. Since such speakers are required to observe the correct vocalization rules, it is the duty of Broadcasting Authority editors to vocalize their texts, mark the correct stresses and insist that such markings be realized in the reading of the text".

iv. -sub-standard -- for persons interviewed, or for public speakers recorded at meetings, "on condition that the listeners clearly understand that such speech is broadcast only for the sake of its factual content: no restrictions."

The descending scale of priorities is thus clear:

A. /h/ and word-stress patterns.

B. [r̄/r̄], /ɹ/, no word-initial consonant-clusters, some indication of post-velar articulation.

C. /ɹ/, /h/, no syllable-initial consonant-clusters, realization of medial consonant-gemination.

b. No colloquial pronunciation-variety features medial consonant-gemination or shwa-transitions between voiceless stops or fricatives and other consonants. The realization of post-velar consonantal phonemes is largely a matter of accentual choice, and the realization of /r/ is often a matter of personal choice (conditioned by the linguistic background of the native speaker's parents). Stress patterns and the invariable realization of /h/ are, moreover, not usually observed in either of the colloquial accent -- especially in connection with loan-words, acronyms and proper

nouns. Moreover, the pronunciation (especially of segmental phonemes) prescribed by the Academy is close to that of the Oriental Hebrew "accent", which is used by regional and social groups generally viewed as being under-privileged, so that some premium is placed by its speakers on acquiring the Sabra accent. Here, again, two quotations (from Tĕnĕ, 1969 and Rosen, 1969 respectively) may be in point:

- i. "The newcomers who decided to speak Hebrew brought with them, from a traditional Jewish education, a knowledge of the Hebrew graphemes according to the Tiberian vocalization. On the other hand, all the member of the same linguistic community brought with them the phonemic stock of their vernacular. Therefore, the Hebrew pronunciation of each different group established itself as a result of two factors ...: a set of spelling-pronunciation rules that established grapheme-to-phoneme equivalents, and the allophonic and distributional mechanisms of the spoken vernacular. None of the spoken vernaculars had a phonemic stock equivalent to the graphemic stock of the Biblical masoretic text. The communities differed one from the other in the actual establishment of the phonetic distinctions equivalent to the graphemic ones. As a result, one of the main characteristics of spoken Hebrew at the end of the last century was the variety of pronunciations." (p.49)
- ii. "The prestige model of Hebrew (an image, whether well or ill conceived, of what Classical Hebrew was) existed before there was anything comparable to group speech or dialects. The prestige group had been defined before there was a language policy. By a singular historical accident, the group of

speakers whose speech exhibits more puristically desirable features ... are those which (sic!) are considered non-prestige by others, and, what is more important sociolinguistically, by themselves. It is the speech habits of groups hailing from Central and Eastern Europe that tend to be imitated by those coming from Oriental countries, while speech habits fostered by purist language policy makers will not be observed normally, other than with "Oriental" subjects. One will occasionally find a linguistically skilled purist using two phonetic styles in his speech: one that has been termed 'General Israeli' in private, and an Oriental ... one in public." (pp. 109/110)

Note: Concrete evidence of this may be found in item 40 of Appendix II B, a reading of the Hebrew version of the North Wind and the Sun by a female native speaker of Yemenite extraction, whose speech is almost indistinguishable from Sabra Hebrew -- obviously because she acquired this pronunciation-variety to cover the underlying "Orientality" of her speech during the decade in which she was a member of a non-Oriental speaking kibbutz (where, incidentally, she works as a teacher of Hebrew -- and, as such, should favour the prescribed formal, rather than the colloquial, style which she possibly uses in the classroom).

- c. It has been observed (by Blanc, Chayen and others) that there are certain characteristics of utterance "peculiar to young women ... (who) feel that ... (these) make them sound 'cute' -- but this can only be carried off up to a certain age." (Chayen, 1969). The most noticeable feature of this register is a certain type of lisp and a "pre-palatal, perhaps alveolar" <sup>lamino-</sup>apical /s/ (Blanc, 1964).\*

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\* See also below, 11.04.3a (Female Biological-Indexical Features of M.I.H. phonetics). The Chayen quotation is from p. 16, the Blanc quotation from p. 138.



### 3. Styles

a. Blanc (1961)\* lists five varieties of style and register, which I have re-phrased as follows:

- i. Highly Formal (following the normative prescription of the Academy)
- ii. Formal (normative syntactic and stress patterns)
- iii. Literary Colloquial (used in reading aloud, lecturing, etc.)
- iv. Measured Colloquial (slow speech, informal reading aloud)
- v. Rapid Colloquial

He recommends that students of Hebrew as a foreign language choose Style iii as their preliminary target, presumably while learning the language, but making every effort to comprehend (and, presumably, produce) Styles iv and v at a later stage.

b. The present analysis, however, will recognise only two major styles of utterance (see below, 10.01.4), namely

- i. Rhetorical - for reading aloud, slow and emphatic speech or special vocal effects (which parallels the various styles listed by Blanc as i-iv).

Note: An important sub-section of Rhetorical speech is the citation-form, used for words (or phrases) in isolation.

- ii. Natural - which is more or less Blanc's Style v.

Indeed, from the purely phonetic point of view, these are the only styles capable of *rigorous* description - Blanc's criteria *for* division being socio-linguistic rather than phonetic or phonological.

\* p.4

1.04 THE CONTRIBUTION OF THE PRESCRIPTIVE APPROACH TO THE DEVELOPMENT OF M.I.H.

1. General Contribution:

It is the opinion of most linguists - both traditional and "progressive" (structural, generative - transformational, etc) - working in and with Modern Hebrew that one of the reasons why Hebrew has been successfully revived as a modern, spoken language is the strictly prescriptive approach taken by its sponsors - linguists, teachers, workers and legislators. Without the guidance of the prescriptivists it would have been difficult (if not impossible) to steer a clear-cut course between the Scylla of fragmentation (under the impact of the several chosen languages spoken originally by Israel's immigrants) and the Charybdis of insecurity (i.e. what could be considered "correct" in Hebrew and what could not). On the other hand - spectacular though the success of Hebrew as a revived language has been, the opinion is generally gaining ground among linguists and writers that the time has come for prescriptiveness to yield to some measure of permissiveness.

2. Continuing Revival of M.I.H.:

Perhaps the clearest statement in this matter - especially in view of the continued need for M.I.H. revival (especially among immigrants to Israel and, to some extent, in the Diaspora) may be found in W. Chomsky (1962):

"In the modern Hebrew vernacular of Israel, a great many barbarisms and illicit injections from the foreign languages on which the immigrants from 70 different countries were reared ... threaten to jeopardize the normal growth of the language and to impair its identity.

Particularly jarring are the stylistic and idiomatic adulterations, as well as the general impoverishment in regard to the unique Hebrew

diction, which sometime characterize the present Hebrew vernacular in Israel. It is, however, to be remembered that the present vernacular is still, probably, in a transitional stage, and there is reason to hope that the illicit expressions and usages will, eventually, be discarded. Many of the new immigrants are still illiterate or, at best, products of the Ulpanim, lacking deep roots in the literary sources of the language. It may take a generation or longer before the vernacular takes on a definite Hebraic character. In the meantime, the schools and the other educational agencies in Israel, especially the Hebrew Language Academy, are making every effort to guide and direct the growth of the language into channels of legitimate usage." (pp. 126/7)

## 2. THE SUBJECT-MATTER AND ITS TREATMENT

### 2.01. THE SUBJECT

#### 1. General:

This study will investigate the phonetics of Natural M.I.H. speech - Blanc's Style v of the Colloquial Register of Sabra Hebrew, but will indicate accentual variants in the other Registers and Styles. It will also describe, mainly for contrastive purposes, Rhetorical M.I.H. speech, particularly Blanc's Style i in the Formal Register of Oriental Hebrew (the variety prescribed by the Hebrew Language Academy).

#### 2. The Description:

The descriptive procedure to be followed, after the Introduction, will begin from the syllable, going on through the segmental phonemes in isolation to connected speech, and ending with an investigation of prosodic elements (word-stress, rhythm and intonation). All descriptions will be accompanied by instrumental measurements (articulatory and acoustic) based on such techniques as direct palatography, kymography, spectrography and speech synthesis. A series of Appendices will comprise transcriptions of speech samples recorded by native M.I.H.-speaking informants (including 12 readings - by different M.I.H. speakers - of the Hebrew version of "The North Wind and the Sun", nine passages of poetry and two ordinary recorded conversations). Reference will also be made to recorded samples of Hebrew speech in studies by other investigators of M.I.H. (whose works will be included in the Bibliography), and the majority of the instrumental measurements will be based on the speech of the author as informant.



### 3. Notation:

The system of notation used in this study will be that of the International<sup>al</sup> Phonetic Association (usually without diacritics), in what is generally termed "broad" transcription. All segmental phonemes except /ʔ/, which generally serves as a vocalic marker, when not realized as  $\emptyset$ , will usually be included in the "broad" phonetic transcriptions, and the symbol /r/ is to be taken as realizable either as  $\left[ \overline{r} \right]$  and its allophonic variants or as  $\left[ \overline{r} \right]$  and its allophonic variants (unless it is specifically presented in "narrow" phonetic transcription as  $\left[ \overline{r} \right]$ ,  $\left[ \overline{R} \right]$ ,  $\left[ \overline{r} \right]$ ,  $\left[ \overline{r} \right]$ , etc.). In Chapter 6 and in Appendix I, the post-velar phonemes (<sup>including</sup> /ʔ/ in chapter 6, but not in Appendix I) - whether realized as  $\emptyset$ , as non-pharyngeal allophones or as prescribed by the Hebrew Language Academy - will also be featured. It is hoped that this system of notation will make it possible to read the transcribed material either in Sabra or in Oriental Hebrew, whenever the distinction is specifically and expressly made by the speaker. For separate, individual cases, a "narrow", transcription, occasionally with diacritics, will be used (as in Appendix II B and C). For rhythm and tonetic marking of connected speech, a system of notation based on Kingdon and Abercrombie (1965, 1967) and exemplified in Halliday (1967 and 1970) will be used.\*

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\* Appendix I is a piece of connected discourse in "Unified" transcription. The other Appendices, however, will not feature phonemes realized as  $\emptyset$ , and will only feature the post-velar phonemes when (and as) realized.

## 2.02 THE TREATMENT OF THE SUBJECT

### 1. General:

This chapter will attempt to indicate the general lines of theoretical reasoning underlying the material in the first two parts of the present thesis (Chapters 1-5), and also in Chapter 6. The theoretical justification of the descriptions and analyses in the remainder of this thesis will be included at the beginning of each chapter. This is because the second half of the present thesis, dealing with prosodic features and para-language, covers material either not discussed before in connection with M.I.H., or discussed in only a very cursory fashion -- whereas the segmental aspects of M.I.H. have received some attention in the past decade (though much less <sup>than in this description</sup>) in works with both a phonetic and with a morpho-phonemically orientated bias (e.g. Tønø, 1961; Enoch, 1965; Chayen, 1969 -- and also Chomsky, 1951).

### 2. Phonetics or Phonology?

The present thesis, though concentrating to a great extent on the phonetic element of M.I.H. inevitably also deals with phonological aspects. After all, even Trubetzkoy admitted that --

"Im Gegensatz zur Phonetik, die eine Naturwissenschaft ist und sich mit Lauten der menschlichen Rede befasst, hat die Phonologie die Phoneme oder Lautvorstellungen der menschlichen Sprache zum Gegenstand und ist demnach ein Teil der Sprachwissenschaft ... Damit soll aber nicht verhindert werden dass jede von beiden Wissenschaften sich die Ergebnisse der Anderen zugute macht." (Grundzuege der Phonologie, T.C.L.P. 7, Prague 1939, p.15)

The following minimal selection of views on this subject expressed in more recent times is also fairly representative:

- a. Malmberg, 1954 -- pp. 115/6: "L'étude des faits acoustiques et physiologiques de la parole humaine doit être poursuivie parallèlement à l'étude de la fonction des différentes unités et de la structure du système dont on se sert en parlant ... Les deux genres d'études sont interdépendants et se complètent ... Il vaut, par conséquent, mieux les grouper ensemble sous la dénomination générale traditionnelle de phonétique."
- b. Matthews, 1957/8 -- p.268: "It is not phonology which includes phonetics, but phonetics which includes phonology ... Phonetics ... studies the sounds of the essentially indivisible 'langue' and 'parole'."
- c. Vasiliu, 1970 -- p.19: "Numin fonetica (fonologie) dispozitivul cu ajutorul căruia se caracterizează din punct de vedere fonetic semnele unei limbi date."\*

There are, of course, other viewpoints on this matter with no less weight and respectability behind them current today -- but the present thesis must, of necessity, adopt one viewpoint, and I have done so in accordance with the general line of investigation here followed.

### 3. The Syllable:

A totally valid phonetic definition of the syllable seems to have been a linguistic Eldorado ever since Plato stated that the syllable does not consist of letters, but forms a unitary whole arising from the letters themselves but different from their sum-total. Phonetically plausible definitions generally fail to account for some aspects of the facts of connected speech (though, obviously, citation-forms can be made to conform to practically any syllabic theory --

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\* Phonetics (phonology) is called the device with the assistance of which the signs of a given language are characterised from the phonetic viewpoint.

particularly in respect of monosyllabic words). This applies to such expositions of the syllable as Sievers' breath-oriented one ("Die Silbe wird durch die Kontinuität des Expirationshubes zusammengehalten, die Grenzen der Silbe werden durch dessen Diskontinuität markiert: durch Schwächung und Verstärkung der Expiration" -- Grundzüge der Phonetik: Leipzig, 1901 - p.156), Saussure's phonation-oriented C(explosive) + V + C (implosive) pattern, Bloomfield's "crest of sonority" definition, Stetson's chest-pulse theory (with reinforcement of the chest-pulse characteristic of stressed syllables), and Trojan's articulatory hypothesis ("Die Silbe ist ... eine Kaubewegung" -- (Phonetica 1, 1957). As against this must be set such objections as those voiced by Menzerath & de Lacerda, who pointed out (in 1933) that on-glides and off-glides are not analysable phenomena, since articulatory positions are adopted simultaneously, not successively, and restricted by their articulatory context, so that syllable-division is, articulatorily speaking, almost impossible in connected speech. As Meyer had put it, already in 1898: "Bei der Silbenfrage handelt es sich nicht darum in wieviel Teile ein Wort zerfaellt, sondern in wieviel Teile es zerfallen kann" \* -- or, in Whitney's even more sceptical earlier words (1867), the distinction into syllables "is in the ear of the hearer rather than in the mouth of the speaker."\*\* This, however, is directly contradicted by some psycholinguists -- and especially by Osgood, who presents a persuasive body of evidence to the effect that the minimal unit of speech decoding is the phoneme, whereas the minimal unit of speech encoding is the syllable. The safest statement to follow is the one by Pike (1943), defining the syllable as a stretch of sound with a

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\* p. 486

\*\* In Whitney, Dwight William: Language and the Study of Language (London, 1867), p.89.



crest and indefinite borders, and re-stated by Sivertsen & Peterson in their 1960 formula defining the syllable as a M + N + M complex (where M stands for margin, and N stands for nucleus). Starting out from this point, and taking note of de Groot's 1926/7 statement, "Le phénomène essentiel de la syllabe est le fait du groupement", this thesis will accept, at least in part, the theoretical implications of Rousselot's 1924 dictum -- "La syllabe n'a rigoureusement d'existence physiologique que dans les monosyllabes isolées. Autrement ... les mouvements organiques se lient les uns aux autres sans solution de continuité, et il n'y a pas de point d'arrêt dont on puisse dire d'une façon absolue: ici finit une syllabe et commence une autre" (p.969). This statement is echoed in recent reports of electromyographic work, and so it seems that as yet no totally satisfactory articulatory description of syllable boundaries is available. However, in O'Connor and Trim (1953) a way is indicated of making a probabilistically acceptable statement as regards the boundaries of syllables in connected speech, and this is the manner of description adopted in the present thesis. The syllabic model of M.I.H. will therefore be based on the monosyllable in isolation (following, in this respect, the type of formula outlined in Abercrombie, 1967), and on the probability of segmental catenation in connected speech.

#### 4. Vowels and Consonants:

These will be described in terms of segmental phonemes and their contextually determined allophones.\* The following points may elucidate some of the details of the treatment:

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\* For a "distinctive features" analysis see Chayen 1969. A prosodic analysis (in the Firthian sense) would not, it seems to me, capture the whole of the general picture, but might be attempted at a later stage, to investigate some of the problems of detail.

a. In addition to the Hebrew phonological system, comprising six vowels and a range of 18 - 22 consonants (including dialectal and formal realizations of what might, in natural Sabra Hebrew speech be  $\emptyset$ ), there are a number of other phonological systems that the M.I.H. speaker finds compatible. These apply solely to the consonants and include, in the main, Arabic, Yiddish and Russian. However, not all the consonantal features of these phonological systems are actually acceptable; the prominent domains of compatibility are --

- i. The filling in of possible articulatory slots not utilised in Hebrew (e.g. /z/ to parallel /ʒ/; /dʒ/, /tʃ/ and /dʒ/ to parallel /tʃ/, etc.). Even here, however, there are notable dialectal differences. Thus, /ɲ/ is a phoneme realisable only by some Sabra M.I.H. speakers; Oriental M.I.H. speakers, and others who have no linguistic background such as Yiddish to provide this phoneme do not ordinarily effect the /n/ → /ɲ/ change before velar stops or fricatives, while most Sabra M.I.H. speakers, unlike Oriental M.I.H. speakers, usually find it impossible to realise the bilabial approximant /w/, since they do not have Arabic in their linguistic background to provide it.
- ii. The realisation of phono-tactic consonantal options not permitted in Hebrew (e.g. two-consonant syllable-arresting clusters or three-consonant syllable-releasing clusters, such as -/mp/, /str/, etc.). These phoneme-realizations ordinarily occur in non-Hebrew words (to quote Ténè, 1961: "des phonèmes qui à eux seuls indiquent que le mot qui les présente n'appartient pas au fond traditionnel dans la langue ... surtout pour des raisons sémantiques, à cause d'emploi restreint à une branche très particulière de l'activité humaine" -- pp.71, 84). However,

some of them also occur in rapid connected speech within Hebrew words -- especially in connection with such phenomena as assimilation and reduction.

- b. The table of vowels in the present thesis features six items -- /i/, /e/, /a/, /o/, /u/ and /ə/, the last one being the shwa, or consonant-transition. Some accounts of M.I.H. (e.g. Blanc, 1964), would exclude the shwa, since its realisation is practically the same as that of /e/, and list only five vowels for M.I.H. I have chosen to list the shwa for reasons similar to those that induced most traditional phoneticians describing English (e.g. Gimson) to distinguish between the English shwa and /ɜ/ -- namely that there are both phono-tactic and articulatory distributional differences that make it convenient to do so. In the case of M.I.H., /ə/ (like in English) cannot carry either accent or stress, and its realisation covers a larger area than that of any other vowel (anything between [ɪ̄] and [ɛ̄]). Furthermore, it cannot form part of a diphthong (in the sense in which the other vowels may be said to form syllable-final diphthongs when followed by /j/ -- groups that may, indeed, also be considered as -VC patterns in that /j/ can be considered both vocalic and consonantal in this position).
- c. In the tabulation of M.I.H. consonants, the distinction voiced/voiceless has been maintained throughout, even though some other descriptions of Hebrew (notably that by Chayen, 1969) deny the reality of "voice" in consonants (unless inter-vocalically). Kymographic evidence, however, is presented in the present thesis (see Appendix iii) to show that the voiced/voiceless distinction clearly holds true even syllable-initially and syllable-finally.

Accordingly, the non-voicing of consonants described as voiced is here taken to be a phenomenon of assimilation in connected speech. In fact, the voiced/voiceless distinction is particularly important in connection with the realisation of syllable-releasing consonant-clusters. In such cases, voiceless consonants tend to become syllabic by virtue of aspiration (for plosives) or air-stream constriction (for fricatives) in certain styles of speech, while voiced consonants are either devoiced or become syllable-releasers followed by shwa.

#### 5. Accent and Stress.

In keeping with the theory expounded in Abercrombie 1967, the present thesis considers accent (or word-stress) to be a potentiality realised in the form of sentence stress, which is an element of rhythm (and is thus analysable in connection with the prosodic features of speech). Since Chayen's 1969 doctoral thesis has dealt quite comprehensively with the morphophonemic aspects of accent (word-stress), my own work will only carry a general description of the occurrence and placement of accent in M.I.H., as well as the accentual changes involved in connected speech. The latter seems to me to be particularly important in view of the fact that the morpho-phonemic rules do not cover the systemic changes occurring in connected speech.

#### 6. Prosodic Features and Para-language.

As pointed out before, none of the works dealing with the phonetics and/or phonology of M.I.H. has dealt with the prosodic and para-linguistic features of the language in any but a most cursory fashion. The present thesis, accordingly, presents a theory of intonation (see Chapters 7, 8 and 10) within which it describes the prosodic features of M.I.H. The final chapter is, of necessity, a



collection of rather isolated facts set within a very general framework; any more detailed or systematic treatment of the subject (para-linguistic features of M.I.H.) could well become a doctoral thesis in its own right.

7. The Necessity for a Synchronic Description of M.I.H. Pronunciation

This study is entirely synchronic and descriptive, though reference will frequently be made to the normative rulings of the Hebrew Language Academy. The paucity of actual descriptive material in this field hitherto may perhaps best be justified and explained by the following quotation from Rosén (1969):

"It has been said upon various occasions that linguistic research into current Hebrew cannot be conducted because it is a language in process of development; it should not be conducted because Hebrew is not yet stabilized and the publication of descriptive treatises might serve as a stabilizing factor. Linguistically, it can be said, of course, that any language is in development at any given time, and can still be described, and that there is nothing to keep us from re-describing it, should the changes incurred so necessitate at any given moment. It may further be argued that, from a purely theoretical point of view, there must be a 'system' of some stability, because otherwise communication would be impossible and that a linguist is entitled, if he so wishes, to study established means of communication." (p.108)

Likewise, it is astonishing, though true, that even during the past decade or so of growing interest in M.I.H. on the part of linguists, research work should have been done in phonology (Tønø, 1961), morphophonemics (Chayen, 1969) and contrastive analysis (Enoch, 1965: with

French; Mendelson, 1970: with English) -- but not in the actual phonetics of M.I.H. (except for various partial studies by Blanc). It is in order to supply this material that the present study has been written.

PART TWO - THE SYLLABLE

3. THE STRUCTURE OF THE SYLLABLE IN M.I.H.

3.01. GENERAL DESCRIPTION

1. Classical and Modern Hebrew:

Traditionally, Hebrew -- like other Semitic languages -- defines consonants as the "body" of language, and vowels as its "soul". Classical Hebrew is thus based on a syllable-pattern that may be described\* as follows:

$$C \quad V \quad C_{0-2}$$

In M.I.H. this is modified to  $C_{0-2} \quad V \quad C_{0-2}$

2. Restraints and Conclusions:

The restraints upon, and conclusions from, this phonological formula will be enumerated and discussed in detail below (under the description of the individual vowels and consonants), but a number of points should be made already at this stage.

- a. Initial consonant-clusters are to be taken as featuring some degree of transition. In Classical Hebrew, this would signify that all groups such as C C V C C would be considered at least bi-syllabic -- namely C<sub>0</sub> C V C C, it being a characteristic of the C<sub>0</sub> syllable that it could never occur in stressed position.

In M.I.H., probably under the influence of non-Semitic languages affecting the pronunciation of most early M.I.H. speakers, this basic characteristic of Hebrew phonology has tended to vanish. An example in point would be the following:

\* See Cantineau and Harris.

In Classical Hebrew, words of foreign origin (usually from Greek or Latin) containing poly-consonantal clusters underwent Hebraization, which may be contrasted with the unchanged adoption of the same word in M.I.H., where it was re-introduced from the West European languages. The phonological effect of the disappearance of the obligatory inter-consonantal shwa-transition is a syllabic reduction. One word in question is "sport", which in the Classical Hebrew affected in the early 19th Century became /as(ə)port/, while in M.I.H. it is /'sport/, with a 2-consonant releasing cluster. Another example is the post-Biblical form /istrati'ja/ ("legion, camp" -- from the Greek *στρατός*), as against the M.I.H. /stratos'fera/ ("stratosphere") in which -- as in the former example -- the first item features an epenthetic vowel at the beginning of the word, while the second one does not. Notwithstanding the above, there is some degree of inter-consonantal transition in most M.I.H. idiolects, especially in rhetorical speech, or lento rhythm.

- b. In fluent, connected speech, one of the implications of the above is that, where there are identical (arresting-releasing) consonants (or vowels, should the respective consonants be missing) at syllable-boundaries, the realization may be C C (or V V), as follows:

/tata'per/ (you shall describe) -- /ṭta'p̣eɾ/

/ra'p̣u/ - realised as [ṛa'u] (they saw)

- c. V will here be interpreted strictly as vowel -- including /ə/, which is described as a transition, but not including the approximant /j/. Consequently, in the description of the



diphthongs below, the second element will be consistently notated as /j/. *Otherwise, contiguous vowels are necessarily separated by syllable-boundaries.*

- d. Except for such diphthongal syllables as /e<sup>h</sup>jn/ (there isn't), the second consonant in arresting position can only be /t/ in M.I.H. the morpheme denoting second person singular feminine in the past tense.
- e. For the above reasons, /tʃ/ will be considered one phoneme -- the only affricate of M.I.H. (except those in foreign loan-words and, possibly, the realisation of /tʃ/ in rapid connected speech).
- f. Where there are two consonants in the syllable-releasing cluster, there cannot be more than one consonant in syllable-arrest position unless the form in question is non-Hebrew -- i.e. a foreign loan-word.

### 3. Syllable boundaries

The 2-consonant releasing configuration acceptable in M.I.H. entails not only a complete revision of the concept of Classical Hebrew shwa, triggered off by the change in the syllable-formula, but also gives rise to a number of problems connected with the demarcation of syllable-boundaries. Thus, for instance, the formula  $C_{0-2} V C_{0-2} \# C_{0-2} V C_{0-2}$  at word-boundaries may, in certain cases, create the impression that groups of four consonants are acceptable as "clusters", or may make it difficult to decide, on non-morphological grounds, where the syllable-boundary is located. An attempt will be made (in 3.02 below) to deal with the problem of utterance-internal syllable-boundaries.

### 4. Other Syllabic Patterns

Syllabic patterns other than the above are possible only in foreign loan-words.

### 3.02 SYLLABLE DEMARCATION

#### 1. General Principles

In the tables below, (featuring the 6 vowels and 18 essential consonants of M.I.H.) the permissible phono-tactic patterns have been based on mono-syllabic utterances as far as possible -- but the examples of consonant-clusters (for which, see the end of Chapter 5, below) take into account a considerable number of bi-syllabic words with initial consonant-clusters or syllabic consonants. This is due to the fact that in some cases the bi-syllabic examples are less abstruse than the mono-syllabic ones might be.

Note: /r/ is consistently taken to be a voiced velar fricative in the tables below, which omit all post-velar consonants as non-essential in the M.I.H. variety described here, i.e. Sabra Hebrew.

#### 2. Mono-segmental Syllables.

The following table shows the possible mono-segmental syllable patterns of M.I.H. It should be noted, however, that the ones marked with an asterisk rather than a plus-sign (the plosive consonants) can only become syllabic by means of aspiration.

ə	i	e	a	o	u	p	b	f	v	m	t	d	tʃ	s	z	n	l	ʃ	j	k	g	x	r
-	+	+	+	+	+	*	*	-	+	+	*	*	+	+	+	+	+	+	-	*	*	-	+

#### 3. Bi-segmental syllables.

These are by far the most frequent in M.I.H., and follow either a CV or a VC pattern, as follows:



p b f v m t d t̃s s z n l } j k g x r

p	-	-	-	-	-	+	+	+	+	+	+	+	+	+	-	+	+	+	+
b	-	-	-	-	-	+	+	+	+	+	+	+	+	+	-	+	+	+	+
f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
v	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
m	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+
t	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+
d	-	-	+	+	+	-	-	-	-	+	+	-	+	+	+	+	+	+	+
t̃s	-	-	+	+	+	-	+	-	-	-	+	+	-	-	-	-	-	+	+
s	+	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+
z	-	-	+	+	+	-	+	-	-	-	+	+	-	-	+	+	+	+	+
n	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+
l	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+
}	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+
j	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
k	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	+	+
g	-	-	+	+	+	-	+	-	+	+	+	+	+	+	-	-	-	+	+
x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
r	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	-	+	+

Note: A releasing consonant-cluster must be followed by any one of the six vowels, or any one of the permissible VC combinations, in order to form a syllable.

5. Arresting Consonant Clusters

These can only occur word-finally, as follows:

ft vt mt t̃st st zt nt lt }t jt kt gt xt rt jn j̃l

Note: An arresting consonant cluster must be preceded by (c)+one of two stressable M.I.H. vowels ( e, a - the former before /j/ only).

6. Tri-segmental and Quadri-segmental Syllables

a. Tri-segmental syllables consist of any consonant followed by a permissible VC pattern

--- or else by any permissible

releasing consonant-cluster followed by a vowel (or, alternatively, by

a stressable CV combination followed by a permissible consonant)



Formally, then, a tri-segmental syllable can have one of the following patterns:

- I C V C
- II C C V

b. Quadri-segmental syllables consist either of a permissible releasing consonant cluster followed by permissible VC combination, or a permissible stressable CV combination followed by a permissible arresting consonant cluster. It will thus have one of the following two patterns:

- I C C V C
- II 'C V C C

Note: In accordance with 3.01.2f, a M.I.H. syllable cannot consist

of more than four segments, and in accordance with 3.02.5, the vast majority of type 3.02.6b ii quadri-segmentals pattern 'CaCt.

7. Word-internal Syllable Demarcation.

The above syllable-patterns underlie the notation utilised in the present thesis insofar as the syllables are word-initial (which includes all mono-syllabic words, of course) and, in the case of patterns 3.02.2, 3.02.3, 3.02.6a, and 3.02.6b.ii, for word-final syllables. Word-internal syllable demarcation will observe the following principles:

a. One intervocalic consonant will be deemed to be a releasing consonant:

-V C V -> -V CV- (/so'fer/, "writer" -> /so 'fer/)

b. Two intervocalic consonants will be allocated to separate syllables, so that the first is the arresting consonant of the earlier syllable, and the second is the releasing consonant of the later syllable:

-V C C V -> -VC CV- (/lif'tan/, "compote" -> /lif 'tan/)

Note: However, if the 2-consonant group is preceded by the definite-article morpheme /<sup>(h)</sup>a-/, or a structure-word incorporating the definite article (e.g. /la-/, "to the", etc.), then the 2-consonant group will be deemed to be a releasing consonant-cluster belonging to the later syllable. (/ha'ʃtaim/, "the two of them" → /ha 'ʃta im/)

c. A group of three consonants flanked by a vowel on either side (a typically non-Hebrew pattern) will be divisible into one arresting consonant for the earlier syllable, and a releasing consonant-cluster belonging to the later syllable.

-V C C C V- → -VC CCV- (/as'klepios/, "the mythical physician-prototype" → /as kle pi os)

d. A group of four consonants flanked by a vowel on either side will be deemed indivisible in M.I.H. phonology (obviously a non-Hebrew word). Such a word can only be divided into syllables in accordance with a non-Hebrew phonological system. This will, naturally, also be the case for groups of more than four consonants flanked by a vowel on either side. The syllable-division in these cases will follow the phonological system of the language from which the word has been taken (e.g. /instru'mentim/ → /in stru 'men tim/).

e. *Abutting vowels will always be divided by a syllable-boundary (e.g. /iʃiu'to/ → /i ʃi u 'to/, his personality; /rəi'tiv/ → /rə i 'tiv/, I saw him).*



#### 4. THE VOWELS

##### 4.01. GENERAL

##### 1. Treatment and Sources

The treatment of the segments in Chapters 4 - 5 will be phonemic, and separate attention will be paid to the allophones of each phoneme.

- a. For the vowels, the method of description is by a comparison of my own M.I.H. vowels with Daniel Jones' cardinal-vowel system (as placed within the bi-parametric trapezoid chart).
- b. The examples illustrating the various points in this chapter (and, indeed, throughout Chapters 1 - 6) will not necessarily be taken from the corpus included in Appendix ii, but will be culled from the whole of the M.I.H. vernacular. This is due to the difficulty in finding suitable instances (e.g. of minimal pairs) within a limited corpus of language.
- c. The figures for statistical frequency of occurrence have been taken from Enoch 1965, where they were based on frequency-counts of phones in the texts of Blanc 1956 and 1964. However, Enoch does not distinguish between /e/ and /ə/ in his count, and I have therefore taken the same texts and separated the two phonemes to give individual frequency counts for /e/ and /ə/ (the latter including hesitation-phenomena and centralizations of other vowels in rapid connected speech).
- d. The acoustic data regarding vowel-formants have been based on spectrography to some extent -- but, in the main, they represent my findings in synthesizing M.I.H. speech by rule (see Appendix II A).

## 2. Description

M.I.H. has a system of five vowels and a shwa transition (the word shwa itself being Hebrew). It may also be said to have five diphthongs (of the type Vj).\*

- a. All vowels may occur syllable-initially (preceded by glottal closure in some speakers), syllable-medially (between consonants), and syllable-finally; shwa can only occur in syllable-final position (unless it is a hesitation-signal). While shwa can only carry stress under very special circumstances (for "boosted" contrasts), all vowels may occur in both stressed and unstressed position. Kymographic measurement and speech synthesis have shown quite conclusively that the vowels of M.I.H. tend to be longer in open than in closed syllables, and in stressed rather than in unstressed position. However, speech synthesis shows that in natural speech the ratio is not of the order 2:1 laid down for citation-forms of single words in TĒNĒ 1962, but much less (about 1 cs. in stressed or open-syllable patterns for every 4-6 cs. in unstressed or closed-syllable pattern). Even here, however the distinction is important for such terms as /ʃa'ma\*ti/ (I heard) - /ʃa'matti/ (I let go).
- b. Some M.I.H. speakers tend to nasalize syllable-medial vowels followed by a nasal -- or even syllable-initial or -final vowels followed by a nasal. This is particularly the case with ultra-orthodox Jews (who are probably affected by the nasal utterance of certain liturgical texts); it also seems to be the case that many M.I.H. speakers with ultra-orthodox parents or grandparents have this characteristic sound in their speech (i.e. if they came under the influence of such speakers in their childhood). To some

---

\* In a discussion of the extent to which they may be considered true diphthongs, see 4.04.1 below.



extent, this also holds true of M.I.H. speakers with Polish in their linguistic background.

- c. Vocalic gemination may occur when a post-velar phoneme is realised as  $\text{ɔ}$  between two identical vowels. These then belong to different syllables - e.g.

/i'm/ (if) - /i'im/ (islands)

/ʃe'la/ (hers) - /ʃe'e'la/ (question)

/'ram/ (high) - /'ra'am/ (thunder) - /ra'am/ (he thundered) -

  /raa'ma/ (she thundered) - /ra'ma/ (level)

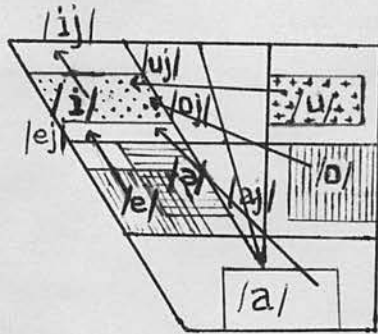
/'bo/ (come!) - /bo'o/ (his arrival)

/'nu/ (well!) - /'nuu/ (move! - pl)

Note: There is no geminated shwa in M.I.H.

- d. The following chart (with examples attached) shows the average position of the M.I.H. vowels, shwa and diphthongs:

<u>Unstressed</u>	<u>Stressed</u>
/i'sa/ (dough)	/bə'ni/ (my son)
/e'sa/ (I'll travel)	/bə'ne/ (build!)
/a'sa/ (he did)	/bə'na/ (her son)
/o'sa/ (she does)	/bə'no/ (his son)
/u'sa/ (he was massaged)	/bə'nu/ (build! -- pl.)
 	-----
/ij'na/ (she consulted)	
/ej'ma/ (fear)	/bə'nej/ (sons of ...)
/aj'nu/ (consult! -- pl.)	/pə'naj/ (leisure)
/oj'nim/ (hostile -- pl.)	/'noj/ (ornament)
/kuj'mu/ (they were maintained)	/ba'nuj/ (built up)



e. The vowels of M.I.H. have a total occurrence-frequency of 44.5% (as against 55.5% for the M.I.H. continuants as a group). In order of frequency, they appear as follows:

/a/ - 11.1%

/e/ - 7.6%

/i/ - 6.7%

/o/ - 5.5%

/ə/ - 5.2%

/u/ - 2.4%

4.02 THE VOWELS OF M.I.H. IN DETAIL

1. /i/

This is a high front vowel, slightly more open than Cardinal 1 (by about 1/3 of the opening for Cardinal 2), and slightly retracted. The lips are spread, although not quite maximally, and the upper side rims of the tongue are in close contact with the upper molars.

Examples

Stressed	$\left[ i^m \right]$ (if)	$\left[ mi^{\lambda}jam \right]$ (Miriam)	$\left[ e^{\lambda}ni \right]$ (second)
Unstressed	$\left[ is^{\lambda}ka \right]$ (deal)	$\left[ m^{\lambda}l^{\lambda}ga \right]$ (scholarship)	$\left[ p^{\lambda}eti \right]$ (silly)

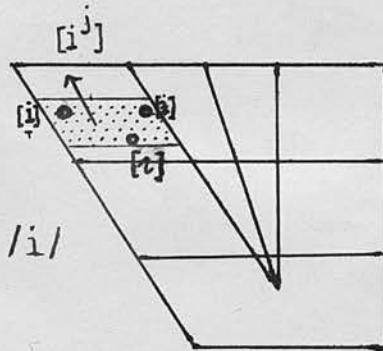
- a. Allophonic realisations of this vowel range from high front (Cardinal 1) to a retracted position just over half-close and almost centre-front -- the latter especially in speakers influenced by Polish and Ukrainian in their linguistic background. In some respects, the allophonic realisation-features of this vowel may be said to parallel those of its back "partner", /u/: the latter also has a great many allophonic realisations ranging from forwarded (up to centre-back) and lowered (down to half-close) positions - and these realisations depend on the place of the syllable containing this vowel in relation to the syllable carrying rhythmic stress. Accordingly, /u/ ranges from  $\left[ \underset{+}{u} \right]$  to  $\left[ \text{u} \right]$  and /i/ from  $\left[ i \right]$  to  $\left[ \text{ɨ} \right]$  and  $\left[ \text{ɨ} \right]$ . The retracted allophones  $\left[ \text{ɨ} \right]$  --  $\left[ \text{ɨ} \right]$ , which also have less lip-spread and are "lax" as against the "tense" close-front  $\left[ i \right]$ , tend to occur before velar consonants (especially before /x/) in pre-tonic

syllables (the farther from the stress, the opener, the more retracted and the laxer) and in the word-final suffixes for masculine plural (/-'im/) and feminine singular (/-'it/) -- e.g. in word-final position, with "boosted" stress /i/ may tend towards the approximant /j/ position - e.g. [ˈsij] (record), [ˈtɛ] (system), [nɪxɪnə'su] (they entered), [mɔ'xɪm] (teachers), [a'tsɪt] (you wished).

b. The steady-state formants of /i/ vary between --

	F 1	F 2	F 3
/i/	310 cps.	2,260 cps.	2,920 cps.
/ɪ/	400 cps.	2,260 cps.	3,220 cps.

c. Cardinal-vowel charting shows the following positions for /i/:



d. [i] and [ɪ] are the phonic realizations of the written symbols

ⲕ ('xirik ma'le) and ⲕ ('xirik xa'ser)

2. /e/

This is a mid front vowel about mid-way between Cardinals 2 and 3. The lips are laxly spread, and the upper side rims of the tongue are in loose contact with the upper molars.



Examples

	Initial	Medial	Final
Stressed	$\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \text{ste} \right]$ (Esther)	$\left[ \text{j} \overset{\cdot}{\underset{\cdot}{\epsilon}} \right]$ (more)	$\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \right]$ (leaf)
Unstressed	$\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \text{tse} \right]$ (I'll want)	$\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \text{me} \right]$ (sun)	$\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \right]$ (wild)

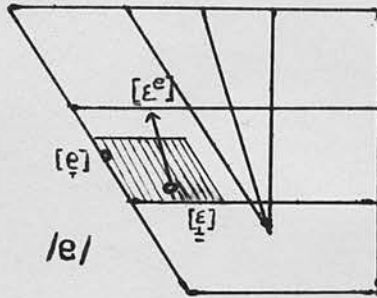
- a. Allophonic realizations of this vowel range from diphthongization as /ej/ to the position (approximately) of Cardinal 3 -- the latter especially in speakers with Hungarian in their linguistic background. The prescribed forms of realization (e.g. for radio announcers, actors, etc.) call for a phonemic distinction between /ej/ and /ε/ -- as in /ejε/ (those), where the first vowel is represented in writing as "tsere" (X) and the second as "segol" (X), the vocalized spelling being *tsere*. In fact, however, native speakers of M.I.H. seldom distinguish between their realizations of the two vocalizations, except as a regional-dialectal feature of pronunciation characteristic in Jezreel Valley settlement (and that only for a small number of *segolate* words, e.g.  $\left[ \text{sejfe} \right]$  "book",  $\left[ \text{ar'bej} \right]$  "a lot"). There is, on the other hand, a phonemic difference between /e/ as followed by the semi-vowel /j/ (as in /'bejn/ -- between) and before other phonemes (as in /'ben/ -- son -- for instance), and the allophonic range is, indeed, from /ej/ to /ε/. The allophones of phonemic /e/ are, therefore  $\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \right]$ , as described at the beginning of this section (4.02.2 above) and  $\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \right]$ , which is a closer vowel and "tense", as against the "lax"  $\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \right]$ .
- b.  $\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \right]$  usually occurs in post-tonic syllables, and becomes even closer in word-final position if it carries "boosted" stress (when it tends to diphthongize towards the approximant /j/ position) - e.g.  $\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \text{ge} \right]$  (foot),  $\left[ \overset{\cdot}{\underset{\cdot}{\epsilon}} \text{h} \right]$  (mouth).

c. The steady-state formants of /e/ vary between -

	F 1	F 2	F 3
$\left[ \frac{e}{\uparrow} \right]$	640 cps.	2,020 cps.	2,500 cps.
$\left[ \frac{\varepsilon}{\uparrow} \right]$	670 cps.	1,720 cps.	2,500 cps.

d. Cardinal-vowel charting shows the following positions for

M.I.H. /e/:



### 3. /a/

This phoneme ranges between a retracted low front vowel (closest to Cardinal 4) with lips in neutral opening, and a fronted low back vowel (closest to Cardinal 5) with a great deal of separation between the jaws. There is little or no contact between the upper side rims of the tongue and the upper molars.

#### Examples

Stressed  $\left[ \frac{a}{\uparrow} \right]$  (you - fem. sing.)  $\left[ \frac{lik}{\uparrow} \delta \frac{at}{\uparrow} \right]$  (towards)  $\left[ \frac{jax}{\uparrow} \frac{lo}{\uparrow} \right]$  (she could)

Unstressed  $\left[ \frac{an}{\uparrow} \frac{t}{\uparrow} \frac{a}{\uparrow} \right]$  (she answered)  $\left[ \frac{na}{\uparrow} \frac{v}{\uparrow} \frac{a}{\uparrow} \right]$  (she blew)  $\left[ \frac{a}{\uparrow} \frac{ba}{\uparrow} \right]$  (four)

a. Allophonic realizations of this vowel range from retracted low front to low back (almost Cardinal 5) with slight lip-rounding, particularly in conjunction with the voiced pharyngeal fricative  $\left[ \frac{q}{\uparrow} \right]$ , as pronounced by M.I.H. speakers with Arabic in their linguistic

background. In fact, Chayen mentions\* that Professor S. Morag (of the Hebrew University, Jerusalem), in a personal communication, presented the two words  $\text{נָתַתִּי}$  [na'tati] (I gave) and  $\text{נָטַתִּי}$  [na'toti] (I planted) as minimal pairs -- but that, although prescribed as the correct pronunciation, this was not borne out in his recordings of M.I.H. speakers, the reason being that most of them do not have a /ɕ/ phoneme in their sound-system. However, there does seem to be a tendency towards [a] in open-syllable word-final position (especially when the syllable carries stress), just as there seems to be a tendency to less jaw-opening in pre-tonic syllables - e.g.  $\text{חַזַּקְתִּי}$  (strong - fem.)

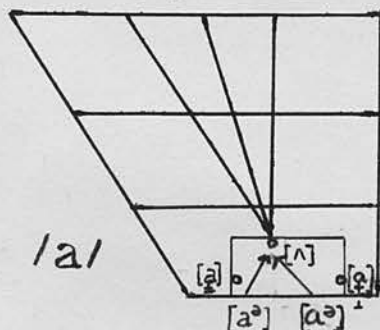
b. The steady-state formants of /a/ vary between -

	F 1	F 2	F 3
[a]	700 cps.	1,360 cps.	2,500 cps.
[a] <sub>+</sub>	730 cps.	1,240 cps.	2,500 cps.

c. Gemination is particularly likely to occur with this vowel in both unstressed and stress-split patterns (for examples see 4.01c above).

d. [a] and [a]<sub>+</sub> are the phonic realizations of the written symbols  $\text{א}$  ('patax) and  $\text{אָ}$  ('kamatz).

e. Cardinal-vowel charting shows the following positions for M.I.H. /a/:



\* Chayen 1969, p.29.

4. /o/

This is a mid back vowel about mid-way between Cardinal 6 and Cardinal 7, with medium lip rounding and little or no contact between the upper side rims of the tongue and the upper molars.

Examples

	Initial	Medial	Final
Stressed	[ <u>ɔ̄</u> ] (light)	[ <u>ʁ</u> ' <u>ɔ̄</u> n] (first)	[mə <u>ʁ</u> ' <u>l</u> o] (his coat)
Unstressed	[ <u>ɔ̄</u> ts' <u>m</u> o] (power)	[ <u>k</u> ɔ̄l't <u>ɔ̄</u> m] (they grasp)	[ <u>ʁ</u> ' <u>j</u> a <u>f</u> ɔ̄] (Jaffa)

- a. Both in stressed and unstressed position, when followed by a releasing consonant, this vowel may be lowered to a position close to Cardinal 6. In word-final, stressed open syllables, the realization is closer to Cardinal 7, and in open pretonic syllables (or monosyllables) there is some centralisation. In some speakers, there is a tendency to diphthongize this vowel to [ɔ̄<sup>o</sup>] in open syllables especially when followed by [ɔ̄], or with word-final "boosted" stress - e.g.

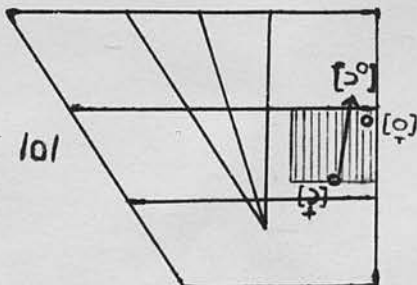
[kɔ̄l'nɔ̄<sup>o</sup>] (cinema), [gvɔ̄<sup>o</sup>'ɔ̄] (tall - fem. sing.), [ʁ'ɔ̄<sup>o</sup>t<sup>h</sup>] (this one)

- b. The steady-state formants of /o/ vary between -

	F 1	F 2	F 3
[ <u>ɔ̄</u> ]	520 cps.	880 cps.	2,500 cps.
[ <u>ɔ̄</u> ]	490 cps.	820 cps.	2,500 cps.

- c. [ɔ̄] and [ɔ̄] are phonemic realizations of the written symbols ɔ̄ ('xolam ma'le), ɔ̄ ('xolam xa'ser), and ɔ̄ ('kamats ka'tan).

- d. Cardinal-vowel charting shows the following positions for M.I.H. /o/:





5. /u/

This is a high back vowel slightly opener and more fronted than Cardinal 8. The lips are rounded and somewhat pouted, and there is little or no contact between the upper side rims of the tongue and the upper molars.

Examples

	Initial	Medial	Final
Stressed	[ <u>ʰ</u> ʉ̄t̄s̄n̄ə̄] (hurry! - fem. pl.)	[s̄ā'ḡū] (closed)	[k̄ā'n̄ū] (they bought)
Unstressed	[l̄'f̄s̄ū] (they were forced)	[b̄ūs̄'t̄ār̄] (copse)	[l̄'n̄ə̄x̄n̄ū] (we)

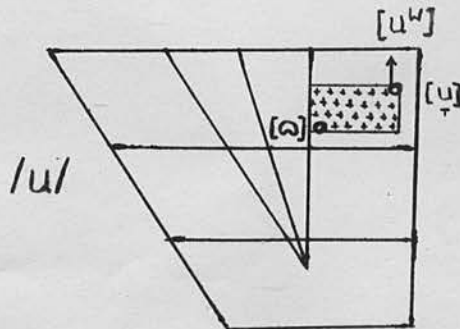
- a. There is a slight tendency in some speakers to diphthongize this vowel to [ūw̄] in open syllables (stressed or unstressed), especially word-finally (with "boosted" stress) or when followed by another vowel, and some speakers tend to have a rather open centralised [ɔ̄]-like vowel in pre-tonic open syllables, e.g. [h̄'ūw̄] (he), [l̄'ɔ̄'n̄ū] (to move), [j̄'ɛ̄d̄ū'ɔ̄] (known -- masc. pl.)
- b. The steady-state formants of /u/ vary between --

	F 1	F 2	F 3
[ɔ̄]	370 cps.	940 cps.	2,380 cps.
[ū]	340 cps.	940 cps.	2,380 cps.

c. [ɔ̄] and [ū] are the phonic realizations of ʔ ('ʃuruk) and x̄ ('kubuts).

d. Cardinal-vowel charting shows the following positions for

M.I.H. /u/ -



### 4.03 The Shwa-transition

#### 1. Distribution

This is an inter-consonantal transition and, as such, does not occur syllable-initially or word-finally (except as an involuntary transition before a releasing consonant). It does not occur in stressed position. It can only occur in open syllable-final position, and may be followed either by a vowel or by a consonant. In the former case,\* the vowel represents what was originally (in Classical Hebrew)  $\left[ \begin{array}{c} /h/ \\ /q/ \\ /p/ \end{array} \right] + V$ , with the consonantal sound elided in M.I.H. -- although, normatively, the uttering of the consonant-sound is still prescribed (e.g. for radio announcers).

#### Examples

Inter-consonantal

Pre-vocalic

$\underline{[l\varepsilon]a'm\dot{p}t^c}$  (to cheat)

$\underline{[m\varepsilon]il}$ ,  $\underline{[m\varepsilon]qil}$  (overcoat)

Note: While shwa may occur as an inter-consonantal transition separating the items of any permissible syllable-releasing consonant cluster -- which, indeed, is the form normatively prescribed by the Hebrew Language Academy -- most M.I.H. speakers tend to delete this transition, particularly between voiceless plosive + fricative consonantal groups. Furthermore, most M.I.H. speakers fail to realize the normatively prescribed word-medial inter-consonantal transition, so that  $C_1$  is realised as syllable-arresting and  $C_2$  as syllable-releasing -- e.g.  $\underline{[m\varepsilon]n'ta}$  (she appointed).

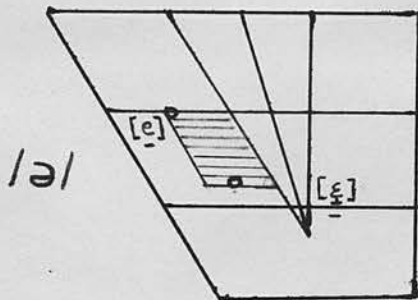
#### 2. Realisation

M.I.H. speakers ordinarily realise shwa as a fronted mid-central vowel, closer to Cardinal 2 than to R.P. / $\varepsilon$ / as described by Gimson. In fact, the hesitation-vowel most commonly occurring

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\* Mentioned by Kagan (Hed ha-Xinux 19 - a weekly publication of the Israel School-teachers' Association) as being the case in which most M.I.H. speakers would realise a shwa-transition.

in M.I.H. also conforms to this description, and may just as easily be notated /e/, or possibly /ɛ/. However, speakers with a linguistic background of Romanian, Bulgarian, Serbo-Croat or Czech tend to have a central shwa. Kymographic measurement and speech synthesis have shown that even the longest and most pronounced shwa (the pre-vocalic one) has a duration only half as long as that of the shortest type of vowel (unstressed syllable-medial). [Cardinal-vowel charting will thus show the following position for shwa in M.I.H. --



Note 1: The steady-state formants of shwa are the same as those of /e/ (see 4.02.2c above).

Note 2: While shwa is often realized as  $\emptyset$ , most M.I.H. speakers consider that it must be realized as a fairly close mid-central vowel --

i. Pre-vocalically.

ii. In order to distinguish between definite-article and indefinite-article prepositional (bound) morphemes -- e.g. /la'dod/ (to the uncle) -- /lə'dod/ (to an uncle); /'hros/ (cypress) -- /bə'ros/ (at the head of...).

### 3. The shwa - phoneme

As can be seen from the above, the reasons for considering shwa a phoneme in its own right are purely distributional, in that such a phoneme helps in setting up minimal morpheme-pairs.

4.04 Diphthongs

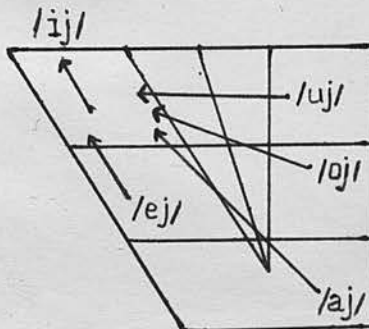
1. General

These follow the falling pattern V + j. Although the second element of the diphthong is usually realised vocally, phonological considerations make for the choice of a consonantal rather than a vocalic symbol for notation: wherever the vowel-element in a syllable is diphthongal, no 2-consonant cluster can follow the second element, and thus the  $C_{0-2} V C_{0-2}$  syllable-pattern is adhered to.

Examples

	Initial	Final
Stressed	( /ejn/ (there isn't)	/xav'rej/ (members of)
	( /aj/ (Ai)	/gaj/ (valley)
	( /oj/ (exclamation)	/goj/ (Gentile)
	( --	/pa'nuj/ (vacant)
	( /ij <sup>h</sup> mu/ (they threatened)	--
Unstressed	( /ej'va/ (enmity)	/mej'da/
	( /aj'man/ (threatener)	/'ʃamaj/ (pers. name)
	( /oj'vim/ (enemies)	--
	( /uj'ʃu/ (they were manned)	/muj'nu/ (they were classified)

The only syllable-medial diphthong is /ej/, as in /bejn/ (between).





Note 1: All other  $V_1 + V_2$  combinations are separated by syllable-boundaries, which are marked by some M.I.H. speakers with a glottal stop.

#### Examples

/ma'gia/ (he arrives), /jo'dea/ (he knows), /ra<sup>(p)</sup>'u/ (they saw),  
/ga'on/ (genius), /po'el/ (worker), /u'aI/ (jackal).

Note 2: Minimal pairs for V and V+j patterns do not necessarily prove the phonemic quality of the diphthong, since the group may be interpreted (as, indeed, it is in the present thesis) as a VC group.

Nevertheless, here are some instances of such minimal pairs (which exist only for 4 of the M.I.H. vowels) --

/mi'nu/ (they appointed) -- /mij'nu/ (they selected)

/mo're 'derex/ (a guide) -- /mo'rej 'derex/ (guides)

/a'ma/ (he heard) -- /a'maj/ (assessor)

/ra'u/ (they saw) -- /ra'uj/ (worthy)

Note 3: No frequency-counts are given for M.I.H. "diphthongs", since these are analysed as VC patterns, and counted separately, under V and C (in the latter case, /j/).

## 2. Diphthongizations

These tend to occur especially in syllables with "boosted" stress, and follow a pattern of upward (tongue-)movement from the position of the vowel. This means that the front vowels will diphthongize towards /j/, the back vowels towards /w/ and the central /a/ towards the shwa. In greater detail, this tendency is --

a. [i] → [i<sup>j</sup>]

b. [ɛ] → [ɛ<sup>w</sup>]

c. [a] or [a<sub>+</sub>] → [a<sup>o</sup>] or [a<sub>+</sub><sup>o</sup>]

d. [ɔ] → [ɔ<sup>o</sup>]

e. [u] → [u<sup>w</sup>]

5. THE CONSONANTS

5.01 GENERAL

1. Treatment

The consonants of M.I.H. will be described as phonemes with various allophonic realisations. Minimal pairs featuring phonemic contrasts will underlie this phonemic categorisation, on a purely synchronic basis. It is this criterion in particular that will determine such phonemic contrasts as /p/ - /f/ (e.g. /sa'pa/, couch -- /sa'fa/, language) whose distribution is complementary in Classical Hebrew, but not in M.I.H.

Direct palatography (as described in Firth, 1948, and Ladefoged, <sup>December</sup> 1957) and kymography of utterances made by the author underlie the individual descriptions and diagrams of consonant-relations.\* Speech synthesis is an ancillary technique utilised for the determination of certain details related to the consonant phonemes and allophones of M.I.H.

2. Description

All M.I.H. consonants are pulmonic and egressive. Aspiration is marked in single, stressed-syllable releasing fortis plosives, weak in clusters of consonants including plosive, absent usually in syllable-final plosives (unless under "boosted" stress) and optional in single, unstressed-syllable releasing plosives.

a. M.I.H. has a system of 18 essential consonants, to which may be added 3 consonantal sounds in dialectal variation, and 2 further consonants in free variation, as follows:

18 Essential Consonants	3 Dialectal Variants	2 Free Variants
/p/, /b/, /t/, /d/, /ts/, /k/, /g/	[ʔ], /h/, /q/.	/ʁ/, /h/.
/f/, /v/, /s/, /z/, /ʃ/, /x/, [ʁ],		
/m/, /n/, /l/, /j/		

\* See Appendices III A and B (III c for synthesis)

b. In the detailed description, the following conventions will be observed:

i. /q/ and /h/ will not be counted as being phonemically significant, except dialectally or diachronically, the former alternating with the (non-phonemic [q]), the latter being counted as an allophone of the /x/ phoneme.

ii. [x] and [r] will be subsumed in notation as /r/.

iii. /h/ will be described as realizable in free variation in one of the 3 ways, namely  $\left[ \begin{array}{c} [r] \\ [h] \\ \emptyset \end{array} \right]$ .

c. The distinction voiced/voiceless will be specified throughout, for a number of reasons. Thus, while consonant-pairs usually seem to show the voiced/voiceless contrast intervocalically, but not always syllable-initially or -finally, kymographic measurements show that the voiced consonants frequently do show voicing on kymograms, whatever their position. Moreover,  $\underset{\vee}{C}_1 \underset{\vee}{C}_2$  syllable-releasing clusters are usually separated by shwa-transitions of significant duration, and word-initial  $\underset{\vee}{C}_1 \underset{\vee}{C}_2$  clusters also tend to be separated by a shwa-transition, in some speakers -- while word-initial  $\underset{\circ}{C}_1 \underset{\circ}{C}_2$ , not having any such transition, must be described as purely consonantal, as must word-initial  $\underset{\vee}{C}_1 \underset{\circ}{C}_2$ , where  $\underset{\vee}{C}_1$  is either devoiced or syllabic. Moreover, the voiceless consonants tend to be realized forte (with greater breath force and articulatory muscle-tension), the voiced ones lene.

### 3. Tabulation

The following table shows the articulatory distribution of the 23 consonants listed above (and corresponding more or less closely to the 22-letter Hebrew alphabet). The 5 items additional to the 18 essential phonemes are given in brackets.



	Labial	Dento-alveolar	Palatal	Velar	Pharyngeal	Glottal	
Obstruent	Plosive	/p/, /b/	/t/, /d/		/k/, /g/	(/ʔ/)	
	Affricate		/tʃ/				
	Fricative	/f/, /v/	/s/, /z/	/ʃ/	/x/, /χ/	(/ħ/), (/ʕ/)	(/h/)
	Tap/Trill		(/ɾ/, /r/)				
Sonorant	Nasal	/m/	/n/				
	Lateral		/l/				
	Approximant			/j/			

Examples.

(Initial - Intervocalic - Final)

- /p/: /pa'rax/, he flourished - /ma'pa/, map - --  
 /b/: /ba'rax/, he ran - /ma'ba/, expression - --  
 /t/: /ta'rax/, he toiled - /ma'ta/, plantation - /'peret/, small change  
 /d/: /da'rax/, he trod - /ma'da/, science - /'pered/, mule  
 /k/: /ka'rax/, he bound - /ma'ka/, a blow - /'perek/, chapter  
 /g/: /ga'ra/, he detracted - /ma'ga/, contact - /'pereg/, poppy  
 \*(/ʕ/): /ʕa'rax/, he edited - /ʕa'(ʕ)on/, clock - /'pera(ʕ)/, tousled  
 (/ʔ/): /ʔa'rax/, the infant - /ʕa'(ʔ)on/, noise - /'pere(ʔ)/, wild.  
 /tʃ/: /tʃa'rax/, he screamed - /ma'tʃa/, programme - /'perets/, breach  
 /f/: -- - /ka'fa/, he froze - /'teref/, prey  
 /v/: /va'rax/, and soft - /ka'va/, he decided - /'kerev/, inside  
 /s/: /sa'rax/, he sinned - /a'sa/, he did - /'peres/, vulture  
 /z/: /za'rax/, it shone - /a'za/, powerful, fem. sing. - /'berez/, tap  
 /ʃ/: /ʃa'rax/, fern - /ma'ʃa/, he pulled out - /'kereʃ/, plank  
 /x/: /xa'rax/, he scorched - /ma'xa/, he clapped - /'perex/, oppression  
 /χ/: /χax/, soft - /ma'χa/, gall - /'geχ/, convert  
 (/ħ/): /ħa'rax/, he scorched - /ma'ħa/, he clapped - /'perah/, flower  
 \*(/h/): /h'a'rax/, the infant - /ʕa'(h)a/, he stayed - --  
 \*(/ɾ/): /ɾ'rax/, soft - /ma'ɾa/, gall - /'gef/, convert (/r/ may also be trilled)  
 /m/: /ma'rax/, he smeared - /ʕa'ma/, he heard - /'terem/, not yet  
 /n/: /'nax/, he rested - /ʕa'na/, year - /'keren/, horn  
 /l/: /la'rax/, to the infant - /a'la/, he rose - /'petel/, paspberry  
 /j/: /ja'ra/, he shot - /ma'jan/, classifier - /ʕa'maj/ assessor

Notes.

i. Additional consonant-sounds realized without significant difficulty in loan-words are:

/tʃ/, /dʒ/, /ʒ/, and /ŋ/ (e.g. /tʃaj'kovski/, /dʒip/, /ʒargon/, /baŋk/).

\* Dialectal ("Oriental") varieties.



- ii. /p/ and /b/ occur in word-final position in foreign loan-words only, e.g. /'xap/ (grab) and /'ɔ̃lob/ (bully).
- iii. Word-initial /f/ occurs in foreign loan-words only - e.g. /'fuja/, pfui!
- iv. Word-initial /v/ occurs in a small number of words only, though its statistical frequency is great because it occurs in the conjunction /v(ə)/, and.
- v. Morpho-phonemically, the plosives /p/, /b/, /k/ pair respectively with the fricatives /f/, /v/, /x/.
- vi. Syllable-arresting /j/ has been discussed in 4.04 above (under the heading "Diphthongs").
- vii. Syllable-arresting /h/, though notated orthographically, no longer occurred in actual utterance in post-Biblical Classical Hebrew - and, in fact, /h/ does not occur in any position in the sound-system of most M.I.H. speakers.
- viii. Word-final -v | ḥ | → -a | ḥ |
- ix. [ʔ] occurs word-finally only as a rare variant of /ʕ/ or to denote interruption.
- x. Wherever the consonants under a certain heading are paired, the first must be taken as voiceless, the second as voiced (e.g. /p/, /b/); of the remainder, all are voiceless, except the nasals and the lateral, which are voiced. The approximant /j/ may be either voiced or voiceless.

#### 4. Gemination

Consonantal gemination may occur where bound phonemes featuring a certain consonant are attached to a base featuring the same consonant at the junction-locus. If no shwa-transition is realized, the two consonants are realized as one geminated item; however, the two sections of this item may belong to different syllables - the first arresting the previous syllable, the second <sup>releasing</sup> the latter one. The only geminable consonant which can occur word-initially, medially and *(idiotically)* finally is /t/; others occurring only word-initially or medially are /v/, /m/, /n/ and /l/. Consonants geminable only word-initially (and then, very rarely <sup>and idiotically</sup>) are /b/ and /j/; consonants geminable only word-medially are /f/, /f̣s/, /s/, /z/, /d/, /ʃ/, /k/, /g/, /x/ and /r/.\*

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\* For examples, see under Consonant-Clusters, 5.03 below). In most cases, however, consonant-gemination is *idiotical* - for ordinarily a shwa-transition intervenes.

5. Occurrence-frequency

The consonants of M.I.H. have a total occurrence-frequency of 55.5% (as against 44.5% for the M.I.H. vowels as a group\*).

In order of frequency, they appear as follows:

/m/ - 6.8%	/n/ - 3.9%	/d/ - 2.6%	/z/ - 0.9%
/l/ - 6.3%	/x/ - 3.5%	/b/ - 2%	/f/ - 0.9%
/t/ - 4.8%	/k/ - 3.5%	/ts/ - 1.7%	/p/ - 0.7%
/r/ - 4.4%	/v/ - 2.9%	/s/ - 1.1%	Others - 1.5%
/ʃ/ - 4.1%	/j/ - 2.8%	/g/ - 1.1%	(/h/, /ɹ/, etc.)

6. Acoustic features

With two exceptions, the 18 essential consonants of M.I.H. are fairly similar to the consonantal phonemes of English, as described in Gimson or Stein.

- a. The acoustic features for /p/, /b/, /k/, /g/, /f/, /v/, /s/, /z/, /ʃ/, /m/, /n/, and /j/ are as those described by Gimson for R.P., and /l/ should be taken as parallel to English "clear" /l/.
- b. /t/ and /d/ are more dental in M.I.H. (rather than more alveolar in R.P.) - and therefore I have found it expedient in speech synthesis to have their F<sub>1</sub> higher than for R.P. (280 c.p.s. as against 190 c.p.s. for the latter), while F<sub>2</sub> and F<sub>3</sub> remain the same. As for /ts/, I have synthesised it as unaspirated [t̚] + [s̚] (the latter about half the duration of a "standard" [s̚]).
- c. /x/ and [χ̚], the two phonemes of M.I.H. not present in R.P., have the following specification:

F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>
280 c.p.s.	1360 c.p.s.	2620 c.p.s.

There is continuous noise in the spectrum ranging between 3500-5000 c.p.s. with an amplitude of about 35 dB. [χ̚], though usually voiced (with the characteristic voice-bar) may, however - when it is realised

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\* The source of this frequency count is Enoch, 1965 (for which, see above, 4.02.2e).

as a voiceless frictionless continuant (word-initially or -finally) show very little spectrographic marking (see the spectrogram for utterance-initial [ʃ] in Appendix III C); it is for this reason that I have chosen to synthesise utterance-initial /r/ as a three-tap [ɹ̥] -- a prescriptively "correct" realisation of this phoneme).

Note: The acoustic feature-tables I have used for my synthesis of the consonants of M.I.H. speech are those prepared for English synthesis (by rule) by Mr L. Iles and extant (in mimeographed form) as a hand-out for research students at Edinburgh University.

## 5.02 THE CONSONANTS OF M.I.H. IN DETAIL

### 1. General Division

The consonants of M.I.H. may be divided into two major classes - the Obstruents (or non-resonants) and the Sonorants.\* The former contains four types - Plosives, Affricate, Fricatives and Tap, the latter comprises three types - Nasals, Lateral and Approximant.

Note: Another division - one favoured by Martinet - would be into three classes - namely

#### I. Occlusive

a. oral - /p/, /b/, /t/, /d/, /k/, /g/, (/ʔ/)

b. nasal - /m/, /n/

#### II. Semi-occlusive - /t̪s/

#### III. Constrictive

##### a. median

1. continuant /f/, /v/, /s/, /z/, /ʃ/, /j/, /x/, [ʃ̥], (/h̥/), (/ʒ/), (/h/).

2. tapped - (/t̪/).

b. lateral - /l/.

The following tables show the distribution of the M.I.H. consonants according to this division:

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\* For this division, see Pike 1943, p.144.

I. OCCLUSIVE

		Place of Articulation				
		Labial	Dento- Alveolar	Velar	Laryngal	
					(?)	
Velic	Oral	p	t	k	Voiceless	State
		b	d	g		of Vocal
State					Voiced	Chords
	Nasal	m	n			
		Labial	Apical	Dorsal	Glottal	
			Lingual			
		Active	Articulator			

II. SEMI-OCCLUSIVE

		Place of Articulation		
		Dento-Alveolar		
Velic	Oral	ts	Voiceless	State
State				of Vocal
				Chords
		Laminal		
		(Lingual)		
		Active	Articulator	



III - CONSTRUCTIVE -

		Place of Articulation																
		Labio-dental	Dento-alveolar	Palatal	Velar	Pharyngeal	Laryngeal	Voiced	Voiceless	State of								
State	Oral	median					lateral						Chords					
	Oral	tapped	(ɾ)	l	Lamino-dorsal	Lingual	Active	Articulator	State of									
Velic																		
State		Continuant																
		f	s	ʃ	x	(t)												
		v	z	j	[ʒ]	(ʒ)												

## 2. The Plosives

There are six essential plosives in M.I.H., namely:

	Bilabial	Dento-alveolar	Velar
Voiceless (Fortis)	p	t	k
Voiced (Lenis)	b	d	g

There is also a voiceless glottal plosive heard in free variation word-initially (before a vowel), intervocalically or word-finally (after a vowel).

The articulation of M.I.H. plosives consists of three stages<sup>\*</sup> when complete -

I. Closure

II. Compression

III. Release - with or without aspiration.

Incomplete articulation may occur when the plosive is the first element of a syllable-releasing consonant cluster, the second of which is also a plosive; in this case the first plosive is not released. Aspiration is a feature of release for M.I.H. voiceless plosives, and is particularly strong in syllables with "boosted" stress. Voiceless plosives tend to be devoiced in the closure stage when they are utterance-initial or preceded by a voiceless segment, and devoiced in the release stage when they are utterance-final or followed by a voiceless segment. However, voicing assimilation may occur, in which case the two segments,

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\* See Gimson, 1970 - p.150.

though phonemically different in the feature of voicing, are both realized as either voiced or voiceless (see below, Chapter 9). The voiceless plosives are almost invariably uttered forte - i.e. with considerable breath-force and muscular tension, while the voiced plosives are uttered lene - i.e. with much less breath-force and muscular tension than their voiceless "partners".

There follows a detailed description of the plosive consonants of M.I.H.

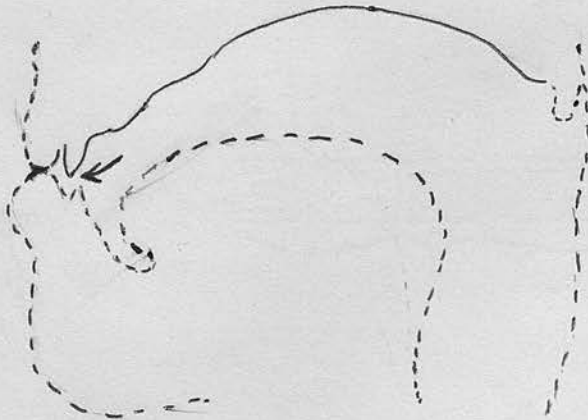
a. /p/ and /b/.

These are a pair of fortis/lenis (voiceless/voiced) bilabial stops, with velic closure, and with the air-stream held back by the closed, slightly inward-contracted lips and then released. There is some aspiration, if a stressed vowel follows the fortis consonant or if it is a syllabic C, in a word-initial consonant cluster, less if it is followed by an unstressed vowel, and no marked aspiration for the lenis consonant. The air-stream may also be released at a different place of articulation if the bilabial stop forms a cluster with a following consonant. The vocal chords are wide apart for intervocalic /p/, and vibrate for intervocalic /b/. Secondary articulation (e.g. lip-rounding before /u/ or /o/) occurs simultaneously in connection with the vowels or consonants following these stops, which never occur in word-final position (unless it be in foreign loan-items) or as C<sub>2</sub> in word-initial consonant clusters.

Note: However, both /p/ and /b/ may appear, word-finally in acronyms - e.g. /ra'sap/, R.S.M. - /makab/ Medium M.G.

/p/	Examples (Initial - Intervocalic)	/b/
/'_V	/'par/, steer - /ka'pit/, teaspoon	/'bor/, hole - /t̥si'bur/, public - n
/_V	/pi'ka/, cam - /lapi'ka/, to the cam	/bo're/, creator - /t̥sibu'ri/, public, adj.
/'_C	/'pri/, fruit - --	/'bli/, without - --
/_C	/pra'ti/, private - --	/bli'al/, devil - --
/_əC	/pəri'xa/, rash - --	/bəri'xa/, escape - --

I. Allophonic realizations occur mainly in consonant clusters, where many speakers would realise  $\left| \begin{array}{l} /p/ \\ /b/ \end{array} \right| \text{ə C}$  as  $\left| \begin{array}{l} /p/ \\ /b/ \end{array} \right| \text{C}$ , without the transitional shwa (contrary to the prescribed form) -- but possibly aspirating /p/ to make it syllabic.



/p/  
/b/

II. Morpho-phonemically, these two plosives alternate with /f/ and /v/ respectively - especially in word-final position, or in C<sub>1</sub>(ə)C word-initial groupings, where the fricative alternant is obligatory. For this same reason, too, /f/ cannot occur word-initially, and word-initial /v/ is limited to the four roots beginning with the Hebrew letter Vav.



III. /p/ and /f/ are represented by the same graphemic symbol, the plosive featuring a "daggesh" (stop-point) - as follows: פ or פּ, and פּ or פּ. Word-final /f/ is represented as פּ or פּ. In its turn, /b/ is represented as פּ or פּ, and /v/ as either פּ and פּ or פּ and פּ. The names of the letters are Pej (Fej) and Bet (Vet) or Vav.

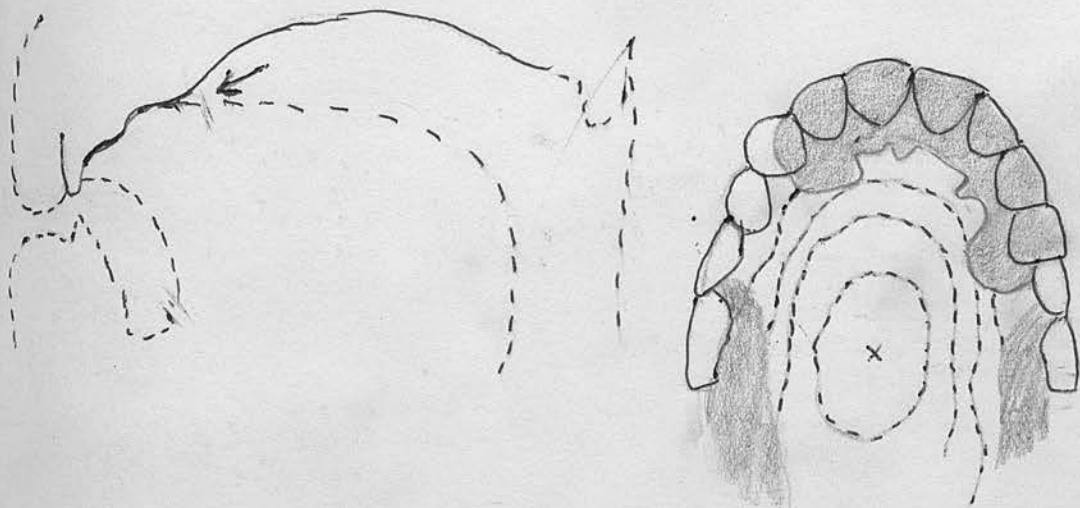
b. /t/ and /d/

These are a pair of fortis/lenis (voiceless/voiced) dento-alveolar stops, with velic closure, and with the air-stream held back lamino-apically at the juncture of the front upper teeth and the alveolar ridge, and then released. There is some aspiration if a stressed vowel follows the fortis consonant or if it is a syllabic C, in a word-initial consonant cluster, less if it is followed by an unstressed vowel, and no aspiration for the lenis consonant. Whenever the dento-alveolar plosives cluster with consonants following them, the air-stream may be released at a different point of articulation. The vocal chords are wide apart for intervocalic /t/ and vibrate for intervocalic /d/. Secondary articulation occurs simultaneously in connection with the vowels or consonants following these stops (e.g. /tk/ as a syllable-releasing cluster). Nasal plosion may occur in clusters or at word-boundaries where these stops are followed by the homorganic nasal /n/, and where the homorganic lateral /l/ follows there is lateral plosion - though such plosions vary a great deal from speaker to speaker.

Examples

	Initial	Intervocalic	Final
/t_	/t'an/, jackal - he judges	/d'an/, /ma'ta/, plantation - /ma'da/, science	
/t_	/ta'nim/, jackals, - or /v_ /da'nim/, they judge	/mata'im/, plantations - /mada'im/, sciences	/'levet/, trouble - /'leved/, felt
/v_		/'neter/, nitre - /'neder/, vow	
/t_C	/'trom/, donate! - /'drom/, south of		
/_C	/tla'im/, patches - /dla'im/, pails		
/'C_	/'stom/, stop up! - /'sdom/, Sodom		/ma'raxt/, you smeared --
/C_	/pti'xa/, opening - /bdi'xa/, joke		
/ʒC	/təga'rim/, challenges - /dəga'lim/, flags		
/Ca_	/nəti'vim/, paths - /nədi'vim/, donors		/ma'ratət/, you plucked - /ma'radət/, you rebelled

- I. Allophonic realizations tend to be either wholly dental or more nearly alveolar - but never post-alveolar, slightly affricated, or with a masked glottal stop, as in some types of English. Some speakers realize the syllable-releasing /t/ followed by a stressed vowel without any appreciable aspiration, and some tend to have a greater range of consonantal clusters with these stops (i.e. without any intervening shwa-transition, though this is prescribed, and without any appreciable aspiration).



/t/ (/o'to/)\*  
/d/

II. /t/ is represented by the letters Tav or Tet (whose distribution is governed by the morpho-phonemics of Biblical Classical Hebrew) - written א or ט and ט or ט respectively (with or without "daggesh"). /d/ is represented by the letter Dalet, written ד or ד (with or without "daggesh").

c. /k/ and /g/

These are a pair of fortis/lēnis (voiceless/voiced) velar stops, with velic closure, and with the air-stream held back dorsally at the soft palate and then released. Depending on whether the vowel following the stop is front or back, the closure will be at the front or at the back of the velum (frontest before /i/, backest before /u/). Following /k/, there is some aspiration in syllabic C<sub>2</sub> position in a word-initial consonant cluster<sup>~</sup> if a stressed vowel immediately follows the single fortis stop, and when clustered so as to precede other consonants the air-stream may be released at a different place of articulation. The vocal chords are wide apart for intervocalic /k/, and vibrate for intervocalic /g/. Secondary

\* see Palatogram 5, p. 378

articulation occurs simultaneously in connection with the vowels or consonants following these stops (e.g. lip-spread before /i/ or /e/).

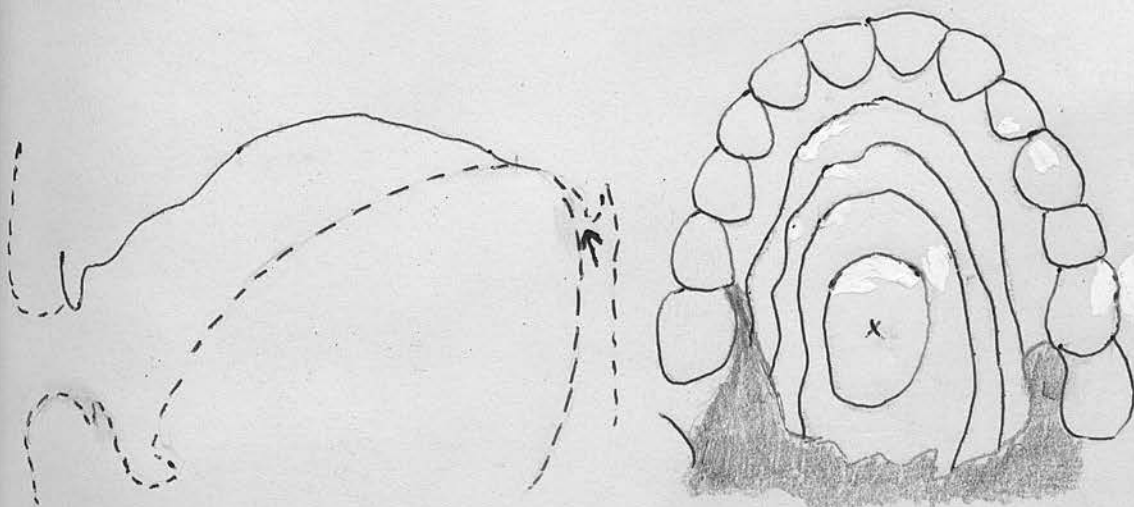
Examples

Initial	Intervocalic	Final
/ ' _V /kar/, cold - /'gar/, he stays	/a'kar/, barren - /a'gar/, amassed	
/ _V /ka'rim/, pillows - or /V_ /ga'rim/,	/aku'ra/, refugee - /ago'ra/, coin	/'metek/, sweetness - /'meteg/, switch
/ 'V_ (V) /	/'reka/, background /'rega/, moment	/'dak/, thin - /'dag/, fish
/ ' _C /'ktal/, kill - /'gdal/, grow		/sa'rakt/, you combed - /sa'ragt/, you knitted
/ _C /kta'im/, chapters - /gda'im/, kids		
/ 'C_ /zkan/, the beard of - /'sgan/, deputy		
/C_ /ka'no/, his beard - /'sga'no/, his deputy		
/ _əC /kav'u'ra/, burial - /'gav'u'ra/, bravery		
/Cə_ /dəka'lim/, palm-trees - /'də galim/ flags		

I. Allophonic realisations occur either as pharyngalisations (in some speakers with Arabic in their linguistic background), or as palatalisations in stressed word-final position (in some speakers with Romanian in their linguistic background).

Furthermore, some speakers would delete the transitional shwa in velar plosive clusters, where such prescribed transitions usually tend to occur (e.g. with a voiced C<sub>2</sub>).





/k/  
/g/ (k'ga/)\*

II. Morpho-phonemically, /k/ may alternate with /x/, especially in word-initial Cak groupings (where C represents a bound structure-morpheme) and word-finally (e.g. /'kol/ - /va'xol/, all - and all). Since, however, both /k/ and /x/ are realisations of two Classical Hebrew phonemes each, they may both occur in any phonological context.

III. /k/ is represented by the letters Khaf (with "daggesh") or Kof, thus - כ and כּ, or פ and פּ. /g/ is represented by the letter Gimmel (with or without a stop-point), thus - ג or גּ.

d. (/ʔ/)

This is a voiceless glottal plosive, with velic closure, and with the air-stream held back and then released by the closure, followed by the abrupt separation, of the vocal chords. Some M.I.H. speakers (especially those with High German in their linguistic background) use this stop to mark a stressed vowel onset, especially after a syllable-final vowel or word-initially. It is also used

\* see Palatogram 16, p. 381

at times as a substitute for (/ç/) (see below) and, slightly more frequently, as one possible realization of /h/ (see below) - but it is not in standard use (or even prescribed) in M.I.H.

I. The glottal stop is one of the most frequently found interruption-markers in M.I.H. - of course, in foot-final position.

II. When not substituted for one of the above phonemes, /ʔ/ is represented by the letter Aleph - written  $\aleph$  or  $\aleph$  - and may be used in stressed citation-forms to derive minimal pairs based on the presence or absence of this graphemic symbol - e.g. /ka'ra/, it happened - /kar'ʔa/, she read.

### 3. The Affricate

a. There is only one affricate in M.I.H., namely the voiceless dento-alveolar /tʃ/. However, voicing assimilation (for which, see Chapter 9, below) permits the realization of its voiced "partner", [dʒ], and there has also taken place an adoption from non-Hebrew phonology of the affricates /tʃ/ and /dʒ/, especially in loan-words (but also as realizations in free variation with /t/ + /ʃ/ - and its voiced, assimilated partner - e.g. /tʃ u'va/, /tʃ u'va/, /tʃ u'va/, answer). A certain amount of affrication is possible for [tʃ] and [dʒ] - but the [tʃ] - [dʒ] pair really features double articulation rather than affrication.

b. /tʃ/ is a fortis (voiceless) dento-alveolar affricate, with velic closure, and with the air-stream checked laminally for a very short time at the alveolar rim of the upper front teeth, and then immediately released in such a manner as to produce friction between the passive articulators (alveolar ridge and upper front teeth) and




the tip and blade of the tongue. Part of the air-stream may be simultaneously released at a different place of articulation, when this affricate forms a cluster with a following consonant, and secondary articulation may also occur in connection with a following vowel (e.g. lip-rounding before /u/ or /o/).

Examples

Initial	Intervocalic	Final
/ʼ_V /'tʃsax/, clean	/ra'tʃsax/, he murdered	
/_V /tʃsa'rix/, he must or /V_	/ha'tʃsa'dik/, the just one	/ʼʃemɛtʃ/, iota
/ʼV_(V)	/'ratʃsa/, she runs	/'ratʃ/, he runs
/ʼC_ /'kʃsat/, a little		
/C_ /ptʃsi'ra/, file		
/ʼ_C /tʃsrif/, hut		/'rafʃst/, you ran
/_C /tʃslo'fax/, eel		
/_əC /tʃsəda/dim/, sides		
/Cə_ /mə'tʃsa/, find!		

- c. Allophonic realizations consist mainly of either more /s/-like forms (less stop and more friction), characteristic of speakers with a strong linguistic background of Arabic, or more /t/-like forms (more stop and less friction - but a great deal of affrication), characteristic of "baby-talk" (or young, female, "cute" affectation).
- d. The cluster /t/ + /s/ functions as two separate phonemes at syllable boundaries, including word-initially (where /t/ is syllabic), as follows:



/tʃsa'jer/, draw! - /t(ə)sa'jer/, you shall reconnoitre;  
/hu'tʃsa/, he was expelled - /hut(ə)'sa/, she was flown.

e. /ts/ is represented by the letter tsaddik, namely 3 or  (  or  word-finally).

Note: The articulatory diagram for /ts/ is to be taken as that for /t/, followed very rapidly by /s/, the /t/ being alveolar rather than dental.

#### 4. The Fricatives

There are seven essential fricatives in M.I.H., namely

	Labio-Dental	Dento-Alveolar	(Pre-)palatal	Velar
Voiceless (fortis)	f	s		x
Voiced (lenis)	v	z		

There are also two dialectal variants, namely the voiceless/voiced pharyngeal pairs /ħ/ and /q/.

The first of these is a morpho-phonemically conditioned phoneme of Oriental Hebrew, whereas Sabra Hebrew makes no distinction between this segment and /x/; the second is a morpho-phonemically conditioned consonantal phoneme attached to vowels (or, possibly, a "pharyngeal" vocalic quality) of Oriental Hebrew realized as  $\emptyset$  (or, in stressed citation-form, /q/) in Sabra Hebrew. Furthermore, there is the voiceless, glottal fricative /h/, which is usually realized as  $\emptyset$  in M.I.H.

A phoneme adopted from non-Hebrew phonology and realized in the main without any difficulty by M.I.H. speakers is the voiced "partner" of /s/, namely /z/ - as in /zar'gon/, jargon and /i'maz/, image. However, in intervocalic position, it tends to be realized as /dʒ/ - e.g. /ha-ima'dʒistim/, the imagists.



Voiced fricatives tend to be initially devoiced when preceded by silence or by a voiceless segment. However, voicing assimilation may occur - especially in the case of /h/, which almost invariably tends to become /h̥/ intervocalically. The voiceless fricatives are invariably uttered forte in M.I.H., while the voiced ones are realized lene.

Note: Plosives and fricatives may be "paired" as follows in M.I.H.

p	b	k	g	t	d
f	v	x	r	s	z

In this tabulation, the "boxed" phonemes are, to a certain extent, morpho-phonemically identical (for more detailed discussions, see under each item below). Thus, C<sub>plosive</sub> → C<sub>fricative</sub> /C(ə) -, (where C - is a bound morpheme): /lit'por/, to sew - /tʃi'ra/, sewing /'bæej/, sons of - /miv'nej/, from the sons of - /'kol/, all - /kə'xol/, like all.

a. /f/ and /v/

These are a pair of fortis/lenis (voiceless/voiced) labio-dental fricatives, with velic closure, and with the air-stream obstructed by the upper front teeth against the middle inner part of the lower lip so as to produce audible friction. Secondary articulation occurs simultaneously in connection with the vowels or consonants following these fricatives. The vocal chords are separated for intervocalic /f/, and vibrate for intervocalic /v/.

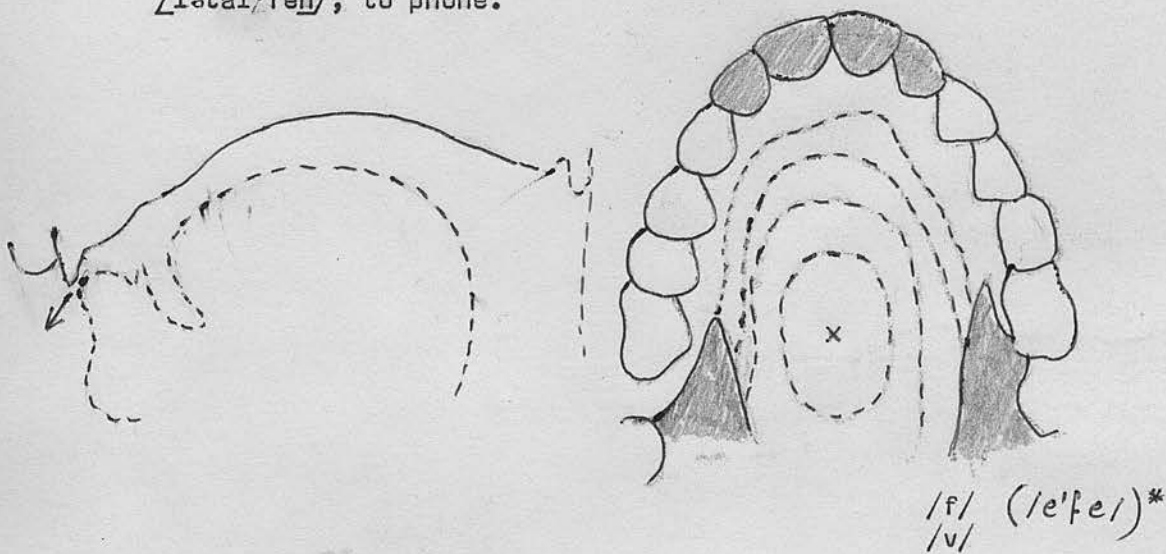
Examples

/'_V	--	/na'fa/, district -	
	/i'vered/, rose	/na'va/, lovely	
/_V	--	/mofa'im/, shows -	'xeref/, despite -
or /V_	/vi'kuax/, debate	/muva'im/, brought	'erev/, evening
/'_V (V)		'sefa/, plenty -	'saf/, edge -
		'seva/, seven	'sav/, grandfather
'C_	'kfor/, frost		ka'taft/, you picked -
	'kvor/, bury!		ka'tavt/, you wrote
/C_	kfa'lim/, folds -		
	kva'lim/, chains		
'_C	--		
	'vrid/, vein		
/_C	--		
	'vri'dim/, veins		
/_aC	--		
	vaxu'le/, etc.		
/Ca_	māfu'tar/, dismissed -		
	māvu'tar/, cut up		

- I. By an obligatory morpho-phonemic transformation,  $\left| \begin{array}{c} /p/ \\ /b/ \end{array} \right| \rightarrow \left| \begin{array}{c} /f/ \\ /v/ \end{array} \right| / C_a_$  in syllable-releasing position. Similarly,  $\left| \begin{array}{c} /p/ \\ /b/ \end{array} \right| \rightarrow \left| \begin{array}{c} /f/ \\ /v/ \end{array} \right| / V_$  in syllable-arresting position. It is for this reason that /p/ and /b/ cannot occur word-finally. On the other hand, /f/ cannot occur word-initially - while /v/, being a conflation of two originally different phonemes, represented by two graphemes (the second originally a bilabial semi-vowel, but in M.I.H. a voiced labio-dental fricative), may occur word-initially, but in a limited number of lexical items only. Accordingly, words in M.I.H. usage beginning with /f/ (e.g. /'flik/, a blow) are foreign loan-items. Intervocally and in syllable-release

position word-internally, the morpho-phonemic rules are more complex, and any of the four phonemes in question may occur /e.g. /rits'pa/, flour - /rits'fa/, she paved; /nik'ba/, it was settled - /nik'va/, she punched). /v/ + /ə/, meaning "and", alternates morpho-phonemically with /u/, thus: /və/- → /u/-  
 / - {  $\begin{matrix} C \\ C_2 \end{matrix} \text{labial}$  , and functions as a prefixed bound morpheme.

II. The only allophonic variety here is the regional dialectal /v/ → [b̄], characteristic of the Upper Galilee region of Rosh Pinā, (e.g. /zvu'vim/ → [zbu'vim̄], flies). However, it is noteworthy that in many contexts syllable-releasing /p/ tends to be realized as [f̄] in M.I.H. - e.g. /latal'pen/ → [latal'fen̄], to phone.



b. /s/ and /z/



These are a pair of fortis/lenis (voiceless/voiced) alveolar fricatives, with velic closure, and with the air-stream obstructed laminally (with the tongue grooved) by most speakers (apically by a very few) so as to produce strong audible friction. Secondary articulation occurs simultaneously in connection with the vowels or consonants following these fricatives. The vocal chords are separated for intervocalic /s/, and vibrate for intervocalic /z/.

\* See Palatogram 3, p. 378

Examples

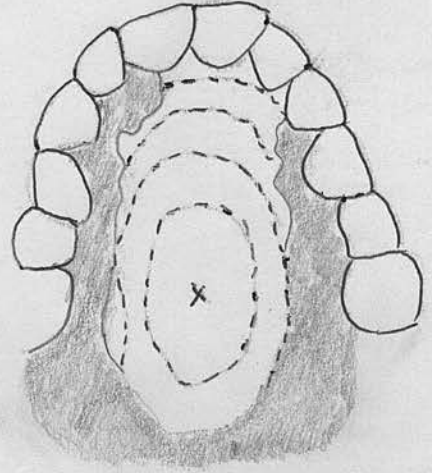
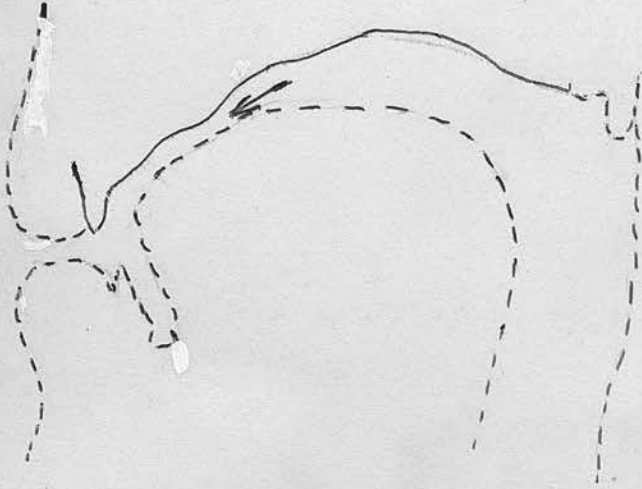
Initial	Intervocalic	Final
/ʰ_V / 'sax/, he talks - / 'zax/, clear	/a'sa/, he did - /a'za/, strong	
/_V /sa'rak/, he combed - or /V_ /za'rak/, he threw	/masi'kim/, they conclude /mazi'kim/, pests	/ 'eres/, poison - / 'erez/, cedar
/ʰV_(V)	/ 'kesem/, charm - / 'nezem/, ring	/ti'pus/, type - /ta'puz/, orange
/ʰC_ / 'psol/, cancel! - / 'pzol/, squint!		
/C_ /psu'lim/, unfit - /pzu'rim/, scattered		
/ʰ_C / 'srok/, comb! - / 'zrok/, throw!		/ra'mast/, you trampled - /ra'mazt/, you hinted
/_C /sli'la/, laying - /zli'la/, overeating		
/_aC /saga'no/, his deputy - /zaka'no/, his beard		
/Ca_ /lasa'res/, to bowdlerize - /laza'rez/, to hurry		

I. Allophonic realizations, in addition to the usual separation of consonant clusters by the shwa-transition, consist mainly of more dental or more post-alveolar productions (the latter especially in speakers with Lithuanian Yiddish in their linguistic background). The position of the tongue-tip is optional in the laminal realization, some speakers lowering it to touch the bottom edge of the middle lower teeth, others holding it rather tensely above the floor of the mouth.

II. /s/ is represented orthographically by either the letter Sin (a variant form of Shin - for which, see below), namely  or  (with the identification-point top left), or the letter



Samekh, namely  $\text{ס}$  or  $\text{סְ}$  (with or without Daggesh). As for /z/, it is represented by the letter Zayin, namely  $\text{ז}$  or  $\text{זְ}$  (with or without the stop-point).



/s/  
/z/ (i'zi)\*

c. /s/

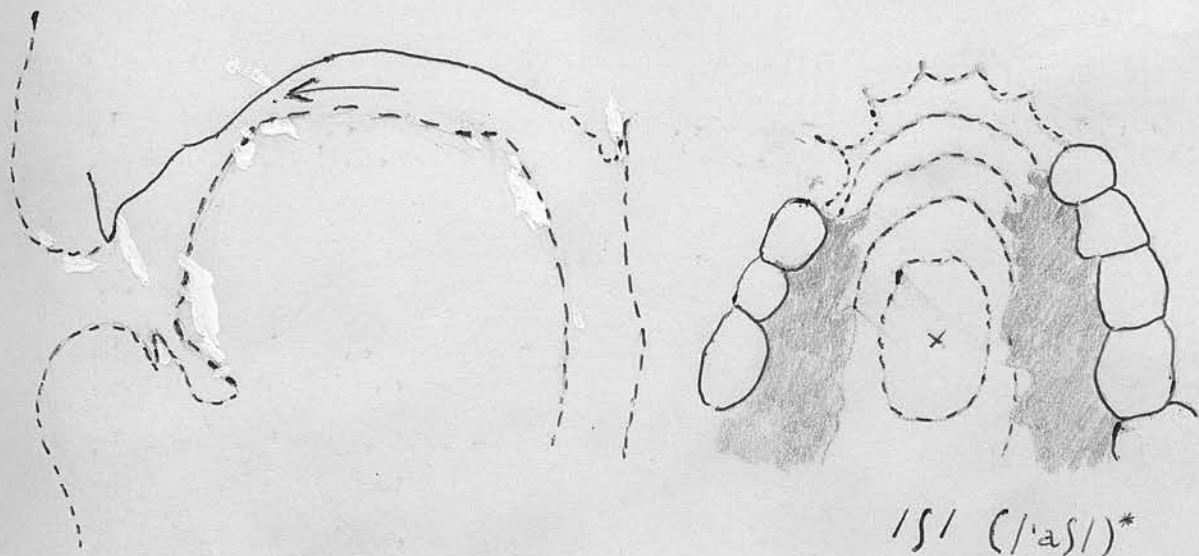
This is a fortis, voiceless pre-palatal fricative, with velic closure, and with the air-stream obstructed apically <sup>(with the main body of the tongue retracted)</sup> at the front of the hard palate (close to the alveolar ridge), to produce a rather diffuse type of friction over a fairly extensive area. Secondary articulation consists of lip-pouting (unless an /i/ follows), and other features may occur simultaneously in connection with the vowels or consonants following this fricative. The corresponding lenis, voiced (especially intervocalically) fricative occurs in foreign loan-words (e.g. /'beʒ /, /ga'razim/, etc.) or in connection with voicing assimilation.

\* see Palatogram 8, p. 379.

Examples

	Initial	Intervocalic	Final
/ʰV_ and /ʰV_ or /ʰV_	/ʰʃam/, there - /ʰʃa'ma/, he heard	/ka'ʃa/, hard - /ka'ʃa'tim/, bowmen	/ʰrefeʃ/, filth
/ʰV_(V)		/ʰreʃa/, evil	/ʰroʃ/, head
/ʰC_ and /C_	/ʰpʃat/, simplex - /pʃa'im/, crimes		
/ʰ_C and /_C	/ʰʃdod/, rob! - /ʃdu'dim/, robbed		/ja'raʃt/, you inherited
/ʰəC and /Cə_	/ʰəsu'im/, split - /nəʃo'taj/, my wives		

- I. Apart from the possible separation of /ʃ/ consonant-clusters by shwa-transitions, there is also a rather affectedly feminine (or childish) lamino-post-alveolar realisation of this fricative. (instances of which can be found in Reading 8 of "The North Wind and the Sun - Appendix IIB and Tape I). An even more /s/-like realisation is characteristic of speakers with a linguistic background of Lithuanian Yiddish, who use this form as a joint, conflated realisation of two phonemes - namely /s/ and /ʃ/. It may be of some interest to note here that it was probably this more /s/-like realisation of /ʃ/ that underlay the Biblical criterion for recognising the dialectally different pronunciation of the word "shibboleth" (ears of corn), characteristic of the Ephraimites (Judges XII, 5-6).
- II. /ʃ/ is represented orthographically by the letter Shin, with or without Daggesh, and with the identification point (if at all given) at the top right - namely ש or שׁ.



d. /x/ and [ʁ]

These are a pair of fortis/lenis (voicless/voiced) dorso-velar fricatives, with velic closure, and with the air-stream obstructed dorsally in the region between the forward edge of the soft palate and the uvula. Secondary articulation occurs simultaneously in connection with the vowels or consonants following these fricatives. The vocal chords are separated for inter-vocalic /x/ and vibrate for intervocalic [ʁ], which is the "Sabra" M.I.H. realisation of the phoneme /r/. The articulation of this pair has been described as follows in Chayen 1969 (p.14):

"The back of the tongue is raised to the soft palate forming a trough with the rear rims of the tongue actually making contact with the palate while the uvula rests in the trough without vibrating".

\* see Palatogram 13, p. 380

Examples

	Initial	Intervocalic	Final
/'_V	/'xam/, hot - /'ram/, high	/ma'xa/, he protested - /ma'ra/, bitter	
/_V or /V_	/xa'ka/, fishing-hook - /ra'ka/, soft /fem.)	/pa'xot/, less - /pa'rot/, cars	/'ne}ex/, usury - /'ne}er/, eagle
/'V_(V)		/'saxa/, she talks - /'sara/, Sarah	/'ex/, how - /'er/, awake
/'C_	/'pxat/, amortisation - /'prat/, detail		/si'paxt/, you annexed - /si'part/, you told
/C_ and /'_C	/kxu'ʃa/, lean - /kru'ʃa/, annulled		

- I. Most M.I.H. speakers do not have a phonemic /x/ - /ħ/ distinction (as in Classical Hebrew) - but it is still observed by speakers with Arabic in their linguistic background, and is normatively prescribed by the Hebrew Language Academy (e.g. for actors and radio announcers). On the other hand, this phonemic distinction is widely believed to be a rather undesirable social class-marker, so that there is considerable socio-linguistic pressure for the conflation of the characteristically Arabic /ħ/ with the Central European /x/. The fact, therefore, is that second generation, and to an even greater extent third generation, M.I.H. speakers do not have /ħ/ in their Hebrew sound-system, whatever their linguistic background.
- II. By an obligatory morpho-phonemic transformation, in syllable-releasing position, /k/ → /x/ /Cə\_, and similarly /k/ → /x/ /V\_ in syllable-arresting position, wherever /k/ → Khaf.



In word-final position, /k/ → Kof, is the only possibility, thus reflecting the Biblical Hebrew phonemic contrast /k/ - /q/, the former represented by Khaf, the latter by Kof. Moreover, the shwa-transition for /ħəC/ being obligatorily /a/-coloured in Classical Hebrew, it has developed into a full-fledged /a/-vowel in M.I.H., and there are therefore no word-initial /xəC/ or /xC/ clusters. Similarly, in word-final position, /vħ/ → /aħ/. The conflation of four previously separate phonemic realisations of Biblical Hebrew (namely /k/, /q/, /x/ and /ħ/) into the current two of M.I.H. has caused a great deal of confusion, and practically no M.I.H. speaker, however highly educated, observes the morpho-phonemic rules outlined above, so that /k/ often occurs where /x/ would be obligatory in correct speech, and numerous spelling-errors occur involving word-final Khaf and Chet.

III. The phoneme /r/ is realised in two diametrically opposed manners:

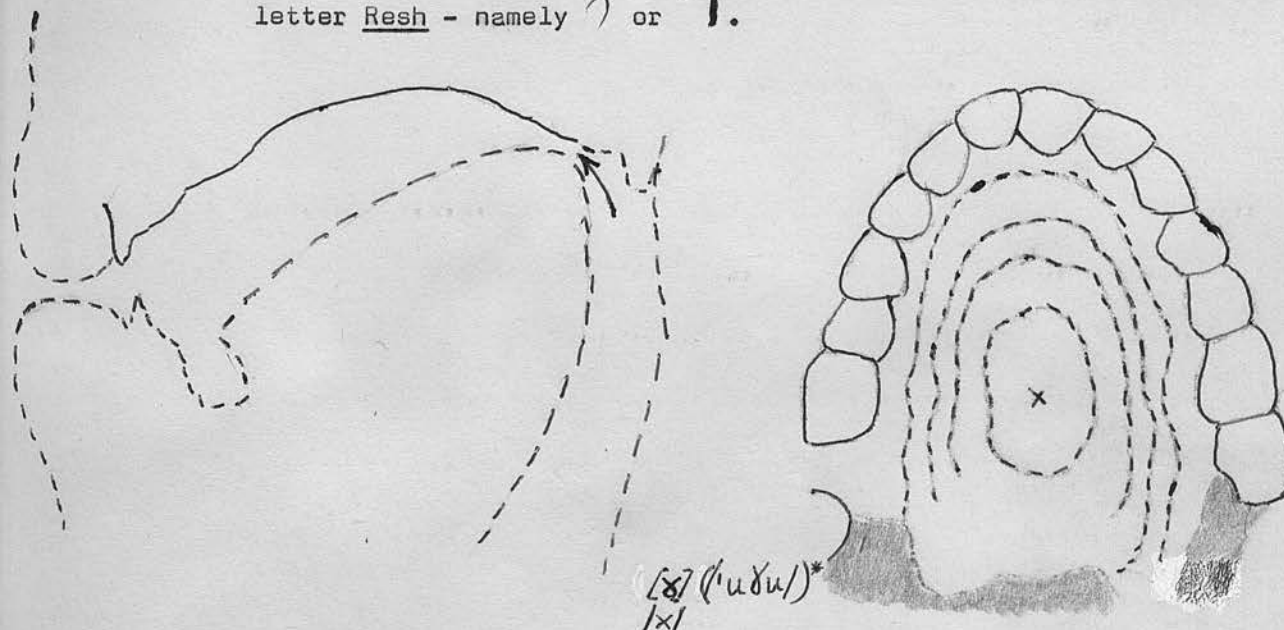
- i. For most M.I.H. speakers (i.e. for those with Yiddish, German or most Slavonic languages in their linguistic background), it is a voiced lenis velar fricative, which may be realised before or after silence as a frictionless continuant.
- ii. For M.I.H. speakers with a linguistic background of Arabic, Spanish (including Ladino), Romanian and Czech, it is a voiceless alveolar flap realised apically - namely [ɾ].

It is the second realisation that is prescribed (e.g. for radio announcers), but it is the first one which, together with the /x/

phoneme, gives M.I.H. its typical velar-fricative sound-character. Secondary articulation occurs in both realizations in connection with the vowels or consonants following the /r/-sound.

IV. Allophonic realizations of the velar fricatives tend to occur in connection with retraction - so that, even though individual speakers may tend to have mainly velar (or mainly uvular) /x/-/r/ realizations, there may be a great deal of free variation even idiolectally. Furthermore, "boosted" stress tends to produce considerable "backing" of these sounds as well - so that, in fact, they may be described as being either velar or post-velar, and in some cases as uvular (/x/ -> [X] and /r/ -> [ʁ] or [ʀ]). Furthermore, the voiceless uvular fricative may be uttered with a considerable amount of "tapping" while the voided uvular fricative may be realized as a trill (see also 5.02.5 below).

V. /x/ is represented graphemically by the letter Khaf without the stop-point - namely > or > medially, and ʔ or ʔ finally. It is also represented (in its /h/ variant) by the letter Chet - namely ʔ or ʔ. /r/ is graphemically represented by the letter Resh - namely ʔ or ʔ.



\* see Palatogram 18, p. 381

e. (/h/) and (/q/)

This is a pair of fortis/lenis (voiceless/voiced) pharyngeal stops, usually with velic closure (though there may, alternately, be some nasalization), and with the air-stream obstructed by the root of the tongue in the mid-pharyngeal region. Most M.I.H. speakers, though capable of realizing these phonemes, do not have them as part of their sound-system of Hebrew, and some speakers without Arabic in their linguistic background realize the voiced fricative as a pharyngeal plosive. Other speakers frequently substitute a glottal stop for the voiced phoneme, especially to mark word-initial stressed vowel onset or intervocalic syllable-division.

- I. In addition to having some degree of nasalization, allophones of /q/ range from the pharyngeal plosive to the pharyngeal semi-vowel, through all the stages intermediate between these two extremes.
- II. An obligatory morpho-phonemic rule of Classical Hebrew, observed by "Oriental" M.I.H. speakers, states that, in word-final position,  $Vq \rightarrow aq$ .
- III. /q/ is represented by the letter 'Ajin -  $\aleph$  or  $\aleph$  (for /h/, see 5.02.4d above).

f. (/h/)

This is usually lenis glottal fricative, often voiced, and only rarely used by M.I.H. speakers (mostly intervocalically preceding a stressed vowel). It never clusters with consonants, and does not occur in syllable-releasing position.

- I. This phoneme of Classical Hebrew is sometimes realized as either  $\left[ \underline{h} \right]$  or  $\left[ \underline{ʔ} \right]$ , but most usually as  $\phi$  in M.I.H., representing the onset of a vowel. It is most likely to be realized as  $\left[ \underline{h} \right]$  intervocalically where  $V_1 = V_2$  (and in this case it is in free variation with  $\left[ \underline{h̄} \right]$ ), and most likely to be realized as  $\phi$  word- (or syllable-) initially, following a voiceless consonant, e.g. /ba'lat - (h)a'bait/, the landlady).
- II. Forming, as it does, the definite article ha - prefixed to both nominal and adjectival substantives, the morpho-phonemic rules of Classical Hebrew for /h/ specify that /ha/  $\rightarrow$   $\left[ \underline{h\varepsilon} \right]$  -  $\left[ \begin{array}{c} / \underline{h} a / \\ / \underline{h} a / \end{array} \right]$ . This rule, though prescribed, is not consistently observed in M.I.H.
- III. /h/ is represented graphemically by the letter He - namely  $\text{ה}$  or  $\text{הּ}$ .

### 5. The Tap

This category comprises allophones of M.I.H. ("Sabra") /r/ realized as apico-alveolar taps or trills, and uvular trills - the trills usually consisting of either two or three taps. Trills occur especially when /r/ is a syllabic consonant (as the first item in a syllable-releasing cluster) or is followed by a shwa-transition - as in the following examples:

/naʔi'mot/  $\rightarrow$   $\left[ \underline{R\varepsilon} \left( \frac{i'mot^c}{\tau} \right) \right]$ ,  $\left[ \underline{r\varepsilon} \left( \frac{i'mot^c}{\tau} \right) \right]$ , lists

/nifra'du/  $\rightarrow$   $\left[ \underline{n}zfr\varepsilon'du \right]$ ,  $\left[ \underline{n}zfr\varepsilon'du \right]$ , they separated.

Note: Alveolar trill realizations of M.I.H. /r/ tend to be typical of those speakers with a linguistic background of Arabic, etc., whose /r/-phoneme is usually realized as  $\left[ \underline{r} \right]$ , whereas uvular trill realizations



of /r/ tend to be typical of "Sabra" M.I.H. speakers, whose /r/ phoneme is usually realised as [r̥].

### 6. The Nasals

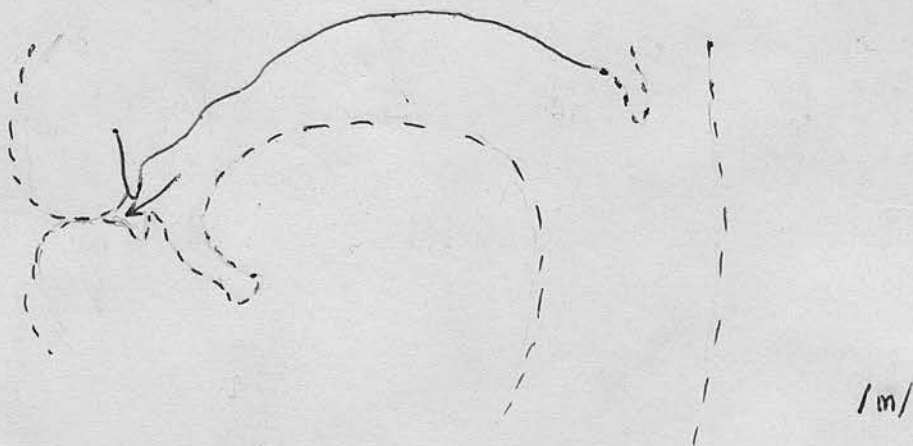
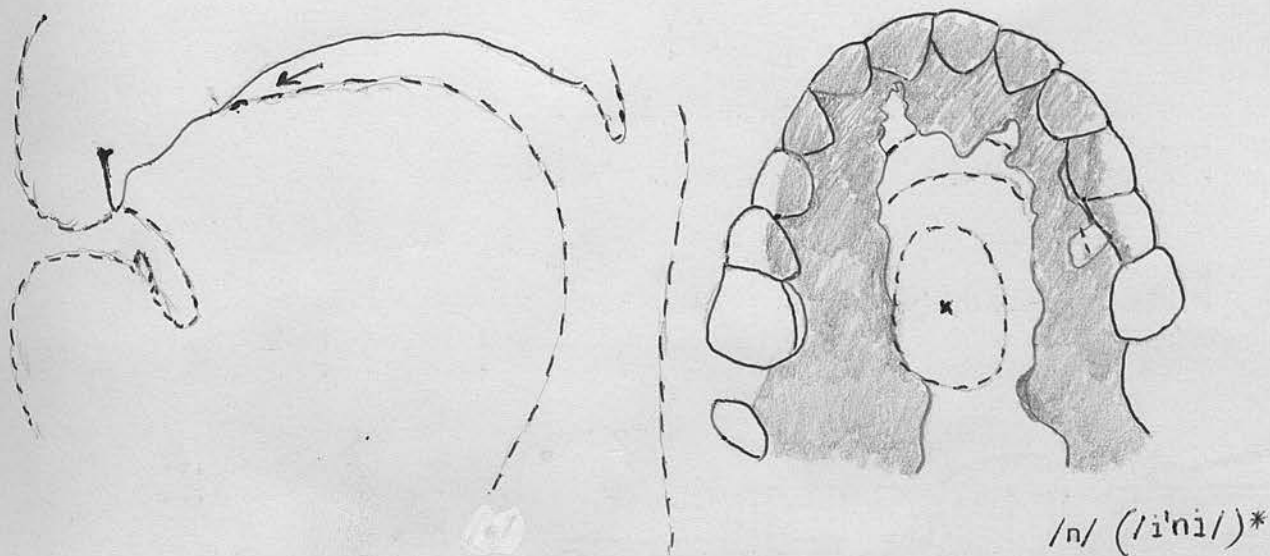
There are two nasal consonants in M.I.H. - the bilabial /m/, with lip-position as for /p/ or /b/, and the dento-alveolar /n/, with tongue-position as for dental or dento-alveolar /t/ or /d/; in both cases, the velum is lowered, thus providing an additional resonator - the nasal cavity. Both nasals are voiced, and there is secondary articulation in connection with the vowels or consonants following them.

		Examples		
		<i>Initial</i>	<i>Intervocalic</i>	<i>Final</i>
/ʔ_V	/'mas/, tax /'nas/, he retreated	/xa'mak/, he dodged - /xa'nak/, he choked		
/V_V and /V_V	/ma'tan/, giving - /na'tan/, he gave	/ama'kim/, valleys - /ana'kim/, giants		/'kerem/, vineyard - /'keren/, horn
/ʔ_V(V)		/'omes/, charge - /'ones/, rape		/'gam/, too - /'gan/, garden
/ʔ_C	/'mox/, pull! - /'nox/, bite!			/ja'zamt/, you initiated, /i'zant/, you balanced
/_C	/mti'xa/, practical joke - /nti'xa/, fusion			
/ʔ_C	/ʃmej/, skies of - /ʃnej/, two			
/C_	/smu'im/, hidden - /snu'im/, hated			
/_ʃ	/məda'ber/, he speaks - /nəda'ber/, we'll speak			
/Cə_	/gəmi'za/, hostile review - /gəni'za/, archive			

- I. Allophonic realisations include [ŋ] replacing /m/ before labio-dentals and, especially in speakers with Polish in their linguistic background, the elision of the syllable-releasing consonants, with the nasality transferred to the preceding vowel (e.g. /'xam/, hot → [ˈxã̃]). In addition, /n/ is realised by some speakers as [ŋ] before a velar consonant without a shwa-transition (e.g. /'bank/ → [ˈbãŋk], [ˈbãk]); however, this tends to be the case mainly in foreign loan-words and in "cliché-type" phrases.\*
- II. In consonant-clusters of the syllable releasing type, the nasals tend to be either syllabic or separated by a shwa-transition from the other consonant (e.g. /nɛsi'a/ → [n̥s̥i'ã] - [n̥ɛs̥i'ã], journey -- /tmu'ra/ → [t̥m̥u'rã], payment).
- III. /m/ is represented orthographically by the letter Mem - namely *M* or *Ḃ* ( *P* or *Ḅ* in word-final position), and /n/ is represented by the letter Nun - namely *N* or *Ḥ* ( *L* or *Ḧ* in word-final position), both with or without the stop-point.

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\* For which contrast, see Chayen, 1969, p.15, where the pair [maŋgi'na], melody - /hanga'na/, intonation is given: the first is a familiar word, the second a new technical term.



### 7. The Lateral



This is a lenis, voiced sonorant with velic closure, and with the air-stream partially obstructed apically at the alveolar ridge, but escaping on both sides of the tongue-tip at the same time. Secondary articulation may occur simultaneously, in connection with the vowels following this lateral. After a voiceless consonant, in word-initial clusters, it is realized without voice.

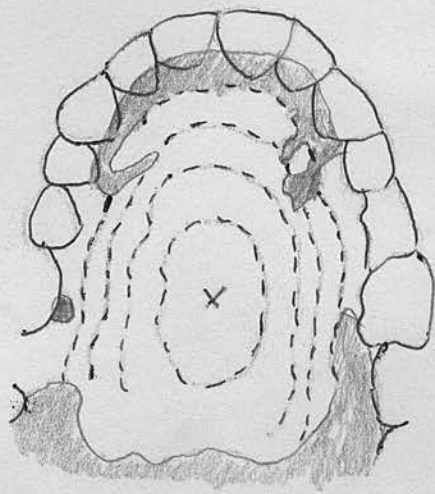
\* see Palatogram 10, p. 379.

Examples

	Initial	Intervocalic	Final
/i_V	/li/, for me	/e'li/, my God	
/_V and /_V_	/li'ket/, he gathered	/ali'a/, immigration	/xoli/, sickness
/'V_(V)		/'kela/, sling	/'ol/, yoke
/'_C and /_C_	/'lmad/, learn - /lma'men/, to finance		/gi'dalt/, you grew
/'_C_ and /_C_	/'bli/, without - /tlu/, take	/bli'al/, devil	
/'_aC and /_Ca_	/'lata'(2)a/, lizard - /'nala've/, we'll escort		

I. Allophonic realizations of the "clear" /l/ characteristic of M.I.H. are of the "dark" type, and occur in the utterances of speakers with S. Polish or Ukrainian in their linguistic background.

II. /l/ is represented by the letter Lamed - namely  or   
(with or without "Daggesh").



/l/ (/olo/)\*

\* see Palatogram 12, p. 380.



## 8. The Approximant

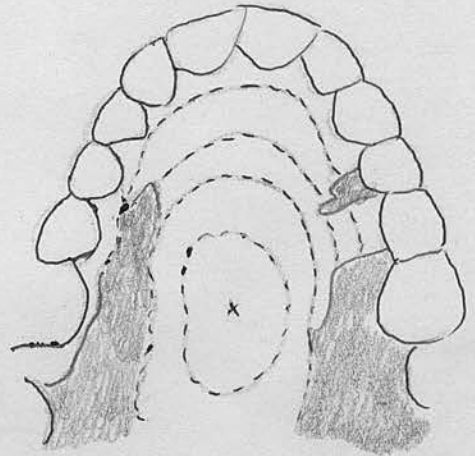
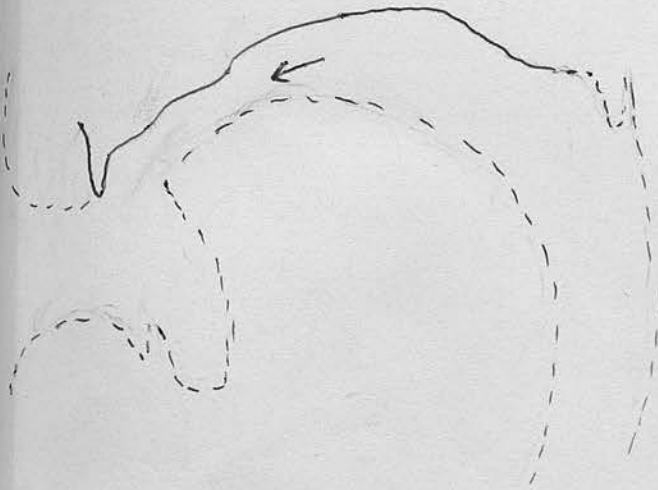
This is a palatal semi-vowel, with velic closure, and with the blade of the tongue rapidly gliding towards and away from the position for the high-front vowel /i/ - but approaching the hard palate more closely, and having a flatter shape. However, when (as may happen idiolectally, though rarely) /j/ is followed without a shwa-transition by a consonant, it may be uttered either exactly like /i/, or without voicing in a manner similar to [̤]. In syllable-arresting position it forms a falling diphthong with each of the five vowels except /i/, after which it maintains its consonantal quality.

### Examples

<i>Initial</i>	<i>Intervocalic</i>	<i>Final</i> (see 4.04 above)
/i̤_V and /'jam/, sea - /_V            /ja'mi/, marine	/i'jem/, he menaced	
/i̤_V(V) and /V_(V) and /V_(V)	/ij'mu/, they menaced /'raja/, Name - /kaja'sim/, pickpockets	
/j̤_aC and /jadu'im/, known - /C_a_            /məja'lel/, he howls		
/_C            /jva'le/, he will spend		

- I. Enoch 1965 (p.107) reports an anaptyctic palatal glide replacing a non-realized intervocalic glottal stop - but terms this typical of M.I.H. speakers with German in their linguistic background (e.g. /ʰe'viʔa/ -- [̤ʰe'viʔa], she brought). I myself have not noticed this in my corpus - which, however, does have evidence of a certain tendency among some M.I.H. speakers towards an anaptyctic /j/ glide inter-vocally in connection with stressed syllables in general (e.g. /'bait/ -> [̤'bajit], house), and not only to replace a glottal stop.

II. /j/ is represented orthographically by the letter Yod - namely י or י׳ . This letter can also be used to represent the vowel /i/ (just as the letter representing the Classical Hebrew bilabial semi-vowel - Vav - can also be used to represent the vowels /o/ and /u/).



/j/ (/a'ja/)\*

\* see Palatogram 14, p. 380

### 5.03 CONSONANT CLUSTERS

#### 1. General

- a. For the purposes of this section, the list of M.I.H. consonants shall comprise only the eighteen essential items.
- b. All clusters consist of two consonants only.
- c. Syllable-arresting clusters are taken as being word-final, and are restricted to the combination /Ct/, where C stands for any consonant except /p/, /b/, /t/\*, /d/\* (for which, see the detailed descriptions above).
- d. Syllable-releasing clusters occur in any pattern except the following, \*\* exceptions being typical of foreign loan-words (e.g. /'zber/, /'pfuj/, /'flik/, etc.)

$$C + \begin{vmatrix} p \\ b \end{vmatrix}, \begin{vmatrix} p \\ b \end{vmatrix} + C_{\text{labial}}, \begin{vmatrix} f \\ v \\ j \end{vmatrix} + C, d + C_{\text{alveolar}},$$

(except s+p) (except v +  $\begin{vmatrix} s \\ j \\ l \\ r \end{vmatrix}$ ) (except d+l)

$$\begin{matrix} \hat{t}s + C_{\text{obstruent}} \\ \text{(except } \hat{t}s + \begin{vmatrix} f \\ v \\ d \\ x \\ r \end{vmatrix} \text{)}, \end{matrix} \begin{matrix} C_{\text{sibilant}} + C_{\text{sibilant}}, C + j, \\ \text{(except } \int + \begin{vmatrix} s \\ z \end{vmatrix} \text{)} \end{matrix}$$

$$C_{\text{velar}} + C_{\text{velar}}, r + l, \begin{vmatrix} g \\ z \end{vmatrix} + \begin{vmatrix} t \\ \hat{t}s \end{vmatrix}$$

(except  $\begin{vmatrix} r \\ \text{and} \end{vmatrix} + \begin{vmatrix} k \\ g \end{vmatrix}$ )  
Plosive + Fricative

- e. The two consonants of all syllable-releasing clusters may be separated by a shwa-transition (this being the prescribed realisation). Kymographic measurements show that this is most likely to occur where both the consonants of a cluster are voiced.

\* except idiosyncratically

\*\* See also above, Tri-segmental syllables (Chapter 3) for consonant-cluster patterns.

- f. Examples will be given of word-initial syllable-releasing clusters only, followed by either a stressed or an unstressed vowel. Instances of word-final clusters can be found in the examples illustrating the detailed descriptions of the consonants. In this context, "word-initial" is not taken to include clusters formed with consonantal morphemic prefixes - namely /b(ə)/, in - /d(ə)/, of - /k(ə)/, as - /v(ə)/, and - /l(ə)/, to (though such clusters have been used to illustrate the consonants in the detailed description). The reason for this is that there are a number of minimal pairs with this type of word, where Cə is the realisation of the bound morpheme whereas C is just the initial segment of a cluster - e.g. /bə'roʃ/, at the head of - /'broʃ/, cypress - /təsu'la/ shall be paid - /tʃu'la/ depth.
- g. Geminated consonants (restricted to /t/ or  $\overline{dt}$ , /m/, /n/, /l/, and idiolectal /j/) are realised as \*C: (extra-forte) or as CC.
- h. While many M.I.H. speakers realise non-word-initial syllable-releasing clusters, such clusters will not be exemplified below (even though they can cover the whole range outlined in 5.03.1d above).

## 2. Examples

The list of examples below illustrates the following tendency patterns (as supported by kymographic measurements):

$C_1C_2 \rightarrow \widehat{C_1C_2}$  (except when  $C_1 \rightarrow C_{\text{sonorant}}$ , in which case  $\rightarrow C_{,1}$ )

$C_1C_2 \rightarrow \left| \begin{array}{c} * C: \\ CC \end{array} \right| / C_1 = C_2$

$C_1C_2 \rightarrow C_1\grave{a}C_2$  (except for  $C_1C_2 \rightarrow \widehat{C_1C_2} / C_2 \text{ sonorant}$ )



$$\begin{array}{l}
 C_1 C_2 \rightarrow C_1 C_2 \\
 \check{C}_1 \check{C}_2 \rightarrow \left( \begin{array}{l} C_1 C_2 \\ C_1 C_2 \end{array} \right)
 \end{array}$$

When  $C_1$  is syllabic, it usually has secondary word-stress.

Examples

*examples,*

In the following  $\check{C}$  marks the commonest realization.

- /p/ pt \*pta'kim - pəta'kim (scraps of paper)  
 pd pdu'im - p<sub>i</sub><sup>h</sup>du'im - pədu'im (redeemed - pl. masc.)  
 pk \*'pkaat - pə'kaat (cocoon)  
 pg pgi'a - \*p<sub>i</sub><sup>h</sup>gi'a - pəgi'a (meeting)  
 p<sup>h</sup>ts \*p<sup>h</sup>tsi'ra - pətsi'ra (file)  
 ps \*'psol - pə'sol (disqualification)  
 pz 'pzol - \*p<sub>i</sub><sup>h</sup>zol - pə'zol (squint!)  
 p \*p'a'im - pə'a'im (crimes)  
 px \*'pxat - pə'xat (amortization)  
 pr \*'prat - pə'rat (detail)  
 pn 'pnaj - \*p<sub>i</sub><sup>h</sup>naj - pə'naj (leisure)  
 pl \*pla'im - pəla'im (miracles)
- /b/ bt bti'xut (\*b<sub>o</sub>ti'xut) - \*b<sub>i</sub><sup>h</sup>ti'xut - bəti'xut (safety)  
 bd bdi'xa - \*bədi'xa (joke)  
 bk bka'im (\*b<sub>o</sub>ka'im) - \*b<sub>i</sub><sup>h</sup>ka'im - bəka'im (cracks)  
 bg bgi'da - \*bəgi'da (betrayal)  
 b<sup>h</sup>ts b<sup>h</sup>tsa'lim (\*b<sub>o</sub>tsa'lim) - \*b<sub>i</sub><sup>h</sup>tsa'lim - bətsa'lim (onions)  
 bs bsa'mim (\*b<sub>o</sub>sa'mim) - \*b<sub>i</sub><sup>h</sup>sa'mim - bəsa'mim (perfumes)  
 bz bzu'im - \*bəzu'im (despicable - pl. masc.)  
 b b'i'lut (\*b<sub>o</sub>i'lut) - \*b<sub>i</sub><sup>h</sup>i'lut - bəi'lut (maturity)  
 bx 'bxor (\*b<sub>o</sub>xor) - \*b<sub>i</sub><sup>h</sup>xor - bə'xor (first-born)  
 br \*'bram - bə'ram (however)

- /b/ bn \*'bno - bə'no (his son)  
bl \*'bli - bə'li (without)
- /t/ tt t<sup>h</sup>a'er (t:a'er) - \*tata'er (you shall describe)  
td t<sup>h</sup>di'rut - \*tadi'rut (frequency)  
tk \*tkuma - taku'ma (revival)  
tg tgu'va - \*t<sup>h</sup>gu'va - tagu'va (reaction)  
tts t̂tsa'jet - \*tatsa'jet (you shall obey)  
tf \*tfu'ka - təfu'ka (output)  
tv tvu'na - \*t<sup>h</sup>vu'na - təvu'na (wisdom)  
ts \*t<sup>h</sup>supak - təsu'pak (it shall be delivered)  
tz tzu'na - \*t<sup>h</sup>zu'na - təzu'na (food)  
t \*tu'va - ta'va (answer)  
tx \*'txol - tə'xol (spleen)  
tr \*tru'ma - təru'ma (donation)  
tm \*tmu'ta - təmu'ta (mortality)  
tn \*tnu'a - tənu'a (traffic)  
tl \*'tlut - tə'lut (dependence)
- /d/ dk dka'lim (\*d̡ka'lim) - \*d<sup>h</sup>ka'lim - dəka'lim (palm-trees)  
dg dga'lim - \*d̡ga'lim (flags)  
df dfok (\*d̡fok) - \*d<sup>h</sup>fok - də'fok (knock!)  
dv 'dva) - \*d̡va) (honey)  
d d)a'nim (\*d̡)a'nim - \*d<sup>h</sup>)a'nim - də)a'nim (fertilizers)  
dx dxi'sa (\*d̡xi'sa) - \*d<sup>h</sup>xi'sa - dəxi'sa (compression)  
dr \*'drom - də'rom (south of)  
dm \*'dmut - də'mut (personage)  
dl \*'dli - də'li (pail)

- /k/ kt \*kta'im - kəta'im (paragraphs)  
kd kde'ra - \*k<sup>h</sup>de'ra - k de'ra (cauldron)  
k<sup>ts</sup> \*k<sup>ts</sup>at - kə<sup>ts</sup>at (a little)  
kf \*kfor - kə'for (frost)  
kv 'kvar - \*k<sup>h</sup>var - kə'var (already)  
ks \*ksa'jot - kəsa'jot (gloves)  
kz kza'vim - \*k<sup>h</sup>za'vim - kəza'vim (lies)  
k \*k(a'im - kə)a'im (difficulties)  
kx \*kxol - kə'xol (the blue of)  
kr \*'kro - kə'ro (reading)  
km \*kma'rim - kəma'rim (priests)  
kn \*'knu - kə'nu (buy!)  
kl \*kli'ta - kəli'ta (absorption)
- /g/ gd 'gdi - \*gə'di (kid)  
gf gfa'nim (\*gfa'nim) - \*g<sup>h</sup>fa'nim-gəfa'nim (vines)  
gv 'gvul - \*gə'vul (border)  
gs gsisa (\*g<sup>ts</sup>isa) - \*g<sup>h</sup>si'sa - gəsi'sa (death-throes)  
gz 'gzor - \*gə'zor (cut!)  
g g(a'mim (\*g)a'mim) - \*g<sup>h</sup>a'mim - gə)a'mim (rains)  
gx gxi'na (\*gxi'na) - \*g<sup>h</sup>xi'na - gəxi'na (stooping)  
gr \*'grar - gə'rar (tow-truck)  
gm \*'gmul - gə'mul (reward)  
gn \*'gnaj - gə'naj (censure)  
gl \*gli'ma - gəli'ma (cloak)
- /ts/ t<sup>sd</sup> t<sup>sd</sup>a'ka - \*t<sup>ts</sup>da'ka - t<sup>s</sup>əda'ka (charity)  
t<sup>sf</sup> \*t<sup>sf</sup>i'ra - t<sup>ts</sup>fi'ra - t<sup>s</sup>əfi'ra (hooting)  
t<sup>sv</sup> 't<sup>sv</sup>i - \*t<sup>ts</sup>'vi - t<sup>s</sup>ə'vi (stag)  
t<sup>sx</sup> \*t<sup>ts</sup>xok - t<sup>ts</sup>'xok - t<sup>s</sup>ə'xok (laughter)

/tʂ/ tʂr \*tʂror - tʂ<sub>1</sub>'ror - tʂə'ror (bunch)  
tʂm tʂma'xim - \*tʂma'xim - tʂəma'xim (plants)  
tʂn tʂni'ut - \*tʂni'ut - tʂəni'ut (modesty)  
tʂl 'tʂli - \*tʂ<sub>1</sub>'li - tʂə'li (roast)

/v/ vr \*vri'dim - vəri'dim (veins)  
vl \*vla'dot - vəla'dot (offspring)  
vs \*vsa'tot - vəsa'tot (menstrual periods)  
vʃ \*vʃa'tim - vəʃa'tim (gulleets)

Note: word-initial /v/ occurs in only 14 lexemes.

/s/ sp \*'sport  
st \*'stav - s<sub>1</sub>'tav (autumn)  
sd 'sɗar - \*s<sub>1</sub>'ɗar - sə'ɗar (set type)  
sk \*ska'rim - s<sub>1</sub>ka'rim - səka'rim (surveys)  
sg 'sgan - \*s<sub>1</sub>'gan - sə'gan  
sf \*sfa'rim - s<sub>1</sub>fa'rim - səfa'rim (books)  
sv sva'ra - \*s<sub>1</sub>va'ra - səva'ra (version)  
sx \*'sxar - s<sub>1</sub>'xar - sə'xar (salary for)  
sr \*'srak - s<sub>1</sub>'rak (non-effective)  
sm \*'smox - sə'mox (trust!)  
sn \*sna'ʒi - səna'ʒi (squirrel)  
sl \*'slax - sə'lax (forgive!)

/z/ zd zdo'ni - \*zədo'ni (malicious)  
zk 'zkan (\*z<sub>1</sub>kan) - \*z<sub>1</sub>'kan - zə'kan (doyen)  
zg zgu'git - \*zəgu'git (window-pane)  
zf zfa'kim (\*z<sub>1</sub>fa'kim) - \*z<sub>1</sub>'fa'kim - zəfa'kim (gulleets)  
zv \*zvil - zə'vil (shell-container)  
zx zxi'la (\*z<sub>1</sub>xi'la) - \*z<sub>1</sub>'xi'la - zəxi'la (creeping)



/z/ zr \*'zrok - zə'rok (throw!)

zm \*'zman - zə'man (time)

zn \*zni'xa - zəni'xa (neglect)

zl \*zli'la - zəli'la (gormandizing)

/ʃ/ ʃt \*ʃtok - ʃtok (be quiet!)

ʃd ʃdu'da - \*ʃdu'da - ʃədu'da (robber)

ʃk \*ʃka'rim - ʃka'rim (lies)

ʃg ʃgəgə - \*ʃga'gə - ʃəga'gə (error)

ʃf \*ʃfa'nim - ʃfa'nim - ʃəfa'nim (rabbits)

ʃv ʃva'rim - \*ʃva'rim - ʃəva'rim (shards)

ʃx \*ʃxo'ra - ʃxo'ra - (black)

ʃr \*ʃri'ka - ʃri'ka (whistle)

ʃm \*ʃmor - ʃmor (guard)

ʃn \*ʃnat - ʃənət (the year of)

ʃl \*ʃlax - ʃlax (send!)

ʃs ʃsu'a - \*ʃsu'a (split - fem.)

ʃz ʃzu'rim - \*ʃzu'rim (strung - pl).

/r/ rt \*rti'xa - rti'xa - rəti'xa (boiling)

rd rdu'dim - \*rdu'dim - rədu'dim (shallow - pl. masc.)

rk \*rku'vim - rku'vim - rəku'vim (rotten - pl. masc.)

rg rga'im - \*rga'im - rəga'im (moments)

rfs \*rtsu'a - rtsu'a - rətsu'a (strip)

rf \*rfu'a - rfu'a - rəfu'a (medicine)

rv 'rvav - \*r'vav - rə'vav (stain)

rs \*rsi'sim - rsi'sim - rəsi'sim (shrapnel)

rz rzi'ma - \*rzi'ma - rəzi'ma (wink)

rʃ \*rʃom - rʃom - rəʃom (note!)

rx \*rxo'kim - rxo'kim - rəxo'kim (far - pl. masc.)

- /r/ rm rma'zim - \*rma'zim - rəma'zim (hints)  
rn rna'na - \*rna'na - rəna'na (jubilation)

Note: When syllabic, as it can be in any /rC/ cluster, /r/ is usually trilled (either apically or dorsally).

- /m/ mt 'mtax (\*m'tax) - \*m'tax - mə'tax (tighten!)  
md mdi'da - \*mdi'da - \*mədi'da (surveying)  
mk 'mkor (\*m'kor) - \*m'kor - mə'kor (the source of)  
mg mgi'ra - \*mgi'ra - \*məgi'ra (drawer)  
m<sup>t</sup>s 'm<sup>t</sup>sa (\*m'<sup>t</sup>sa) - \*m'<sup>t</sup>sa - mə'<sup>t</sup>sa (find!)  
mf mfa'ked (\*mfa'ked) - \*mfa'ked - məfa'ked (commander)  
mv mva'ker - \*mva'ker - \*məva'ker (critic)  
ms 'msor (\*m'sor) - \*m'sor - mə'sor (hand over!)  
mz mza've - \*mza've - \*məza've (larder)  
m } 'm } ox (\*m' } ox) - \*m' } ox - mə' } ox (pull!)  
mx 'mxe (\*mxe) - \*m'xe - mə'xe (protest!)  
mr \*mru't<sup>t</sup>se - mru't<sup>t</sup>se - məru't<sup>t</sup>se (satisfied)  
mm m:a'men - \*məma'men (he finances)  
mn mna'se - mna'se - \*məna'se (he tries)  
ml \*mli't<sup>t</sup>sa - məli't<sup>t</sup>sa (phraseology)

Note: Before a voiceless consonant, /m/, /n/ and /l/ may be both devoiced and syllabic.

- /n/ nt 'ntiv (\*n'tiv) - \*n'tiv - nə'tiv (path)  
nd nda'va - \*nda'va - \*nəda'va (alms)  
nk nke'va (\*nke'va) - \*nke'va - nəke'va (9 female)  
ng ngi'na - \*ngi'na - \*nəgi'na (playing)  
n<sup>t</sup>s n<sup>t</sup>sa'pe (\*n<sup>t</sup>sa'pe) - \*n<sup>t</sup>sa'pe - nətsa'pe (we'll hope)  
nf nfi'la (\*nfi'la) - \*nfi'la - nəfi'la (fall)

- /n/ nv nve'la - \*nve'la - \*nəve'la (carcase)  
ns nsa'per (\*n̄sa'per) - \*n̄sa'per - n̄sa'per (we'll tell)  
nz nzi'fa - \*n̄zi'fa - \*n̄azi'fa (rebuke)  
n) 'n̄soret (\*n̄s̄oret) - \*n̄s̄oret - n̄s̄oret (fall-out)  
nx nxu'tsa (\*n̄xu'tsa) - \*n̄xu'tsa - n̄xu'tsa (necessary - sing. fem.)  
nr \*nra'ped - n̄ra'ped - n̄ara'ped (we'll upholster)  
nm nma'jen - \*n̄ama'jen (we'll classify)  
nn n:a'se - \*n̄ana'se (we'll try)  
nl \*nla'ked - n̄ala'ked (we'll rally)
- /l/ lt lta'ʔa (\*l̄ta'ʔa) - \*l̄ta'ʔa - l̄ata'ʔa (lizard)  
ld lda'ber - \*l̄da'ber - \*l̄ada'ber (to speak)  
lk lka'jem (\*l̄ka'jem) - \*l̄ka'jem - l̄aka'jem (to maintain)  
lg lgi'ma - \*l̄gi'ma - \*l̄agi'ma (sip)  
lts̄ lts̄af'tsef (\*l̄ts̄af'tsef) - \*l̄ts̄af'tsef - l̄ats̄aftsef (to whistle)  
lf lfa'ter (\*l̄fa'ter) - \*l̄fa'ter - l̄afa'ter (to dismiss)  
lv lva'vi - \*l̄va'vi - \*l̄ava'vi (hearty)  
ls lsa'per (\*l̄sa'per) - \*l̄sa'per - l̄asa'per (to tell)  
lz lza'm'zem - \*l̄za'm'zem - \*l̄azam'zem (to hum)  
l) l̄sa'per (\*l̄s̄a'per) - \*l̄s̄a'per - l̄s̄a'per (to improve)  
lx lxa'pes (\*l̄xa'pes) - \*l̄xa'pes - l̄axa'pes (to seek)  
lr \*lro'ken - l̄ro'ken - l̄aro'ken (to empty)  
lm lmi'da - \*l̄mi'da - \*l̄ami'da (learning)  
ln lnateax - \*l̄na'teax - \*l̄ana'teax (to analyse)  
ll l:a'tef - \*l̄ala'tef (to caress)

PART THREE - THE FOOT

6. WORD-STRESS (ACCENT)

6.01. GENERAL REMARKS

1. The Word:

For the purposes of this chapter, "word" is taken to mean the potential phonic realization of a grammatical word.\* The grammatical word will include in its morpho-phonemic shape a consonantal root and one or more bound morphemes. These latter include both consonantal and vocalic morpho-phonemes signifying morphological categories and classes ("patterns" in the terminology used by Blanc, 1961) and a small number of morphemic affixes (signifying such syntactic elements as "construct form", "gender" and "number" for nouns, "person, "gender" and "number" for verbs). Excluded from the consideration of the word, as conceived in this section, will be bound prepositions and conjunctions, as well as the definite article (all of which are prefixed to the base), but not objective or possessive pronominal suffixes (including those affixed to prepositions) and the directional-locative suffix.

Note: In this section, a "compound word" is taken to consist of two or more words, such that the whole structure has only one primary word-stress (or potential salient syllable, when the compound word is actually spoken).

2. Definition of Word-Stress

In this description of Modern (Israeli) Hebrew, word-stress (or accent) is taken to be a potentiality enabling a syllable to become salient in actual speech - i.e. to carry rhythmic stress (for which, see Chapter 7, below). Word-stress (accent) will be classified

\* And therefore the notation in this chapter will be "broad" and "unified", in the sense outlined in 2.01.3, above.



according to three categories, notated by the following symbols:

- 'X = primary stress (where X stands for the potentially salient syllable)
- ,X = secondary stress (syllable with some potential rhythmic prominence - i.e. kinetically stressable for contrastive purposes, otherwise only statically stressable: (see 7.02.2 below).
- $\check{X}$  or X = weak stress not usually stressable syllable.

### 3. Word-Stress Patterns:

On the whole, word-stress in Modern Israeli Hebrew is fixed and pattern-linked. All Hebrew words in citation utterance have one primary (kinetic) stress (salient syllable), and may have one secondary (static) stress and a varying number of unstressed (weak-stress) syllables. All the vocalic syllables of M.I.H. except  $\text{C}_0$  may carry primary stress. Word-initial consonantal syllables (or  $\text{C}_0$ -groups) usually carry secondary stress. The favoured word-stress pattern in M.I.H. is word-final primary stress. For certain configurations, primary word-stress is carried by the penultimate syllable. Ante-penultimate primary stress also occurs, but almost exclusively as a potential alternative-realisation of rhythmic stress in natural speech. This and other stress-patterns, though prescriptively branded as "ungrammatical", are in common use owing to the considerable influence of the Ashkenazic dialect (upon M.I.H. of Classical Hebrew, Ashkenazic (i.e. "Germanic") Hebrew, which favours penultimate or ante-penultimate rhythmic stress (in addition to certain alternative realizations of segmental phonemes, especially vowels), was (and, indeed, still is) the liturgical accent of the great majority of European Jewry, and thus strongly affected the

speech of the founders of Modern Hebrew - or, rather the revivers of Hebrew as a vernacular. The Ashkenazic stress-pattern is most obvious in certain formal-style words (especially in classical loan-words from the Aramaic or Greek), in personal names, diminutives and place-names - as well as in compounds consisting of a Hebrew base and a non-Hebrew suffix (e.g. /-nik/, /-tʃik/ or /-'izəm/).

#### 4. Phonological Stress-rules

The phonological word-stress rules for M.I.H. have been investigated and described in Chayen, 1969. Here is his informal outline of word-stress patterning (pp. 22/4):

"4.5.1: The structure of the Hebrew word comprises two discontinuous morphemes: a consonantal root and a vocalic element consisting of two vowels, or one vowel and zero. Stress in Hebrew may be considered an intrinsic feature of the second vowel - or, where there is only one vowel in the vocalic element (as in the case of segholate nouns), then stress is a feature of that vowel.

"4.5.2: Certain morpheme-suffixes carry characteristic stress. When any of these are affixed to a word, the word-stress will be on that suffix ...". Chayen then goes on to list these suffixes, which denote pronouns, person, gender and number, or may be typically nominal or adjectival.

"4.5.3: In such cases, where stress moves to the suffix, the vowel previously accented will lose its stress."

However, this statement (as well as its formal expansion, which forms the major part of Chayen's work), while adequate for most patterns of Hebrew, fails to reflect the facts in respect of additions to the language other than from Hebrew root-forms, and does not take into

account the influence exerted on the language by the Ashkenazic dialect. Thus, it fails to account not only for the stress-patterning of names and modern loan-words, but also for the formation of acronyms and compound words, as well as for the shift away from stress on some of the highest-frequency suffixes (e.g. masc. plu. and second pers. plu.). In other words, while it is valid as a description of the rules governing pronunciation as prescribed by the Hebrew Language Academy, it fails to account for at least some aspects of Hebrew speech as actually practised.

## 6.02 DI-SYLLABIC WORDS

The stress-patterns for these are  $\check{X}'X$ ,  $_{,}X'X$ , or  $'X\check{X}$ .

### 1. Pattern One - $\check{X}'X$

This may be exemplified as follows:

/ga'dol/ (large), /ɕav'ra/ (she passed), /mi'la/ (word), /ʔa'val/ (but).

### 2. Pattern Two - $_{,}X'X$ :

This applies to  $_{,}\zeta'CV(C)$  syllables -- e.g.

/\_{,}\zeta'mad/ (learn!), /\_{,}\zeta'ne/ (apply), /\_{,}\zeta'hal/ (crawl!).

### 3. Pattern Three - $'X\check{X}$ :

This applies to -

a. mono-syllabic verb-roots (with i or o/u as the second - or vocalic - radical) followed by a number of suffixes, namely --

i. all past-tense forms realized as di-syllabic words (except second pers. fem. sing., second pers. plu. and third pers. masc. sing.) - e.g.

/'kamti/ (I rose), /'ɕarta/ (you sang), /'baʔa/ (she came),  
/'samnu/ (we put), /'ʔoru/ (they lit up);

ii. all imperative di-syllable forms (except masc. sing.) -- e.g.

/'ɕuvi/ (return!), /'ɕufu/ (fly!).

Note: The imperative (fem. sing. and both genders plu.) of certain other verb-patterns may also be initial-syllable-stressed for di-syllabic forms - but only as a formal-style alternative of the favoured colloquial final-stressed form (which, in addition, usually has a different vocalization-pattern) -- e.g. /'redi/-/ɕ'di/ (come down!), /'sovu/-/sova'vu/ (surround!).



b. di-syllabic noun-patterns, usually singular, with the stressed syllable open :

i. configurations of the type 'CVa(/<sup>h</sup><sub>q</sub>/), where V stands for any vowel except /a/ or /ə/ -- e.g.

/'pia<sup>h</sup>/ (soot), /'rea<sup>h</sup>/ (smell), /'koa<sup>h</sup>/ (strength), /'lua<sup>h</sup>/ (board), /'loa<sub>q</sub>/ (muzzle);

Note: This configuration does not include feminine nouns ending in the grapheme **ת**(he), realized phonetically as *ʔ* -- e.g. /ze'a<sub>q</sub>/ (ת<sup>ה</sup> = sweat).

ii. segholates, patterning '(C) 

e
a
o

 C 

i
e
a

 (C) -- e.g.

/'meri/ (revolt), /'peleg/ (brook), /'sela<sub>q</sub>/ (rock), /'bajit/ (house), /'ʔavel/ (injustice), /'na<sub>q</sub>far/ (youth), /'ʕoni/ (poverty), /'boreg/ (screw), /'kova<sub>q</sub>/ (hat);

Note 1: A morpho-syntactic change entailing a different phonetic realization of these words restores the favoured stress pattern *š'X*, -- e.g. /re'<sup>h</sup>ot/ (smells), /ba'tej/ (houses of - i.e. construct form), /bra'gim/ (screws), /i'<sup>h</sup>a/ - /e'<sup>h</sup>et/ (woman - woman of);

Note 2: The segholate noun-pattern can only include nouns constructed according to the paradigm given above. However, other (non-segholate) nouns exist in the same (C)VCV(C) patterns, often signalling quite different morpho-syntactic data; this is particularly so for the (C)oCe(C) and (C)aCa(C) patterns. Similarly, other -non-nominal- patterns may have the same segmental phonic shape, though differing in stress pattern -- e.g.

/ma'tar/ (shower), /na'dan/ (sheath), /'ʔones/-/'ʔo'nes/ (rape - he rapes), /'peret - pe'ret/ (small change - he detailed);

- iii. a limited number of di-syllabic nouns of Aramaic origin -- e.g.  
/'ʔabaʔ/ (daddy), /'ʔimaʔ/ (mummy);
- iv. segholate singular di-syllabic acronyms and masculine plural forms of monosyllabic acronyms and loan-words -- e.g.  
/'ʔeʃel/ (expenses), /'doħim/ (reports) - cf. /doħot/ (its feminine equivalent), /'dʒipim/ (jeeps);
- v. imitations of non-Hebrew words formed by the addition of  
/-nik/, /-tʃik/ or /izom/ as suffixes to Hebrew monosyllables --  
e.g. /'klumnik/ (a failure in life).
- c. a limited number of other word-class items, mainly segholates,  
namely --
- i. some pronouns -- e.g.  
/'ʔanu/ (we), /'ʔele/ (these), /'ʔelu/ (those), /'ʔeʒe/ (which);
- ii. some adverbs -- e.g.  
/'mata/ (down), /'hena/ (hither), /'ʃama/ (thither), /'ʔemeʃ/  
(last night);
- iii. certain (feminine gender) numbers -- e.g.  
/'ʃtajim / (2), /'ʔarbaʃ / (4), /'ʃevaʃ / (7), /'teʃaʃ / (9), /'ʔeser / (10),  
/'ʔelef / (1,000);
- iv. some fractions -- e.g.  
/'revaʃ / ( $\frac{1}{4}$ ), /'ħeʃi / ( $\frac{1}{2}$ )
- v. some prepositions -- e.g.  
/'neged / (against), /'taħat / (under), /'ʔetʃel / (at);
- vi. alternate pronunciations of some conjunctions -- e.g.  
/'ʔelaʔ / (but), /'ʔilu / (if);
- vii. certain interrogation and request forms -- e.g.  
/'ʔanaʔ / (please!), /'lama / (why?);

viii. the names of some of the letters of the alphabet -- e.g.

/'ʔalef/, /'gimal/, /'dalet/, /'zajin/, /'lamed/, /'samex/,

/'ʕajin/, /'ʕsadi).

6.03 TRI-SYLLABIC WORDS

The stress-patterns for these are  $\ddot{X}\dot{X}'X$ ,  $\dot{X}X\ddot{X}$ ,  $\ddot{X}'X\ddot{X}$ , and  $'X\ddot{X}\ddot{X}$ .

1. Pattern One -  $\ddot{X}\dot{X}'X$

This may be exemplified as follows:

/ħara'da/ (anxiety), /maħa'vak/ (struggle), /t̄sahu'bim/ (yellow - masc. plu.

2. Pattern Two -  $\dot{X}X\ddot{X}$

This applies when the first syllable is consonantal, or end in a particularly tense consonant -- e.g.

/,nna'se/ (we'll try), /,hitħa'ver/ (he grew blind)

3. Pattern Three -  $\ddot{X}'X\ddot{X}$

This pattern applies to --

a. verb-forms ending in certain suffixes, namely --

i. all verb-forms of the pattern (C)V(C)'Cva $\begin{matrix} \hbar \\ \zeta \\ t \end{matrix}$  -- e.g.

/jo'deaħ/ (he knows), /ho'ħiaħ/ (he saved), /ħa'nuaħ/ (I'll rest), /la'daħat/ (to know), /ħa'moaħ/ (hear), /nir't̄saħat/ (a murdered female), /ka'ruaħ/ (torn);

Note: In the pattern (C)VCiaħ, the distinction sing. masc./fem. in the present tense is marked by the contrasted stress-patterns

(C)V'Ciaħ/(C)VCi'aħ -- e.g.

/mo'diaħ/-/modi'aħ/ (he/she informs);

ii. present, fem. sing. in all three-syllable forms except the active causative and the present tense forms of verb-roots ending in an open syllable, as symbolized by the graphemes,

ħ (he), ħ (alef) or ħ (ħajin)

/ħo'vedet/ (she works), /nix'beħet/ (she is conquered), /mo'remet/ (she is lifted);



cf. /mafʃi'la/ (she operates - i.e. causes to work), /məva'ka/  
(she bewails - from the root ʔ, ʕ, ʔ - bet, khaf, he), /moʃsi'ʔa/  
(she takes out - from the root ʔ, ʕ, ʔ - jod, ʔsadi, alef);

iii. past -- first pers. sing. and plu. and second pers. masc.

sing. for all three-syllable forms, third pers. fem. sing.

and third pers. plu. for the active causative only -- e.g.

/ʃa'faxti/ (I poured), /ka'ranu<sup>(2)</sup>/ (we read), /nif'ʔsaʃti/ (I was  
wounded), /nir'ʔenu/ (we were seen), /ku'basti/ (I was washed)  
/ku'palnu/ (we were folded), /he'ramti/ (I lifted), /hi'naħnu/  
(we laid down), /di'barti/ (I spoke), /si'parnu/ (we told),  
/hog'darti/ (I was defined), /ho'radnu/ (we were lowered),  
/sa'maħta/ (you were happy), /nir'ʔeta/ (you were seen), /si'kamta/  
(you summarized), /su'darta/ (you were settled), /hif'ʔalta/ (you  
operated), /hox'palta/ (you were multiplied), /hik'lita/ (she  
recorded), /hil'binu/ (they whitened);

iv. future -- second pers. fem. sing. and second/third pers. plu.

for the active causative form of all verbs, and active

ordinary form for bi-syllabic verb-roots with i or o/u as

the second - or vocalic - radical -- e.g.

/tax'pili/ (you'll multiply), /ta'viʔu/ (you'll bring),  
/jaf'ʔilu/ (they'll operate), /ta'kumi/ (you'll rise), /ta'simu/  
(you'll put), /ja'nuħu/ (they'll rest);

Note: The formal-style second/third pers. fem. plu. alternative  
form ending in /-na/ also has penultimate stress -- e.g.

/tir'ʔena/ (you/they will see), /ta'vona/ (you/they will come);

v. imperative -- all three-syllable forms of verbs listed in

6.02.3a.ii and fem. or plu. causatives -- e.g.

/hi'konu/ (get ready!), /hax'pili/ (multiply), /ha'bitu/ (look!);

Note 1: Alternative third pers. plu. forms exist, the penultimate stress pattern marking a highly formal style as against the ordinary di-syllabic colloquial end-syllable stress - e.g.

/ʔav'ru/-/ʔa'varu/ (they passed/past), /jov'du/-/jo'vedu/ (they'll be lost/perish);

Note 2: In formal style, the prefixation of the bound morpheme {va-} (and) to the third pers. sing. ordinary future shifts the stress to the penultimate syllable, and serves as a syntactic marker for "past tense" -- e.g.

/va'jomer/ (and he said), /va'teled/ (and she gave birth);

Note 3: In formal style, the prefixation of the bound morpheme {va -} (and) to past-tense forms shifts the stress to the final syllable in those patterns where the ordinary colloquial stress falls on the ante-penultimate syllable, and serves as a syntactic marker of "future tense" -- e.g.

/vəkam'ta/ (and thou shalt arise);

Note 4: Although final-syllable stress is prescribed for the second pers. plu. of all past-tense forms, the colloquial stress-pattern is usually penultimate stress -- e.g.

/ʔamar'tem/-/ʔa'martem/ (you said).

b. Certain noun-patterns -- namely

i. tri-syllabic nouns of this type follow the two-syllable patterns listed in 6.02.3b with the addition of a (CC)V(C) first syllable --

/ta'puah/ (apple), /ja'tsiaf/ (gallery), /ra'kefet/ (cyclamen), /t̂sa'raʔat/ (leprosy), /t̂smar'moret/ (ague), /ʔa'suta/ (cure), /rar'natim/ (grenade-throwers), /ki'buʔsnik/ (member of collective settlement);

ii. tri-syllabic nouns (and other parts of speech) in dual number, patterning (CC)V'(CC)ajim -- e.g.

/ja'dajim/ (hands), /kif'lajim/ (double);

iii. directionallocatives, ending obligatorily in-(C)a, and often having the definite-article prefix{ha-}-- e.g.

/ha'ḡira/ (to town), /da'roma/ (southwards).

c. pronominal case-suffixation (other than affirmative/interrogative + nominative) -- namely

i. possessive:

A. N 

N		sing.	}	+ first pers. plu. -- e.g.
		plu.		

/su'senu/ (our horse), /su'sejnu/ (our horses);

B. N plu. + 

	second pers. sing. and plu.	}	-- e.g.
	third pers. fem. sing.		

/su'sajix/ (your horses), /su'sejha/ (her horses);

C. N sing. (-'Ce) + third pers. sing. masc. and fem. -- e.g.

/sa'dehu/ (his field), /mar'ḡeha/ (her appearance);

Note: The configuration N plu. + 

	second pers.	}	plu., though
	third pers.		

 final-syllable stressed in formal style, usually carries penultimate stress -- e.g.

/susej'xem/-/su'sejxem/ (your horses), /susej'hen/-/su'sejhen/ (their horses);

ii. objective -- e.g.

/sam'tiha/ (I put her), /da'jenu/ (it suffices us);

Note: Most of these patterns have four (or more) syllables, and are therefore listed below (under 6.04.2b.ii).

iii. negatives of the copula(present), which also serve as negative auxiliaries to pres. forms -- e.g.

/ḡej'neni/ (I'm not), /ḡej'nenu/ (he isn't, we aren't), /ḡej'nena/ (she isn't).

d. a very small number of other word-class items -- namely

i. some pronouns -- e.g.

/ʔa'nahnu/ (we), /ku'lanu/ (all of us);

ii. Segholate and monosyllabic bases structuring morphologically as noun-patterns, namely:

A. some interrogatives -- e.g.

/min'ʔajin/-/me'ʔajin/ (from where?), /ma'duʔa/ (why?), /ʔa'jexa/ (where are you?);

B. some prepositions with pronominal suffixes (first pers. plu, second pers. sing., third pers. sing. fem.) -- e.g.

/mu'lejnu/ (opposite us), /ʔe'lexa/ (towards you), /ʔa'lajix/ (on you), /mi'mena/ (from her/;

Note: the second/third pers. plu. forms of pronominalised prepositions with long ante-penultimate vowels are end-stressed in formal style, but carry penultimate stress in colloquial style, exactly like the parallel noun-forms (see above 6.03.3 ci - Note) -- e.g.

/ʔalej'xem/-/ʔa'lejxem/ (on you), /ʔelej'hen/-/ʔe'lejhen/ (towards them).

#### 4. Pattern Four - 'Xǁǁ

This pattern applies, as an alternative pronunciation to --

a. those past-tense forms listed in 6.02.3a.i above, where the second syllable is  $-/ \left| \begin{array}{c} t \\ d \end{array} \right| \partial /-$ , thus giving the pattern  $'(CC)V \left| \begin{array}{c} t \\ d \end{array} \right| \partial t \left| \begin{array}{c} i \\ a \end{array} \right|$  -- e.g. /'matəti/ (I died), /'kadəta/ (you bowed);

Note: when the shwa is not realised, the above forms are di-syllabic, with a geminated or extra-tense consonant -- namely /'matəti/- $\left[ \begin{array}{c} \text{ma}^* \text{t} \cdot \text{i} \end{array} \right]$ ,  $\left[ \begin{array}{c} \text{ma}^* \text{t} \cdot \text{i} \end{array} \right]$ .



b. the numbers between eleven and nineteen -- e.g.

/ˈnejmʃasar/ (12), /ˈtʃaʃesre/ (19).

c. some personal and place-names, especially with the diminutive suffix {-le}-- e.g.

/ˈjonatan/, /ˈʔakəlɔn/, /ˈsarale/;

Note: The prescribed traditional pronunciation for these is final-syllable stressed -- e.g.

/nejmʃaˈsar/, /tʃaʃesˈre/, /jonaˈtan/, /ʔakəˈlon/.

d. Compounds with Hebrew bases and the non-Hebrew suffix {/-'nik/} when the base is an initially stressed di-syllable -- e.g.

/ˈmaħalnik/ (member of a volunteer-corps in the Independence War).

e. alternative pronunciations of some (possibly compound) high-frequency words -- e.g.

/ˈmaʃehu/-/maʃeˈhu/ (something).

#### 6.04 WORDS OF FOUR (OR MORE) SYLLABLES

These pattern (in formal style) with the accent on the last syllable or with penultimate-syllable word-stress, antepenultimate accent being an alternative (colloquial-style) pattern in most cases. In all cases, there may or may not be secondary word-stress on one of the syllables preceding the one with primary accent.

##### 1. Final-syllable Stress:

This is the favoured pattern -- e.g.

/,ħavaʔsa'lot/ (lilies), /,pardasa'nim/ (orange-growers), /,mitparnə'sim/ (they earn a living), /,hitgalujo'tav/ (his appearances).

##### 2. Penultimate-syllable Stress:

This applies to --

- a. all patterns of verbs, nouns and pronouns listed in 6.03.3 above, and having four or more syllables -- e.g.

/məva'tʂeaʔ/ (he commits), /məko'memet/ (she arouses), /,hitpa'lenu/ (we were astonished), /,tata'pelna/ (you/they will cope), /ħava'tʂelet/ (lily), /mi)ka'fajim/ (spectacles), /jəru)ʔa'lajma/ (to Jerusalem), /hit partʂujo'tejha/ (her outbursts);

- b. pronominal case-suffixation -- namely

- i. possessive (following the patterns outlined in 6.03.3c.i, but having four or more syllables) -- e.g.

/hit ħajvujə'tejnu/ (our obligations), /pəʔulo'tajix/ (your activities);

- ii. objective suffixes to past, future or imperative verb-forms (being all highly formal style patterns) -- e.g.

A. first pers. + 

second pers.
third pers.

 sing. -- e.g.

/hikar'tixa/ (I knew you), /naħavi'rexa/ (we'll transfer you), /ħavar'nuxa/ (we passed you), /hosaf'tiha/ (I added her), /ħahav'nuha/ (we loved her), /ħasaf'nuhu/ (we collected him);

Note: The <sup>Adjective-case</sup> second pers. fem. sing. is always stressed on the final syllable when it follows the first pers. sing. past, the second pers. masc. sing. (after future) and the third pers. masc. sing. usually so, and the third pers. fem. sing. occasionally so -- e.g. /hikar'tix/ (I knew you), /ʔahav'tiv/-/ʔahav'tihu/ (I loved him), /ʔakir'xa/-/ʔaki'rexa/ (I'll know you), /naʕasi'ka/-/naʕasi'kena/ (we'll employ her);

B. second pers. +  $\left\{ \begin{array}{l} \text{first pers.} \\ \text{third pers. sing.} \end{array} \right\}$  (except second pers. masc. sing. + third pers. fem. sing.) in past tenses -- e.g.

/ʕazav'ta/ - you left her) -- e.g.

/ʕazav'tani/, /ʕazav'tini/, /ʕazav'tuni/ (you left me),

/ʕazav'tanu/, /ʕazav'tinu/, /ʕazav'tunu/ (you left us), /taʕaz'veni/,

/taʕaz'vini/, /taʕaz'vuni/ (you'll leave me), /taʕaz'venu/,

/taʕaz'vinu/, /taʕaz'vunu/ (you'll leave us), /ʕazav'tuni/

(you - pl. - left me), /ʕazav'tunu/ (you - pl. - left us),

/taʕaz'vuni/ (you - pl. - will leave me), /taʕaz'vunu/, (you -

pl. - will leave us), /ʕaz'veni/, /ʕiz'vini/, /ʕiz'vuni/

(leave me!), /ʕaz'venu/, /ʕiz'vinu/, /ʕiz'vunu/ (leave us!),

/ʕaz'vehu/, /ʕiz'vihu/, /ʕiz'vuhu/ (leave him!), /ʕaz'veha/,

/ʕiz'viha/, /ʕiz'vuha/ (leave her!), /ʕazav'tahu/, /ʕazav'tihu/,

/ʕazav'tuhu/ (you left him), /ʕazav'tiha/, /ʕazav'tuha/ (you

left her), /taʕaz'vehu/, /taʕaz'vihu/, /taʕaz'vuhu/ (you'll

leave him), /taʕaz'veha/, /taʕaz'viha/, /taʕaz'vuha/, (you'll

leave her;

C. third pers. + 

}	first pers.		(except third pers. third pers. sing.)
	second pers. masc. sing.		
	third pers. sing.		

masc. sing. + third pers. fem. sing. in past tenses, where the configuration is end-stressed -- e.g. /huʕaz'va/ - he left her) --  
 e.g. /ʕaz'vani/ (he left me), /ʕaz'vanu/ (he left us), /ʕaz'vuni/ (they left me), /ʕaz'vunu/ (they left us), /jaʕaz'veni/ (he'll leave me), /jaʕaz'vunu/ (they'll leave me), /jaʕaz'venu/ (he'll leave us), /ʕaz'vatni/ (she left me), /ʕaz'vatnu/ (she left us), /taʕaz'vani/ (she'll leave me), /taʕaz'venu/ (she'll leave us), /ʕaza'vexa/ (he left you), /jaʕaz'vexa/ (he'll leave you), /ʕaz'vatxa/ (she left you), /ʕaz'vuxa/ (they left you), /jaʕaz'vuxa/ (they'll leave you), /taʕaz'vexa/ (she'll leave you), /ʕaza'vahu/ (he left him), /jaʕaz'venu/ (he'll leave him), /jaʕaz'vena/ (he'll leave her), /ʕaz'vathu/ (she left him), /ʕaz'vata/ (she left her), /taʕaz'venu/ (she'll leave him), /taʕaz'vena/ (she'll leave her), /ʕaz'vuhu/ (they left him), /jaʕaz'vuhu/ (they'll leave him), /ʕaz'vuha/ (they left her), /jaʕaz'vuha/ (they'll leave her).

c. names ending in /-'ahu/ -- e.g. /matit 'jahu/ (Matthew).

3. Ante-penultimate Primary Word-stress

This occurs

a. as the standard pronunciation of first pers. sing. and second pers. masc. sing. past-tense verbs where the last radical is d or t -- (see also 6.03.4a above) -- e.g.

/ʕa'madati/ (I stood), /hiʕ'matata/ (you omitted).

b. as the standard pronunciation of many modern loan-words -- e.g.

/ha'patefon/ (<sup>the</sup>record-player), /ha'fridʒidɪdɪr/ (<sup>the</sup>refrigerator), /nor'vegia/ (Norway).



c. as an alternative pattern for loan-words adopted (often from the Greek) by Classical Hebrew -- e.g.

/ʔaspək<sup>l</sup>laria/-/ʔaspəkla r<sup>l</sup>ja/ (reflection), /ʔam<sup>l</sup>batia/-/ʔambat<sup>l</sup>ja/  
(bath).

## 6.05 COMPOUND WORDS

### 1. Final-word Accented

The primary word-stress is usually carried by the relevant syllable of the final word -- e.g.

/lo'xlum/ (nothing), /ʃatsej'pri/ (fruit-trees), /ħadar'oxel/  
(dining-hall).

### 2. Initial-syllable Accented

Compound structure-words often have initial primary stress as an alternative pronunciation -- e.g.

/'ʔafʔalpixen/-/ʔafʔalpi'xen/ (nevertheless), /'ʔelaʔimken/-/ʔelaʔim'ken/  
(unless).

### 3. Initial-word Accented

Some clichés and traditional (usually religious) compound forms have initial-syllable primary word-stress, or are accented on the relevant syllable of the first or second (rather than the last) structural item, usually as alternative stress-patterns -- e.g.

/'reʃitkol/-/re'ʃitkol/ (first of all), /'ʔisruħag/-/ʔisru'ħag/ (the day - or night - after a religious festival).

### 4. Back-shifted Accent

The addition of the suffixed morpheme {-na} to the imperative (meaning "Please!") shifts the stress back one syllable (towards the beginning of the word) -- e.g.

/ho'ʃeana/ (hosanna -- i.e. save!), /ja'vona/ (Come in, please!).

## 6.06 STRESS-DISTINCTIVE MINIMAL PAIRS

Many of these may be distinctively separated by segmental quality in the rhetorical style (especially in citation-form), but are purely stress-distinctive in the natural speech style. There are three major categories:

### 1. Simple-word Contrasts:

Both items are single Hebrew words, in which case the distinction may be --

a. morphological (usually Verb/Noun) -- e.g.

/ʔo'nes/-/'ʔones/ (rape - V/N), /ʕa'zavta/-/'ʕazav'ta/ (you left/you left her).

b. semantic and syntactic contrasts (usually Verb/Noun) -- e.g.

/sa'ʕad/-/'saʕad/ (he dined/welfare), /ʔo'rez/-/'ʔorez/ (he wraps/rice), /bo'ker/-/'boker/ (herdsman/morning), /ra'ho'vot/-/ra'ho'vot/ (streets/Rehovoth), /te'vel/-/'tevel/ (world/spice).

Note: This category, in fact, might well be included in the following one, since it usually features morpho-syntactic pattern-differences characterised in Classical Hebrew by consonant- or vowel-distinctions. However, since the Biblical 22-consonant alphabet is now realised by means of the 18 essential consonantal phonemes of M.I.H., and the Classical 10/12-vowel system (excluding the shwa) has been conflated to a 6-vowel system in M.I.H. (including the shwa) -- and, moreover, since the segmental distinctions involved in the following category are often realised dialectally, it may be as well to have two distinct categories here.

c. semantic (based on the conflation of some of the segmental phonemes of Classical Hebrew) -- e.g.

/ʔo'rex/-/ʔorex/ (editor/length), /ko'tel/-/'kotel/ (killer/wall),  
/ʔe'lax/-/'(e)lah/ (yours - fem. sing./spear).

2. Compound-word Contrasts:

Either one or both items are compound words, acronyms or loan-words -- e.g.

/ʔsi'na/-/ʔsə'ʔina/ (modesty/come out, please!), /ha'raʕ/-/'hara/  
(the evil/pregnant), /lə'ma(ʔ)n/-/lə'maʕan/ (to whomever /for the sake of), /la'ʔi/-/'laj/ (to the island/Israel Pounds), /o'to/-/ʔoto/  
(him/car), /mir'ʕi/-/'miri/ (my pasture/a common land title of Turkish origin).

3. Word/Phrase Contrasts:

The phrases in this category are accentually distinguishable from the words in that the former contain more than one primary stress (i.e. they may carry more than one rhythmic stress in citation-form) -- e.g. /ma'ra/-/'ma'raʕ/ (gall/what's bad?), / a'ʔsamt/-/'ʔat 'samt/  
(you closed/you put), /ʕal'kolpanim/-/ʕal 'kol pa'nim/ (anyhow/on every face).



7. RHYTHMIC STRESS AND THE FOOT

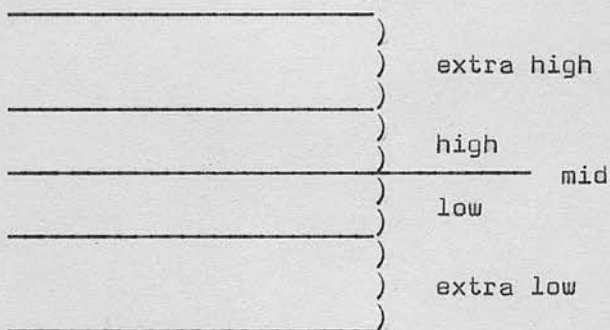
7.01 GENERAL REMARKS

1. Accent and Stress:

Whereas word-accent represents an abstract potentiality, rhythmic stress is its concrete realization in the actual speech utterance, in terms of syllable-length (duration), variation in pitch (frequency), and energy of articulation (intensity, or amplitude, of sound). As described recently stressed (or salient) syllables tend to be slightly longer than unstressed ones (by about 1/6 - 1/3 rather than to the extent claimed in TENÉ 1962\*) to coincide with noticeable variations in pitch (moving upward or downward), and to be uttered with greater intensity than unstressed syllables.

2. Pitch-levels:

For the purposes of this section, there will be postulated five levels of pitch in M.I.H. -- all of them relative and independent of musical values, but covering a possible total span of about an octave for each individual speaker, as follows:



The extreme levels (taken to cover about four semi-tones each) will always indicate that the utterance is attitudinally marked, while the three central levels need not indicate this.

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\* TENÉ claims to have measured (kymographically) regular differences in length of up to 100% more for stressed than for unstressed syllables - but, while this may be possible in citation-form, it has not been borne out in respect of ordinary speech by my own work in speech synthesis, where differences of more than 30% tended to make the utterance sound unnatural (see Appendices IIA and IIIC below).

3. Notation:

Basically, the Kingdon system of stress-notation will be followed, namely:

"X = extra high

'X = high

,X = low

„X = extra low

The "mid" level is relevant only in respect of kinetic stress (see below, 7.02.2).

Note: All stresses notated in this chapter (and in Chapters 8 and 10) will be rhythmic stresses.

## 7.02 STRESS

### 1. Criteria:

The criteria for producing and perceiving stress in M.I.H. have been described and discussed in Enoch 1967. They are, as already stated, pitch-variation, syllable-length, and intensity of articulation (reinforced chest-pulse, in Stetson's terminology) -- in that order of importance. The quality of the phonic segment is an important secondary element in "boosted" stress, and also in determining the boundaries of the foot (see below, 7.02.4 and 7.03.7).

### 2. Types of Stress:

If there is little or no perceptible movement or change in pitch during the utterance of the stressed syllable itself, the stress will be said to be static; if such pitch-movement(s) occur(s) in the course of the utterance of a stressed syllable, then the stress will be said to be kinetic. The latter may be either ordinary or "boosted" (see below, 7.02.4).

### 3. Pitch Spans:

Within the foot, the unstressed syllable(s) will usually be uttered at pitch-level(s) different from those of the stressed syllable(s). Similarly, if the stress is dynamic, it will usually move from one pitch level to another at least once (and several times if the tone is a complex, undivided one). A pitch span that does not attitudinally mark the utterance covers at most two contiguous non-extreme levels, namely --

- a. from high to mid (the narrow high fall, notated `X)
- b. from mid to low (the narrow low fall, notated \X)
- c. from low to mid (the narrow low rise, notated ,X)
- d. from mid to high (the narrow high rise, notated ^X).

Only one such span may be covered by a kinetic stress or by the (stressed and unstressed) syllables of a foot that constitutes an attitudinally unmarked utterance.

Note: It will be seen that this description, taken together with that of the actual span of each pitch-level (see 7.01.2, above), allows for attitudinally unmarked pitch movements (or jumps) that are slightly broader in span than those of RP English, and narrower than those ascribed to Yiddish or Russian (by Weinreich, and Buning and van Schooneveld respectively). They are more or less similar in span to those ascribed to Polish, Czech or German (in Wodarcz 1962, Ondráčková and von Essen 1964 respectively).

#### 4. "Boosted" Stress:

Attitudinally marked pitch-levels and spans include whatever patterns contain "X or "X (including, of course, all kinetic stresses starting from either of these levels). They are notated as follows here:

- a.  $\overset{//}{\searrow}X$  -- extra high fall
- b.  $\overset{//}{\swarrow}X$  -- extra low fall
- c.  $\overset{//}{\nearrow}X$  -- extra low rise
- d.  $\overset{//}{\nwarrow}X$  -- extra high rise.

All such extreme pitch levels and movements will be termed "boosted" stresses. This implies that, in addition to the greater pitch-spans of the feet containing such stresses, the syllables carrying them will be of greater duration, and will be uttered with greater intensity, than syllables with ordinary (i.e. non-"boosted") stresses.

Note: "Boosted" stress is also accompanied by certain changes in the quality of the phonic segments of the stressed syllable, namely --

- i. The longer vowel becomes "upward-diphthongized",\* as follows:

---

\* and/or followed by  $\overline{\underline{\underline{?}}}$ , if utterance-final.



- A. /a/ → [ā], e.g. //h<sub>1</sub>its<sub>1</sub>laxta<sub>1</sub>// → //h<sub>1</sub>tsl<sub>1</sub>a<sup>h</sup>x<sub>1</sub>ta<sub>1</sub>//  
(you succeeded -- you succeeded?)
- B. /e/ → [e<sup>e</sup>], e.g. //s<sub>1</sub>ef<sub>1</sub>e<sub>1</sub>// → //s<sup>e</sup>e<sup>e</sup>f<sub>1</sub>e<sub>1</sub>// (a book --  
a book!)
- C. /o/ → [o<sup>o</sup>], e.g. //gad<sub>1</sub>ol<sub>1</sub>// → //gad<sup>h</sup>o<sup>o</sup>l<sub>1</sub>// (big -- big!)
- D. /i/ → [i<sup>j</sup>], e.g. //mi<sub>1</sub>// → //mi<sup>j</sup>// (who? -- who?)
- E. /u/ → [u<sup>w</sup>], e.g. //k<sub>1</sub>um<sub>1</sub>// → //k<sup>h</sup>u<sup>w</sup>m<sub>1</sub>// (get up! --  
get up!)

ii. Releasing obstruents are uttered extra-fortis, with greater duration and muscular tension -- e.g. //h<sub>1</sub>a<sub>1</sub>b<sub>1</sub>ok<sub>1</sub>e<sub>1</sub>// → //h<sub>1</sub>a<sup>\*</sup>b<sup>o</sup>ke<sub>1</sub>e<sub>1</sub>// (this morning -- this morning!)

iii. Stops, in both release and arrest position, are followed by considerable aspiration -- e.g.

- //t<sub>1</sub>x<sub>1</sub>ef<sub>1</sub>// → //t<sup>h</sup>ε<sup>e</sup>x<sub>1</sub>ef<sub>1</sub>// (at once -- at once?)
- //k<sub>1</sub>a<sub>1</sub>e<sub>1</sub>t<sub>1</sub>// → //k<sup>e</sup>a<sup>e</sup>ε<sup>h</sup>t<sub>1</sub>// (now -- now?)

iv. "backing" of velar fricatives -- e.g.

- //m<sub>1</sub>ax<sub>1</sub>a<sub>1</sub>// → //m<sub>1</sub>a<sup>h</sup>x<sub>1</sub>a<sub>1</sub>// (tomorrow -- tomorrow?)

v. Actual realisation of post-velar phonemes (which usually have ∅ realisation), namely:

- A.  $\left\{ \begin{array}{l} /h/ \\ /g/ \\ /z/ \end{array} \right\} \rightarrow [z̄], e.g. //mεil// \rightarrow //mεz̄il// (a coat -- a coat?),$
- //em<sub>1</sub>// → //z̄<sup>e</sup>m<sub>1</sub>// (a mother -- a mother!),
- B. /h/ → [h̄], e.g. //u<sub>1</sub>// → //h<sup>w</sup>u<sub>1</sub>// (he -- he?).

vi. Realisation of releasing consonant-clusters as either

- A. syllabic consonant + consonant, e.g. //s<sub>1</sub>ma<sub>1</sub>// → //s<sub>1</sub>ma<sup>h</sup>z̄<sub>1</sub>//  
(listen -- listen!) or
- B. CəC, e.g. //b<sub>1</sub>ni<sub>1</sub>// → //b<sub>1</sub>ε<sup>h</sup>ni<sub>1</sub>// (my son -- my son!).

### 5. Wide Kinetic Stresses:

Stresses involving movement of pitch across more than two contiguous levels are said to be wide, and are always marked attitudinally. They are kinetic stresses, moving --

- a. from high to low (the wide high fall, notated \X)
- b. from low to high (the wide high rise, notated /X).

Note: Wide stresses may or may not be "boosted" stresses as well; their being so depends, in the main, upon intensity of articulation.

6. Complex Stresses:

If there is a double (or triple) pitch-movement in the kinetic stress of one and the same syllable, then that syllable carries complex kinetic stress, the different parts of which may be narrow or wide, "boosted" or non-"boosted" e.g.

- a. the fall-rise ( \X, \X, \X, \X, \X, \X)
- b. the rise-fall ( ^X, ^X, ^X, ^X, ^X, ^X)
- c. the rise-fall-rise ( \X, \X, \X, \X, \X, \X).

7. Silent Stress:

There may occur, in M.I.H. as in English, a silent stress, e.g. // ^j/va `voj li// (Oh dear!). It will be notated , without any accompanying segmental phoneme.

Note: Indeed, a silent stress may follow the unstressed syllables of a foot, where the utterance has been interrupted, and -- in fact -- the whole of a foot may consist of a slight pause marked as silent stress.

8. Contrastive Stress:

While ordinarily only open-set lexical items carry stress, closed-set and/or structural items may also do so, if the utterance is prosodically topicalised or marked for thematicity (see below, 8.03.3/4).

### 7.03 THE FOOT

#### 1. Definition:

The foot is a stretch of utterance consisting of one or more syllables (or of a short silent pause) the last of which usually carries stress. Feet may be either tonic or non-tonic; in the former case, they have static stress, in the latter kinetic.

#### 2. Stress-patterns:

The foot necessarily contains one ictic realization of word-accent, and an optional number of unstressed (remiss) syllables. An ictic syllable may be followed by remiss syllables in one and the same foot, only

- a. When the word is di- or polysyllabic and has penultimate or ante-penultimate accent -- e.g. //sefer// (book), //xa<sub>me</sub>esre// (15).
- b. When an open-set lexical (i.e. stressable) word is followed by a short unstressable word closely linked with it semantically and/or syntactically (in which case, the unstressed word is often "compressed", and loses one or more segment -- or even syllables) -- e.g. //af\pa<sup>o</sup>m lo// (not once not), //je<sub>laem</sub>// (they have -- literally, "there is to them"), //aba<sub>ja(a)</sub>zot// (this problem), //ra<sub>iti</sub> (o)to// (I saw him).
- c. In foreign loan-words, where the accented syllable may be followed by three or more unstressable ones. However, it may happen in these cases, that the unstressed syllables are attached to the following foot, this being indicated by a perceptible lengthening of the vowel and/or the arresting consonant(s) of the stressed syllable -- sometimes even to the extent of constituting a "filled" hesitation-pause, in the sense expounded by Goldmann-Eisler, Boomer

and Dittman, and Maclay and Osgood. In this case, this is an obvious signal that either the word is not familiar to the speaker, or that its phonological structure is one he finds difficult to master -- e.g.

Tape 3, Section 2, Speech 12: //alingu,istika// or //alingu,is:  
(Appendix II D b) tika ...//

### 3. Secondary Word-stress Realized as Contrastive Stress:

While stress, be it static or kinetic, generally falls on the primary word accent, the secondary word accent may also be realized as kinetic stress, for thematic markedness (contrastive emphasis).

In such cases, the stressed word must contain at least three syllables, of which the secondary-accent syllable is usually the first -- e.g.

//'eretš/ isra'el / <sup>h</sup>a/mizraxit// vɔ'eretš / isra'el / <sup>h</sup>a\ma'ra'vit//

(Eastern and Western Palestine). The words /,mizra'xit/ and /,ma'ra'vit/ may both be notated with secondary and primary accent, as indicated.\*

### 4. Stressed Structure-words:

While stress occurs only on open-set lexical words as a rule, in certain cases of thematic marking it may be the closed-set lexical word (e.g. a preposition or PRO-form), or even a structural word, that carries kinetic stress. The open-set lexical word then either carries no stress at all, or constitutes the tail of the syntagm (see below, 8.02) -- e.g.

//atem (jo)/dim// (Do you know?), and its variants

//a/tem jodim// or //a/tem/jo'dim//.

A minimal pair in this connection is mentioned in Blanc 1964 (p.140, note 17)

---

\*This example is quoted from Rabin 1958, p. 249.



// (ze) \gam ka{e// (it, too, is difficult)

// (ze) gam ka\{e// (it is difficult, too -- i.e. as well as having other characteristics).

5. Silent Stress Feet:

As stated in 7.02.7 Note, above, it is possible for a whole foot to be realized as a short silence, with silent stress.

6. Definition of the Foot in M.I.H.:

The foot may therefore be said to have any number of syllables from zero to nine, but it will most frequently be found to contain 2 - 5 syllables, according to the formula  $R_{0-4}^1 R_{0-2}$ , where R = remiss and I = ictic syllables.

Note: This formula gives a maximum of seven syllables per foot -- but it is possible, though extremely rare, to find slightly longer feet, with up to five pre-ictic and up to three post-ictic syllables.

7. Foot-boundaries:

As outlined in Lehiste 1960, the segmental foot-boundary signals are, in the main, the relative durations and phonetic quality of the syllable nucleus (usually vocalic) and the arresting consonant(s) at the boundary in question. Thus, in the minimal pair cited and discussed in TENÉ 1961 (pp. 65/8) as an instance of minimal pairs distinguishable in terms of juncture-phonemes -- namely

//ma'x<sub>4</sub>ab/ta<sub>4</sub> \uv// (Tomorrow you'll return)

//ma'x<sub>2</sub>a\ta<sub>4</sub> \uv// (You've sold it again).

it is the duration and phonetic quality of the segments /a/ and /r/ (as expounded in 7.02.4, Notes i. A and iv, above) that represent the articulatory and perceptual cues for prosodic structuring.

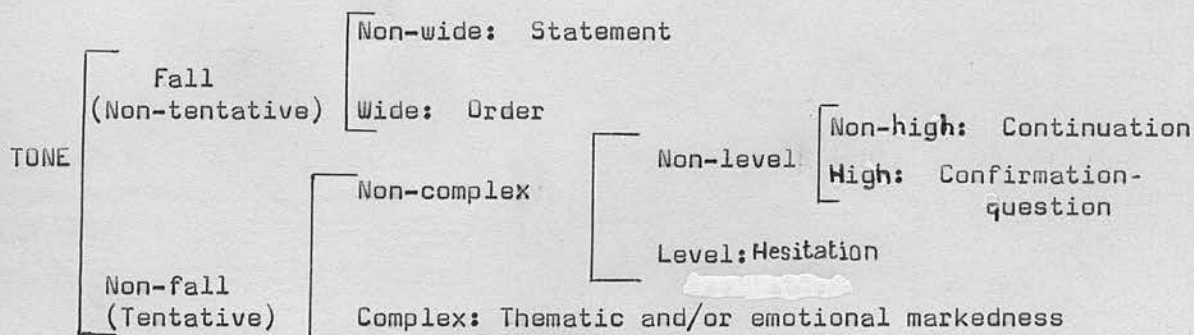
7.04 THE TONES OF M.I.H.

1. Theoretical Foundation:

In keeping with the findings of Lieberman, and with the theories expounded by Agard and di Pietro, Bolinger 1962, Chayen, Kretschmer, Pike 1945 and Stockwell (inter alia) -- the wholly unmarked tone of M.I.H. is taken to be the one carrying the narrow low fall (see 7.02.3 above). Any other tone will be taken to be attitudinally marked.

2. Distribution:

The following table shows the attitudinal distribution of tones in M.I.H. (mainly modal):



This table indicates that tones in M.I.H. may be --

a. either unmarked or marked for tentativeness. In the former case, they are falls, and in the latter non-falls. A tone that is unmarked for tentativeness may be --

- i. unmarked for modality, in which case it is a declarative statement;
- ii. marked for modality, in which case it will be an order.

Modal markedness is here indicated by the width of the pitch-span.

b. tones marked for tentativeness, being either non-complex or complex. In the former case they are unmarked for emotion, in the latter they are so marked. A tentative, non-complex tone may be --

i. non-level, which indicates that the flow of speech is not interrupted by hesitations, other people intervening, etc. This type of tone may be further divided, according to the width of its pitch-span, into:

A. non-high tones, denoting continuation ("comma");

B. high tones, denoting confirmation questions.

ii. level, which indicates hesitation, interruption, etc.

3. Distinctive Features:

The above treatment of tones postulates a number of distinctive features of the foot as a whole, namely --

+ wide ,    + fall,    + level,    + high ,  
-            -            -            -

These features will be combined in the next chapter with those of the syntagm, in order to define and describe the intonation patterns of M.I.H.

PART FOUR - THE SYNTAGM

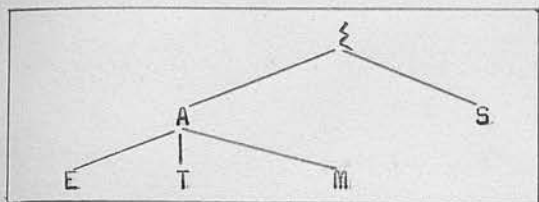
8. THE INTONATION OF M.I.H.

8.01 GENERAL REMARKS

1. Theoretical Foundation:

- a. For the purposes of this section, intonation is taken to subsume tonality, tonicity and tone, more or less in the sense expounded in Halliday 1967 and 1970 -- although the definition of the intonation units will differ from that given there. In addition, the findings detailed in Lehiste 1960 and 1970, and in Uldall 1971 will be taken into account in the following description.
- b. While the system of tonetic notation basically follows the one devised by Kingdon, Pike's bar and double-bar separators will also be used.
- c. The theory of intonation upon which this description of the prosodic patterns of M.I.H. is based stems from two views, expressed as follows (in Daneš, and Denes and Milton-Williams respectively) --
  - i. "(The) communicative validity (of sentence utterances) is signalled doubly -- by the intonation and by the sentence pattern."
  - ii. "(Intonation) is a linguistic form in which information about the speaker's emotional attitude towards his subject-matter (e.g. agreement, doubt, questioning) is encoded -- an attitude not normally expressed in the phonemic sequences which convey the factual elements of information about the subject-matter."
- d. A formalisation of these views may, then, be expressed as follows:





where the surrounding box  stands for the style of speech (i.e. Rhetorical/Natural);

Σ stands for Syntagm;

A -- " -- Attitude;

E -- " -- Emotion;

T -- " -- Thematicity;

M -- " -- Modality;           and

S -- " -- Sentence (as a syntactic unit).

2. Prosodic Units:

These will be defined as follows, in the light of the theories expounded in Abercrombie 1965 and 1967, Crystal, Kozhevnikov and Ch. istovitch, Ondračková and Trim 1964:

- a. The foot -- a stretch of utterance consisting of one or more syllables usually, the last of which carries stress, as a rule. However, when the word containing the stress has penultimate or ante-penultimate word-accent, or when it is followed by a short, unstressed word closely connected with it syntactically (e.g. verb + dative/accusative pronoun), the foot will be taken as extending beyond the stress, to include the following unstressed syllable(s).
- b. The syntagm -- a stretch of utterance comprising one or more feet, the last of which, in the wholly unmarked form, usually carries kinetic stress. However, in different types of marked syntagms, kinetic stress may be --

- i. carried by a foot that is not the last in the syntagm, in which case the remaining feet will show a pitch-movement usually following that of the kinetic stress;
  - ii. carried by more than one foot, in which case the tone will be said to be both complex and divided;
  - iii. absent altogether, where the syntagm represents an interrupted utterance.
- c. The tonal sequence -- a stretch of utterance comprising one or more syntagms in different relations to one another, and making up at least one complete surface sentence.

3. The Function of Intonation:

This will be discussed (in addition to the views of the researchers cited in 8.01.1 above) mainly in the light of the theories outlined in Cruttenden, von Essen 1962 and 1964, Hultzèn 1957 and 1964, Rigault, and Wodarz 1960 and 1962. An attempt will therefore be made to continue the binary classification of prosodic features<sup>\*</sup>, taking into account the thematic-informational and the modal-semantic functions of intonation. The emotive elements are here considered to be paralinguistic in nature, and will therefore be dealt with only in very general terms.

4. Rhythm:

- a. This aspect of speech which, together with pitch-variation, is a major component of intonation, is a function of stress and tempo of utterance.
- b. In this connection, it may be stated that M.I.H. is a stress-timed intonational language. Its feet (or stress-groups) have a tendency to isochronicity, and the pitch-movement is meaningful.

However, it must also be pointed out that the slower the tempo

<sup>\*</sup> Begun in Chapter 7, above

(and, consequently, the more rhetorical the style) of speech, the less isochronous will the feet be -- until, in fact, in the citation form M.I.H. becomes syllable-timed.

8.02 THE SYNTAGM

1. Definition:

The wholly unmarked syntagm consists of one or more feet, the last of which carries kinetic stress. It covers a stretch of utterance that may, in a minority of cases, consist of not more than one word, but ordinarily comprises a phrase (or group). This latter may be either nominal (with or without modifiers and possibly governed by a preposition) or verbal (with or without adverbial modifiers, and with or without nominal complements). As such, it is quite often prosodically equivalent to a clause, and occasionally may cover the same stretch of utterance as a sentence -- although the latter usually consists of a sequence of syntagms. Here are some examples\*:

//'ruah<sup>h</sup>/ <sup>h</sup>a-t̃sa'fon/ və<sup>h</sup>a,ʃemeʃ// (The North Wind and the Sun)

//ʃa'tuf/bəmə'ʃil/ʃam// (clad in a warm cloak)

//'ken/<sup>h</sup>itʃa'tef/<sup>h</sup> a'ʔiʃ/bəməʃi'lo/bə'jeter/ s(?)et// (the more strongly  
did the man wrap his cloak around himself)

//'mi/mi'<sup>h</sup>en/haza ka joter// (which of them is the stronger?)

2. Structure:

Every syntagm is structured according to the formula

(H)N(T)

This means that every syntagm necessarily has a Nucleus (or tonic foot -- i.e. a foot carrying kinetic stress), which may be preceded by a Head consisting of several non-tonic feet (i.e. feet with static stresses only), and may be followed (if the syntagm is prosodically topicalized) by a Tail, whose pitch-movement will follow the same direction as that of the tonic foot (i.e. continue rising after a tonic rise, or continue falling after a tonic fall) -- e.g.

Tape 3, Section 2, Speech 16: //'lo/ad 'kama/ʃea'ni/ jo,da.t//  
Head Nucleus Tail

(Appendix II D b)

(not so far as I know!)

\* All taken from Appendix I



Note: An attitudinally marked, prosodically topicalized syntagm may have more than one nucleus (usually two), under the following constraints:

- i. After the first nucleus, each succeeding tonic foot of this complex, divided intonation pattern must follow a pitch-movement opposite in direction to the one immediately preceding it -- i.e. a rise must be followed by a fall, or vice-versa (with one exception, noted below, under 8.05.2d).
- ii. If there should be any non-tonic feet between the nuclei of the same syntagm (or, indeed, if there should be any unstressed syllables between the kinetic stresses), these must follow the direction of the pitch-movement featured in the first (or preceding) nucleus -- e.g.

Tape 3, Section 2, Speech 37: // }ebix'la/lo xa' }uv/ im 'amo're/je } ,no/  
(Appendix II D b) o'lo/ ani xo, }evet// (that it doesn't  
matter at all whether the teacher is  
present or not, I think)

Tape 3, Section 1, Speech 52: // ,lo/ aval et`mol /ze a,ja/ma,ma } //  
(Appendix II D a) (no, but yesterday it was really ...)

### 3. Pauses:

As specified by Boomer and Dittmann, Goldman Eisler, and Maclay and Osgood for English, breath- and hesitation-pauses (including "filled" hesitation breaks) nearly always occur pre- or post-syntagmatically, unless they are connected with interruptions in the stretch of utterance (what is termed "fracture" in Pittenger, Hockett and Danehy). It is this phenomenon, together with pitch-kinesis in stress, that helps determine the phrasing of connected speech -- i.e. its division into syntagms (or tone-groups, or breath-groups, as they have been variously termed).

4. Span:

The most frequently occurring syntagms consist of 1-4 feet and although this number may increase if the tempo of speech is very fast, it is hard, indeed, to find a syntagm with more than seven feet (and, if so, then each foot has a relatively small number of syllables).

5. Silent-Stress Syntagms:

A "pause" syntagm consists of one or more silent-stress feet. If it contains two such feet at least, it may mark a breath-pause; it usually does so if it comprises three or more silent feet.

### 8.03 THEMATIC MARKEDNESS (TONICITY)

#### 1. Theme and Rheme:

Each simple-tone syntagm comprises one information-span, organised into one foregrounded theme and one, or more, non-foregrounded rhemes. This corresponds, more or less, to Halliday's "new" and "given" elements of information in his analysis of English intonation (see especially el-Menoufy and Halliday 1970). The foregrounded theme carries kinetic stress, and the non-foregrounded rheme(s) static stress (or even, in strongly emphatic contrasted thematic foregrounding, no stress at all).

Note: In a one-word syntagm, it is -- of course -- possible to have only the kinetic stress, without any static stresses at all -- e.g.

//\lo// (No!)

//uivəsof// (and, at last, -- a poly-morphemic word-form, but one foot).

#### 2. Modes of Language:

Spoken sentences, accordingly, tend to be short, or to consist of short co-ordinated clauses, or to have only a bare minimum of embedded clauses. Written language that is read aloud, on the other hand, is uttered at a far slower rate than natural, ordinary speech -- and its syntagms tend to consist of phrases rather than clauses (otherwise, it tends to seem rather hurried and breathless, just as natural speech with phrase-length syntagms tends to appear "choppy" or asymmetrical).

#### 3. Prosodic Topicalisation:

The non-topicalised syntagm of M.I.H. carries kinetic stress on the last open-set lexical item before the double-bar (or, more specifically, on that syllable of its last open-set lexical item

which bears the primary word-accent). The prosodically topicalised syntagm may carry kinetic stress on a topicalised word\*, usually (but by no means always) any open-set lexical item preceding the last one before the double bar; however, closed-set structural items or lexical items may also be topicalised, usually for emphatic contrastive stress, as may syllables carrying secondary word-accent (see 7.03.3 above).

#### 4. Thematicity:

The last open-set lexical item before the double bar may also be prosodically foregrounded, to indicate thematic markedness. This may be realised in a number of ways, namely by means of --

a. complex kinetic stress, e.g.

Tape 1, Speaker 2: //lɛhaf'it /et<sup>h</sup>ha'zi/ mem3i]lɔ°// (to make the  
(Appendix II B) man strip off his cloak)

b. Widening the pitch-span of the kinetic stress, e.g.

Tape 3, Section 2, Speech 4: // aozni/ot°// (the earphones, ...)  
(Appendix II D b)

c. "boosted" stress, with or without a considerable pitch-jump between the stressed syllable and the one preceding it immediately, e.g.

//ra'tsiti / et<sup>h</sup>a"sefer// (I wanted the book -- i.e. not something else)

//tsə,xim la°/vɔ<sup>o</sup>d<sup>h</sup>// (one must work, ...)

d. a special form of "boosted" pitch-span widening, whereby the kinetic stress moves in a direction contrary to that of the last stressed syllable of the preceding foot (i.e. if the unstressed syllables were low and the stressed ones high, having the kinetic stress start from low, and vice-versa), often with a silent stress just before the tonic foot, e.g.--

---

\* In which case, the item may or may not be syntactically and /or semantically topicalised as well.



//a'ni / ˌlo// (me -- certainly not)



- d. having the secondary word-accent syllable carry kinetic stress,  
to the exclusion of the one with primary word-accent (see above,  
7.03.3).

8.04 PROSODIC MARKEDNESS IN RELATION TO SYNTAX AND SEMANTICS

1. Attitudinal Marking:

A syntagm may be unmarked attitudinally (in which case it carries a narrow low-fall kinetic stress on its last foot). It may be marked triplly (for emotion, thematicity and modality), doubly (for emotion and thematicity, for emotion and modality, or for thematicity and modality), or singly (for each one of the attitudinal components). The prosodic markedness may or may not be reflected in either the syntactic pattern of the sentence or in the choice of words, or in both. Thus, the following utterance --

Tape 3, Section 2, Speech 9://ani xo'ev /seze an\glit// (I think that  
(Appendix II D b) it's English).

which is marked by means of prosodic thematicity for contrast (i.e. with "wide" kinetic stress on the last lexical item), might have been topicalised prosodically (with or without concomitant syntactic and/or semantic topicalisation) as follows:

//a'ni/xo, ev / seze an, glit// (I think that it's English)  
//ze a'ni/ sexo, ev/seze an, glit// (It's I that thinks that it's  
English);

with a different subject-pronoun, this syntagm might have been modally marked (for confirmation-question) as follows:

//ata xo'ev / seze an' glit// (You think that it's English?)  
//<sup>h</sup>a-xo'ev ata/ seze an' glit// (Do you think that it's English? --  
formal style).

It might also have been triply marked in the prosody, for "dramatic" contrastive continuation, as follows:

//ani xo'ev / seze an' glit// (I think that it's English, ...)

On the other hand, the same sentence might have been attitudinally unmarked -- and thus, necessarily, also unmarked syntactically or semantically -- as follows:

//ani xo'ʃev /ʃeze an ɡlit// (I think that it's English).

2. Prosody, Syntax and Semantics:

Attitudinal marking may have the following realisations, which must (in all cases) include prosody, for speech:

a. Emotional marking, realised --

i. prosodically alone;

ii. both prosodically and semantically (by means of some expression equivalent to such phrases as "Please!" or "I'm angry with you.")

b. Thematic marking (including topicalisation), realised --

i. prosodically alone;

ii. both prosodically and syntactically (by some such device as passivisation or clefting).

c. Modal marking, realised --

i. prosodically alone;

ii. prosodically and syntactically (by means of transformations such as the interrogative or the imperative);

iii. prosodically and semantically (by means of expressions equivalent to some such phrase as "I wonder", "I order you");

iv. prosodically, syntactically and semantically, e.g.

//<sup>h</sup>a'ged li/ <sup>h</sup>axo'ʃev ata/ʃeze an ɡlit// (Tell me, do you think it's English).

Note 1: In each case, the utterance must be marked prosodically.

It may also be marked in the other manners indicated. It is, however, important to remember that emotional marking is a para-linguistic feature, which may be (and, indeed, usually is) also characterised

by variations in vocal quality and phonation-type, articulatory setting, etc.

Note 2: Since the syntagm need not (and, in fact, usually does not) cover the same stretch of utterance as the full surface sentence, the element "sentence" in the diagram shown in 8.01.1d above may (and, indeed, usually does) refer to smaller units, such as the phrase or clause (either of which may, of course, be interpreted as <sup>the surface realisation of</sup> an underlying sentence).

Note 3: No utterance can exist as such without a prosodic realisation. That is why the element A (Attitude) hierarchically precedes the element S (Sentence) in the syntagm-tree. Moreover, since it is impossible to conceive of any utterance that does not express some emotional colouring (including, in this case, lack of emotionality), this element (namely E -- or Emotion) has been placed hierarchically first under the Attitude-node. Thematicity, which comes next, has been hierarchically placed before Modality on syntactic grounds: passivisation or clefting, for instance, must come before the interrogative transformation (and, as has already been shown -- in 8.04.2b and c above -- syntactic thematicity and modality marking must be accompanied by the corresponding prosodic marking).

Note 4: An analysis of prosodic emotional marking has been excluded from any but the most cursory of examinations in this thesis, as being by and large para-linguistic in the sense (and for the reasons) given in Martinet 1960 (Section 3.25). However, prosodic marking for thematicity and modality are more extensively reviewed in this thesis, since it follows from their descriptions therein that they are analysable in terms of features that are both arbitrary and consistent



with that duality of language-patterning which Martinet has denied to all intonational features.

### 3. Emotional Colouring:

The prosodic realisation of both thematicity and modality may be affected, and thus changed, by emotional colouring. Thus, thematised continuations may be "dramatised" by means of a rise-fall-rise intonation pattern, orders may be changed into requests by carrying a rising or falling-rising pattern, confirmation questions may be given a peremptory turn by carrying a falling (rather than a rising) tone, and information questions (which carry a low fall when emotionally unmarked) may be turned into topicalised echo-questions with a strong element of surprise by carrying a wide-span high rise. Now, as stated previously, complex tones are invariably marked emotionally. Simple tones may, however, also be marked emotionally if their intonation pattern runs counter to the standard thematically or modally marked one. For this reason, some of the distinctive features in the formal descriptions below may be specified as either --

- a.  $\overset{+}{-} X$  -- which shall be taken to read "+X is here a counter-tone to the standard  $\overset{-}{+} X$ " (or  $\overset{-}{+} X$ , meaning "-X is here a counter-tone to the standard + X");
- b.  $+ X \overset{-}{+} X$  (or  $\overset{-}{+} X + X$ , or  $\overset{-}{+} X + X \overset{-}{+} X$ ) -- which shall be taken to read "a tone marked + X is followed by one marked  $\overset{-}{+} X$ , etc."

This type of notation will, in particular, be used for complex tones.

Note: In at least two cases, the counter-tone will indicate thematic and/or modal marking, without necessarily exhibiting any emotional colouring -- namely:

i. An utterance that is semantically and syntactically an unmarked declarative statement of the type SVO (Subject + Verb + Object) may carry a rising intonation (the counter-tone to the standard narrow low fall): such an utterance will be considered to be modally marked (as a confirmation question), e.g --

//ata xo'ev/zeze an\glit// (You think that it's English?)

ii. An utterance that may be (within its context) semantically and syntactically a question, but carries falling intonation (the counter-tone to the standard wide high rise): such an utterance will be considered to be either --

A. an information question, and as such marked modally, but not otherwise, e.g.

//'ma / a'ta / xo,ev// (What do you think?)

B. an information question, in which case it is marked not only modally, but also thematically and emotionally by the counter-tone, e.g.

//<sup>h</sup>aim xo'ev ata/zeze an\glit// (Do you think that it's English?)

In both these latter cases, the syntactic structure may be either (Q+) V + NP (+Comp) or Q + NP + VP.

## 8.05 COMPLEX TONES

### 1. Topicalisation by Division:

Complex tones may occur either on one and the same tonic syllable (with or without a tail, in which the pitch continues to move in the same direction as the last kinetic element of the tone), or on different tonic feet of the same syntagm. Topicalisation, in the case of complex tones, may thus be effected in one of two ways, namely --

- a. Deprivative -- in which case the complex tone occurs on one and the same syllable (or, at least, on one and the same foot) which is not the last stress-carrier in the syntagm, thus depriving the syntagm of its standard thematisation (on the last open-set lexical item);
- b. Additive -- in which case the separate movements of the complex tone occur on different tonic syllables, one of them being in the last foot of the syntagm: the divided complex tone thus adds topicalisation to the standard thematisation of the syntagm. The whole syntagm, in addition to being thematically and modally marked, also has emotional colouring, as stated previously.

### 2. The Major Complex Tones:

These are:-

- a. The fall-rise, which marks the utterance emotionally (as well as thematically and modally) for what may in general terms be called "appeal to the interlocutor's sympathy"; this may be then variously re-interpreted (for greater detail) under a variety of circumstances, or under similar circumstances by a variety of speakers, as "warmth", "politeness", etc. Here are some examples:

Tape 3, Section 2, Speech 36: //v<sup>h</sup>lo / sid<sup>h</sup>ru / et<sup>h</sup> a \xomer// (They  
(Appendix II D b) didn't grade the material)

Tape 3, Section 1, Speech 10: // 'mi /ka`moxa /bae,lim// (Who is like  
(Appendix II D a) you among the gods!)

Note: An undivided complex tone may occur in such a manner as to have the pitch of the stressed and unstressed syllables move in different directions. Thus, in the first example above, the last syllable of the utterance is unstressed (being unaccented phonologically), but carries a rising pitch movement contrary in direction to the fall on the stressed syllable preceding it. Together, the fall on the stressed syllable and the following rise on the unstressed syllable (notated ~~X~~) make up the divided fall-rise tone.

b. The rise-fall, which marks the utterance emotionally (as well as thematically and modally) for what may be in general terms called "verbal attack on the interlocutor"; this may then be variously re-interpreted as "warning", "refutation", etc. (under a similar variety of circumstances as the fall-rise, above).

Here are some examples:

Tape 3, Section 1, Speech 65: // uzma<sup>h</sup>nu:// (They were asked!)  
(Appendix II D a)

Tape 3, Section 2, Speech 35: //al o'to /ba'sis/ bax\lal// (on the same  
(Appendix II D b) principle at all -- a divided tone complementing the stressed negative of the preceding syntagm in this tonal sequence).

c. The rise-fall-rise, which marks an utterance as "dramatised stressed continuation", and is one of the most immediately obvious characteristics of M.I.H. speech (accompanied by rallentando and "boosting") -- e.g.

Tape I, Speaker 2: //l<sub>1</sub> h<sub>1</sub>af'it / εt<sup>h</sup> h<sub>1</sub>ai'it / mem<sub>3</sub>i'lo<sup>0</sup>// (to have the  
(Appendix II B) man strip off his cloak).



- d. The divided fall + fall (the only exception to the rule expounded) in 8.02.2, Note i) which, like the rise-fall-rise, is accompanied by rallentando and "boosting", and may be loosely termed "dramatised contrastive emphasis". Being, by its very definition, a divided complex tone, it also implies additive topicalisation -- e.g.

Tape 3, Section 2, Speech 80: //a'ni / `lo / xa, }avti / al ʒe//

(Appendix II D b)


(I did not think of that!).


8.06 HEADS AND TAILS

1. Down-drift:

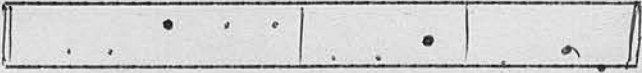
Wholly unmarked syntagms consisting of a head and a non-wide final-foot nucleus carrying a low fall are characterised by a down-drift movement in pitch: the stresses in the feet making up the head are progressively lower in pitch. Marked syntagms may or may not have this down-drifting movement, which can take any one of the following specific configurations:

- a. Smooth -- in which case the stressed and unstressed syllables move downwards in smooth steps (with the possible exception of the first and the last -- or tonic -- foot, for which see below) -- e.g.

Tape 3, Section 2, Speech 40: // 'ex/ze ni<sub>r</sub>e ləxə// (What's your opinion  
 (Appendix II D b)  of it?)

Tape 2, Poem 5: // <sup>h</sup>ana<sub>+</sub>q'<sub>+</sub>Yim/ (m)<sub>+</sub>ε<sub>+</sub>ti'<sub>+</sub>sim/ε<sub>+</sub>t <sup>h</sup>α<sub>+</sub>afi<sub>+</sub>f<sub>+</sub>ŋn// (The boys are  
 (Appendix II C)  flying the kite)  
 item II/3

- b. Jerky -- in which case the unstressed syllables are (at least in part) consistently lower in pitch than the stressed ones. It is this pattern that seems to be the favourite one in M.I.H. (but see also below, 8.08.1/2) -- e.g.

Tape 3, Section 2, Speech 53: //lətar'gem əd zə /lətsu'ra/ ak<sub>t</sub>ivit//  
 (Appendix II D b) 

(to translate it into an active form)

Note 1: Unstressed syllables following a stressed syllable and preceding another stressed syllable on a different pitch-level from the previous one may --

- i. be on the same pitch-level as the preceding stress (see the first foot of the example immediately above);

ii. be on the same pitch-level as the following stress -- e.g.

Tape 2, Poem 5: //h<sub>u</sub> m<sub>e</sub>n<sub>a</sub>f' n<sub>e</sub>f / l<sub>e</sub>s<sub>a</sub> l<sub>o</sub>m// (He's waving farewell)

(Appendix II C)  
item II/3



iii. be on a lower pitch-level than both stresses (see the example referred to in i, above).

iv. descend progressively lower in pitch -- e.g.

Tape 1, Speaker 3: //s'zot /v<sub>e</sub>b' t<sub>e</sub>s' l<sub>i</sub>x/ d<sub>i</sub>s' r<sub>e</sub>/ l<sub>e</sub>v' s<sub>i</sub>t/ a<sup>h</sup> v<sub>i</sub>' s//

(Appendix II B)



(that the one who first succeeded in making the man strip off)

v. be higher in pitch, or rise slightly (see below, 8.06.2).

Note 2: The same patterning of stressed-and unstressed syllable sequences is also possible before a rise or a complex tone. However, the rise may start from only one of the following positions relatively to the syllable preceding it:

i. lower (as in the example immediately above);

ii. ~~lower~~ higher -- e.g.

Tape 3, Section 2, Speech 47: //e<sup>d</sup>ani ja'xol/ (l)il'mod/ sa, fa//

(Appendix II D b)



(that I can learn a language)

Note 3: While there may be down-drift (of the different types outlined above) on a syntagm, the tonic syllable may carry a higher pitch-level than the stressed syllable preceding it -- or, indeed, than any of the syllables in the head. This, of course, is typically the case for thematic marking (wide-spread kinetic stress).

2. Down-step:

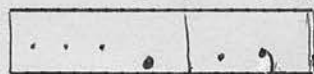
Emotionally and/or thematically marked syntagms consisting of a head and a nucleus (with or without a tail) may have a down-stepping pitch-movement. In such cases, the unstressed syllables are consistently higher in pitch than the stressed ones -- e.g.

Tape 3, Section 2, Speech 84: //hi'lo/haʃi'ta/ hajəi'la/ bəjo'ter/

(Appendix II D b)



ləhakna'jat/ sa'fa// (It's not the most



efficient method of inculcating a language)

This "gliding" type of intonation imposes a rather staccato pattern of emphasis on each of the stressed items -- and, in fact, may have the effect of making an utterance so realised seem to be syllable-timed rather than stress-timed in rhythm. It may be that the influence of syllable-timed languages (particularly French, Ladino and certain dialects of Arabic) is making itself felt in this prosodic configuration.

Note: Down-step will be notated  $\downarrow X$ , as can be seen from the example immediately above.

3. Level Pattern:

This pattern of stresses is possible under the following circumstances:

- a. When a stressed syllable is followed immediately by another stressed syllable, without any unstressed syllable intervening -- e.g.

Tape 2, Poem 5: // 'ɪd / ' kama/ mi'lim// (a few more words)

(Appendix II C)  
item II/8



- b. When the tempo is presto or accelerando -- often when the syntagm is fairly lengthy -- e.g.



Tape 3, Section 2, Speech 223: //axuz ga'voa/mə'od/ʃel geru.ʃin//  
(Appendix II D b)



(a very high percentage of divorces)

c. When the pitch-level is unusually high or low, and the syntagm is accordingly marked for emotion -- e.g.

Tape 3, Section 2, Speech 256: //to'da/ra'bā// (thank you very much! --  
(Appendix II D b)



uttered with a sigh of relief, after a hard, long job has been done).

4. The First Foot:

In the first non-tonic foot of a syntagm, the unstressed syllable(s) (if any) may be, in relation to the stressed syllable of that foot --

- a. lower in pitch (unmarked);
- b. higher in pitch (marked for down-step -- see above);
- c. on the same pitch-level -- an extremely unusual occurrence.

Note: In a single-foot syntagm, the unstressed syllable(s) preceding the stress may thus be --

- i. slightly higher than an unmarked fall (wholly unmarked);
- ii. slightly lower than an unmarked fall (emotionally marked "pleasant");
- iii. slightly lower than a rise (unmarked thematically);
- iv. higher than the beginning of a rise (marked emotionally and/or thematically) for "dramatic emphasis").

5. Marked Rhythmic Stress:

When closed-set lexical items, structure-morphemes or syllables with secondary word-accent carry rhythmic stress of any type (either static or kinetic), they are ipso facto thematically foregrounded, -- e.g.

Tape 3, Section 1, Speech 97: //ze bmet 'bejn/, edimbur/lə`glazgo//

(Appendix II D a)

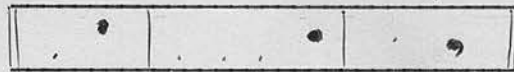


(It's really between Edinburgh and Glasgow)

Note: Special emphasis may be placed upon a word of more than one syllable by making not only the primary word-accent syllable carry rhythmic stress, but also giving such stress to one or more other syllables of the same word -- e.g.

Tape 3, Section 1, Speech 26: //et'mol /ze haja 'mə/ t̂su\_jan//

(Appendix II D a)



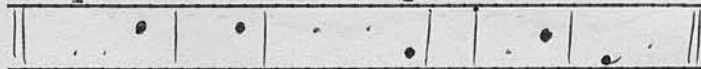
(Yesterday it was marvellous!)

### 6. Silent Stresses:

These may occur anywhere in the head, either to mark interruptions (in which case they may complete a foot begun by unstressed syllables, and are not followed by any nuclear -- or tonic -- foot), or as a whole foot interposed before some element of a syntagm that needs to be thematically marked with special emphasis -- e.g.

Tape 1, Speaker 3: //vɛ<sub>1</sub>'nɛ<sup>θ</sup> / 'bɛ/ likb'e,tɔn/ ˘ / s'leX/ ʝɛ<sub>1</sub>gel//

(Appendix II B)



(and, lo, there came towards them -- a traveller).

### 7. Foot-boundary Conventions:

While it might be possible to consider down-stepping and silent feet as separate syntagms or syntagm-separators respectively, this is obviated both by the tempo of the utterance and by the non-signalling of any syntagm-boundaries, which would otherwise be marked by changes in the duration and quality of the vowel and/or arresting consonant(s)

(if any) of the syllables presumed as signalling such boundaries.\*

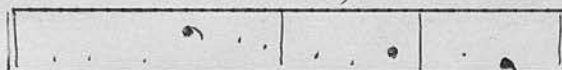
8. Tails:

The tail of a syntagm may consist either of a (small) number of syllables following the tonic syllable of the last foot (which are thus contained within it), or of a number of feet following the tonic foot. In both cases, the pitch-levels of the syllables (stressed and/or unstressed) following the tonic syllable will have the same direction as the kinetic stress carried by that tonic syllable.

Note: It is occasionally possible for a slight counter-movement to occur in some of the stressed syllables of a tail -- i.e. a slight rise after a tonic fall (or rise-fall), or a rather lower level stress after a tonic rise (or fall-rise) -- e.g.

Tape 3, Section 2, Speech 101: //aval<sup>h</sup> a'texnika/ xa(u,va/ mə,od//

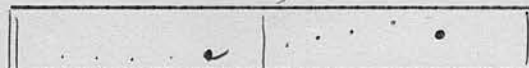
(Appendix II D b)



(but the technique is very important)

Tape 3, Section 2, Speech 101: // aizdamnu ,jot/ (əu mənə'ʔsel//

(Appendix II D b)



(the opportunities that he makes use of)

Both these patterns may, of course, be considered divided complex tones (fall + fall, and rise-fall-rise respectively) -- but the variations in the pattern are so small and the effect so hard to notice thematically and/or emotionally that it seems better to consider such variations simply functions of stress-production (without actual stress-kinesis) and, as such, associated not only with duration but also with some minimal pitch-movement.

---

\*A discussion of this aspect of prosodic analysis is found in Lehiste 1970 and 1971, where the conclusions are more or less those outlined above; in el-Menoufy, the opposite conclusions would seem to have been reached, and this affects the manner in which the principle of tonality is interpreted throughout that work.

### 8.07 DISTINCTIVE FEATURES OF INTONATION PATTERNS

#### (PROSODIC DISTINCTIVE FEATURES)

##### 1. Features of the Syntagm:

- + topicalisation (to which must be added, in brackets, the topicalised item);
- 
- + down-drift.
- 

Note: Stressing and/or foot-boundary delimitation may occasionally cause some difficulty in connection with topicalisation. Thus, in the following example, the first version is thematically unmarked and consists of one foot only, while the second is thematically marked (because a closed-set lexical item -- a pronominalised preposition -- is stressed, whereas it usually is nothing but the unstressed appendix of the stressed syllable in a foot); in neither case is it possible to speak of prosodic topicalisation:

Tape 3, Section 1, Speech 83: //ra\iti otxa// - //ra'iti/ot, xa//

(Appendix II D a)



(I saw you/ I saw you)

##### 2. Features of the Foot:

- + fall, + level, + wide, + high.
- 

##### 3. Features of the Tone Sequence:

- + rhetorical (see below, 10.02)
- 

Note: These will generally be placed in the following order:

- + rhetorical, + topicalisation (item), + fall, + level, + wide, + high,
- 
- + down-drift.
-



## 8.08 THE INTONATION PATTERNS OF M.I.H.

### 1. The Status of Intonation in M.I.H.

Of all the phonetic elements of M.I.H., prosody is still in the greatest state of flux. While a great deal of normative teaching has been devoted to the various features of the syllable and of the word, practically no attention has been paid to the features of the foot, the syntagm and the tone sequence. Accordingly, while the normative approach to segmental pronunciation has proved highly successful (in that it has undoubtedly led to the current existence of a recognizable standard M.I.H. pronunciation -- even though that pronunciation does not agree with the precepts of the normativists in a number of important respects), the intonation of M.I.H. presents a variety of puzzling characteristics that can only be explained by the existence, side by side, of several prosodic systems. This is, naturally, not unexpected, in view of the historical development of M.I.H. over the past century (see Chapter 1).

### 2. External Influences upon M.I.H. Prosody:

The only normative prosodic standards in the language are still the ancient liturgical ones of the Biblical cantillations. These differ, however, for the various communities -- and particularly in respect of the Ashkenazic, Sephardic and Yemenite-style religious rites, which are (and have been ever since the re-birth of Hebrew) the major ones in Jewish Israel. The effects of liturgical prosody have made themselves felt in particular through the intermediary of the so-called "jargons" -- Yiddish, Ladino and Judaeo-Arabic. Thus, the so-called "sung" intonation of the "dramatised emphatic continuation" derives from Yiddish (for which, see Weinreich), while the down-step probably derives from the syllable-timed Ladino. Furthermore, the

relationship between "boosted" stress and intensity (or loudness) on the one hand, and the "backing" of certain consonants on the other (e.g. /x/ → [x̣], /r/ → [ṛ],  $\left| \begin{smallmatrix} h \\ \bar{q} \end{smallmatrix} \right| v \rightarrow [\bar{z}v]$  -- for which, see above, 7.02.4 Note iv and v) derives from Judaeo-Arabic.

Similarly, the favourite "jerky" down-drift pattern (see above, 8.06.1b) is derived (possibly through the intermediary of Yiddish) from Russian and Polish -- whence stems also the standard width-span of the pitch-movement in M.I.H. (see Buning and van Schooneveld, and Wodarz 1962). However, these prosodic configurations often contrast or co-exist with others that are totally different and derive from alternative linguistic backgrounds -- e.g. the "smooth" down-drift associated with such languages as English and Romanian parallels the "jerky" down-drift (for whose derivation, see above) and may be juxtaposed to contrastive emphasis (by means of the realisation of rhythmic, kinetic stress of secondary word-accent -- for which, see above, 7.03.3), which can be associated with French and German, in the main. Accordingly, any study of M.I.H. prosody can only point to sets of trends within a continuum that is currently in even more of a (possibly dynamic) state of flux than that associated with most "long-established" languages.

Note: Such normative efforts as the standard writing-oriented school-teachers' dictum, "The voice goes up before a comma or a question mark", have had as little effect on M.I.H. natural speech as they have on the intonation of any other language. The only exception to this (which is probably paralleled in many other linguistic situations) seems to have been the creation of what may be termed a recognisable "school-teachers' rhetorical style" (instances of which can be clearly recognised in the recording of Reader 3 on Tape 1 - see Appendix II B). Another, though a very different,

possible effect of the teaching of reading in schools is the occasional stressing (invariably while reading aloud) of short, "unstressable" structural items (such as the objective preposition /'et/ -- probably because it is so easily recognizable, due to the frequency of its occurrence and its obvious shortness, and thus forms a sort of easy point of rest for the incompletely literate eye).

3. The Patterns:

With the above reservations, the main prosodic patterns of M.I.H. are: --

a. The final-foot narrow low fall, characteristic of the --

\* i. "cold" declarative statement  
(+ fall, - wide, + down-drift)

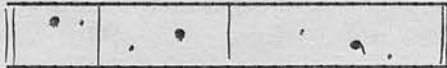
ii. "cold" information-question  
(<sup>+</sup> fall, - wide, + down-drift) -- e.g.

Tape 3, Section 2, Speech 24: // 'ma ze/hara gil// (What's the usual one?)  
(Appendix II D b)



iii. "cold" order  
(+ fall, <sub>-</sub> wide, + down-drift) -- e.g.

Tape 3, Section 1, Speech 114: // 'bou/nat'xil/ (1) a <sup>zedet</sup>// (Come, let's  
(Appendix II D a)



start going  
down!)

Note 1: "Cold" in the above descriptions is taken to signify "emotionally unmarked" (and is the <sup>term</sup> used by Chayen, pp. 24/7).

Note 2: The features -level and -topicalized need not be specified in the above three intonation-patterns, being subsumed in + fall and -wide respectively. The practice of not specifying subsumed features is followed throughout this section.

---

\* In the following descriptions, an asterisk marks the basic intonation patterns -- i.e. those featuring no counter-tones.



Note 3: The placement of the symbols + and - before a specified feature is hierarchical: if both symbols are specified before a distinctive feature, the topmost one indicates the manner in which it is to be taken for the actual utterance, while the lower one indicates the manner in which it is specified for the basic intonation pattern (i.e. the one without a counter-tone).

Note 4: The feature  $\begin{matrix} + \\ - \end{matrix}$  rhetorical refers to the general style of the whole discourse, and not only to a single syntagm (see below, 10.02). It will therefore be specified in the following examples only in one of three ways --

- A. +rhetorical (for utterances from Tapes 1 and 2 -- readings of "The North Wind and the Sun" and poetry pieces respectively);
- B.  $\begin{matrix} + \\ - \end{matrix}$  rhetorical (to indicate that a syntagm rhetorical in style is embedded in an utterance that is, by and large, natural speech) -- e.g.

Tape 3, Section 1, Speech 83: //ma<sup>↓</sup>dua /ze<sup>↓</sup>lo /maf<sup>↓</sup>xid/ot \xa//

(Appendix II D b)



(Why does this not scare you?)

(In which the speaker is quoting something said on a TV programme).

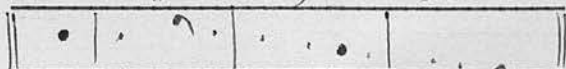
This will be specified ( $\begin{matrix} + \\ - \end{matrix}$ rhetorical, + topicalisation, + fall, + wide,  $\begin{matrix} - \\ + \end{matrix}$  down-drift).

- C.  $\begin{matrix} - \\ + \end{matrix}$  rhetorical (to indicate that a syntagm natural in speech-style has been embedded in an utterance that is, by and large, rhetorical).

Note 5: + topicalisation indicates that the nucleus of the syntagm is not (or not only) the last foot. The item foregrounded by means of kinetic stress is then indicated after the specified feature -- e.g.



Tape 3, Section 1, Speech 37: //tlo/ik|ʃavnu/ bəʃa,vua/ ʃea,var//  
 (Appendix II D a)



(We didn't listen last week)

This will be specified as (+ topicalisation  $\overline{[ik]ʃavnu}$ , + fall,  $^+$  wide, + down-drift).

Note 6: Questions are taken to be marked for tentativeness by - fall. It is for this reason that item 8.08.3a ii has been specified as the counter-tone  $^+$  fall.

Note 7: The feature + wide, which marks an utterance attitudinally, is here taken to occur in two major ways:

- A. when combined with - topicalisation it indicates ordinarily-stressed thematicity on the final foot;
- B. when combined with + topicalisation, it indicates that there is "boosted" stress, and it is then specified as  $^+$  wide, since ordinary topicalisation is - wide.

In 8.08.3a iii above, the specification is  $^+$  wide, because an order cannot, if unmarked emotionally, be "cold", and the counter-tone thus indicates emotional colouring ("indifference").

Note 8: - down-drift, which often accompanies the  $^+$  rhetorical counter-tone, may also mark an utterance emotionally (e.g. for what may be called "impatience", "talking down", etc.). It also adds a weak element of topicalisation to each separate foot of the syntagm -- e.g.

Tape 1, Reader 3: //xɛz ɛ<sup>h</sup>k<sup>h</sup>/mɪ<sub>1</sub>mɪ<sub>2</sub>nɪ<sub>3</sub>// (was stronger than herself)  
 (Appendix II B)



This will be specified (+ fall, - wide, - down-drift), and indicates, in the present utterance, what may be termed "school-teachers' style". It is worth noting also that down-drift is the usual pattern not only before a fall, but also before a rise -- and therefore a configuration

marked - fall may (if necessary) be specified as - down-drift as well.

Note 9: Ordinarily, there is no difference between "smooth" and "jerky" down-drift. Thus, the following "cold" declarative statement --

Tape 2, Poem 7: // 'ba<sub>+</sub>it / ja<sub>+</sub> , an / v<sub>+</sub>ε j<sub>+</sub> \ n<sub>+</sub>im // (an old house with pigeons)

(Appendix II C)  
item III/2



might just as well have been uttered // 'ba<sub>+</sub>it / ja<sub>+</sub> , an / v<sub>+</sub>ε j<sub>+</sub> \ n<sub>+</sub>im //




without any attitudinal difference. Indeed, the latter is the favoured form in M.I.H. -- but both variants will be specified (+ rhetorical, + fall, - wide, + down-drift). However, together with the feature + wide, "jerky" down-drift on a topicalised or thematically marked foot usually accompanies "boosted" stress, whereas "smooth" down-drift does not do so. -- e.g.

Tape 3, Section 2, Speech 11: // av<sup>o</sup>l \ gam / bəiv, rit // (but in Hebrew, too)

(Appendix II D b)



specified, for "boosted" stress, as (+ topicalisation  $\overline{\text{Igam}}$ , + fall, + wide, + down-drift). This may be compared with the possible (but non-"boosted") // av<sup>o</sup>l \ gam / bəiv, rit //



which is specified (+ topicalisation  $\overline{\text{Igam}}$ , + fall, - wide, + down-drift).

b. The high fall, which may be --

- i. narrow, in which case it characterises the first fall in the complex divided fall + fall -- an additively topicalised declarative statement specified as (+ topicalisation  $\overline{\text{IX}}$ ,


+ fall, + fall, - wide, + down-drift). The example appears in 8.05.2d, above.

ii. wide, in which case it is characteristic of the --


A. deprivatively topicalised declarative statement with

"boosted" stress (see the example immediately above);

Note: Exclamations, whatever their syntactic surface structure, are taken to be topicalised or thematically marked statements whenever they have this syntactic pattern -- e.g.

// 'ejze/ \ jofi// (How lovely!); // \ma/ ata o,mer// (you don't say! --  
 literally, what  
do you say)

B. thematically marked declarative statements -- e.g.

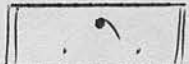
Tape 3, Section 2, Speech 47: // 'lo // eU 'ko fi/ miju'xad/ \li//  
 (Appendix II D b) 

(not that it's a particular  
difficulty for me)

specified (- topicalisation, + fall, <sup>+</sup> wide, + down-drift).

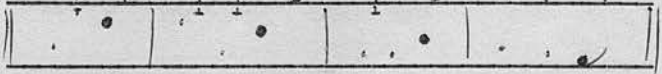
Note: The thematically marked information question, which may have the same prosodic pattern, will be specified (- topicalisation, <sup>-</sup> fall, <sup>+</sup> wide, + down-drift).

\* C. orders, specified (+ fall, + wide, + down-drift) -- e.g.

Tape 3, Section 1, Speech 120: //ta \biti// (Look here!)  
 (Appendix II D a) 

c. The narrow low rise, characteristic of the --

\*i. emotionally and thematically unmarked continuation-pattern, e.g.

Tape 2, Poem 7: //tsi'puz/ hama\ 'tst/ ha' mem/ venik laf//  
 (Appendix II C)   
 item III/2

(the mirrors' silvering, which is dimmed and peeling)

specified (+ rhetorical, - fall, - level, - wide, <sup>-high,</sup> + down-drift);

ii. "off-hand"<sup>phatic</sup> statement, e.g.

//to'da/ra,ba// (Thank you), specified ( $\bar{\quad}$  fall, - level, - wide, - high, + down-drift);

iii. tag-type confirmation-questions, e.g.

//,lo /,xen// (Is it not so?), specified (- fall, - level,  $\bar{\quad}$  wide, - high, + down-drift).

d. The high rise, which may be --

i. narrow, in which case it is characteristic of the --

\*A. emotionally and thematically unmarked confirmation-question, e.g.

Tape 3, Section 2, Speech 21: //at mada'beret/ al iv'rit//

(Appendix II D b)



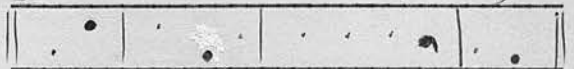
(Are you speaking of Hebrew?)

specified (- fall, - level, - wide, <sup>+ high,</sup> + down-drift).

Note: Confirmation-questions may be topicalised or thematically marked, like most other types of utterances, and then they will be specified as + topicalised and  $\bar{\quad}$  wide, as required. However, they may also be emotionally marked, in the sense that they may indicate an order to answer, or contain an indication as to the type of answer expected; in this case, the confirmation question may feature a falling intonation-pattern, e.g.

Tape 3, Section 1, Speech 111: //<sup>h</sup>a'im/ a<sup>v</sup>naxnu/ ma'urga, nim ax,fa'v//

(Appendix II D a)



(Are we ready now? -- indicating that the expected answer is affirmative)

specified ( $\bar{\quad}$  fall, - wide, - level, + down-drift);

ii. wide, in which case it is characteristic of the --

A. topicalised or thematically marked confirmation question and specified (-fall, -level,  $\bar{\quad}$  wide, + high, [+down-drift.]) if it is the latter;



B. echo-question, e.g.

//mi ze/ <sup>h</sup>i'gia // (Who was it that arrived?)

specified (+ topicalisation  $\overline{mi}$ , - fall, - level, + wide, + high, - down-drift);

C. emotionally coloured continuation-pattern, (for which, see also below, 10,02), e.g.

Tape 3, Section 2, Speech 4: // a-ozni/ <sup>u</sup>jo't // (the earphones, ...)

(Appendix II, D b)

specified (- fall, - level + wide, <sup>+ high,</sup> + down-drift).

e. The level tone, characteristic of the --

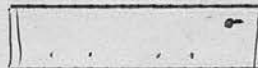
\*i. hesitation or interruption; these may be either high-level or low-level, stressed or unstressed, filled (i.e. lengthened or supplemented with the M.I.H. hesitation vowel /ə/, <sup>usually</sup> realised as  $\overline{[e]}$ ), repeated (as in stuttering), or just broken off, e.g.

Tape 3, Section 1, Speech 54: //vəax'rej/  $\left\{ \begin{array}{c} e \\ \cdot \end{array} \right\}$  // (and after he ...),  
(Appendix II D a)



specified (- fall, + level, - wide, + down-drift)

Tape 3, Section 2, Speech 8: //aval /kʃea <sup>ni</sup> // (but I ...)  
(Appendix II D b)



specified (- fall, + level, + wide, - down-drift);

ii. vocative, which usually has one of the following configurations:

A. high, with a sort of up-step, e.g.

//,xa'va// (Eve!), specified (- fall, + level, + wide, - down-drift);

B. high, with down-drift, e.g.

//"xa'va// (Eve!), specified (- fall, + level, + wide, + down-drift);

C. mid, with a narrow up-step followed by down-step, e.g.

//·xa'va ↗ le:// (Evie!), specified (-fall, + level,  $\bar{+}$  wide,  $\bar{+}$  down-drift).

F. The fall-rise (divided or not) characteristic of the --

i. emotionally and/or thematically marked statement, continuation-pattern or question (with or without topicalisation), e.g.

//ma\du<sub>2</sub>a// or //ma\du<sub>2</sub>a// (Why?), where the first utterance, specified ( $\bar{+}$  fall, - fall,  $\bar{+}$  wide,  $\bar{+}$  down-drift) is marked both emotionally and thematically, whereas the second utterance, specified ( $\bar{+}$  fall, - fall, - wide,  $\bar{+}$  down-drift) is marked only emotionally.

Tape 1, Reader 1: //ΛVΛl k<sub>2</sub>'x<sub>2</sub>l / (επ<sub>2</sub>)'va / x<sub>2</sub>'zak/ j<sub>2</sub>'t<sub>2</sub>f//

(Appendix II B)



(but the more strongly it blew,...)

-- a topicalised continuation-pattern, specified (+ topicalisation  $\bar{+}$ xa'zak,  $\bar{+}$  fall, - fall,  $\bar{+}$  wide, + down-drift)

ii. request, e.g.

//'ten li/et <sup>h</sup>a\sefer/bəvaka,sa// (Give me the book, please!),



specified (+ topicalisation  $\bar{+}$ ha'sefer, + fall, - fall, + wide, + down-drift).

Note 1: The specification + fall, followed by - fall indicates a complex tone -- a fall, followed by a rise, in this case. If the first kinetic tone of the utterance happens to be a counter-tone, this will be indicated in the usual fashion (e.g.  $\bar{+}$  fall, - fall for an emotionally coloured confirmation-question).

Note 2: The emotional marking specified by this intonation - pattern may usually be summed up as "appeal to the interlocutor".

- g. The rise-fall (divided or not), characteristic of an emotional marking that may usually be summed up as "verbal attack upon the interlocutor" (e.g. protest, warning, etc.) -- e.g.

Tape 3, Section 1, Speech 116: //anəxnu ,lo/na`mod/ ba,xuts//

(Appendix II D a)



(We shan't stand outside --  
a contradiction)

specified (+ topicalisation  $\overline{[lo]}$ ,  $\bar{+}$  fall, + fall, - wide, + down-drift).

- h. The rise-fall-rise, characteristic of what may be termed "dramatisation", and which may be --

- i. undivided, in which case it marks the "dramatised, contrastive continuation" -- the so-called "sung" comma typical of Yiddish prosody and directly descended from Biblical cantillation -- e.g.

Tape 3, Section 2, Speech 179: //lain'jan/ aze/|e| $\sqrt{}$  2em//

(Appendix II D b)



(As for this business of  
being a mother.)

specified (- fall, + fall, - fall, + wide, + down-drift);

- ii. divided, in which case it may be interpreted in most of its occurrences as a slow-tempo down-step (see also 8.06.7, above).

Note: Non-topicalised complex tones (i.e. undivided ones) are very often used for contrastive emphasis in M.I.H.

4. Summary of Basic Patterns:

a. As can be seen from the above exposition, there are in M.I.H. five basic simple intonational configurations, namely --

- I. the declarative statement (narrow low fall);
- II. the order (wide high fall);
- III. the continuation (narrow low rise);
- IV. the query (narrow high rise);
- V. the break (level)

b. To these may be added the three complex intonational configurations, all of them emotionally marked and (if undivided) implying some kind of contrastive emphasis -- namely

- i. appeal (fall-rise)
- ii. verbal attack (rise-fall)
- iii. dramatisation (rise-fall-rise).



## 9. PHONEME REALISATION IN CONNECTED SPEECH

### 9.01 GENERAL REMARKS

#### 1. The Phonemes of M.I.H. in Connected Speech

As is the case in every natural language, certain changes tend to take place in the segmental phonemes of citation-forms when these are uttered in natural-tempo connected speech. Such changes tend to occur in strings of more than one word, utterance - initially and medially, never utterance-finally. Elision, reduction and haplology account for the greatest number of these systemic changes. Assimilation is mainly connected with voicing while metathesis and dissimilation are much less significant in Modern Hebrew (although important features in Classical Hebrew). Epenthesis, on the other hand, while of historical interest in the main, still occurs to some small extent in M.I.H., especially in connection with syllable-arresting (usually word-final) consonant clusters in loan-words. Most sound-changes tend to occur in commonly used collocations (idioms, clichés).

In order to simplify the presentation, and so as to give a unitary description of the processes involved in the sound-changes occurring in rapid M.I.H. ("natural speech") (particularly as contrasted with the measured formal variety - "rhetorical speech"), both word-internal and word-external sound-changes will be dealt with in this chapter, although the examples will be kept separate.

#### 2. Sources of Information:

The examples in this chapter have been taken from Blanc (1956, 1961, 1964), from Chayen (1969), and from Section 1 of Tape 3 appended to this description (see Appendix II D a for the transcription). The technique of description follows to some extent that used in Bronstein 1960 (Chapters 11 and 12).

The subjects dealt with in the passages used are:

a. Blanc --

- I. Life in a kibbutz (collective settlement), as related by a young (female) teacher;
- II. A night on the town, ending in a night-club fight, as related by a taxi-driver (speaking Oriental Hebrew);
- III. Theatrical work, as related by a young actress (speaking Sabra Hebrew, but whose parents were born in Morocco).

b. Chayen --

School life, as related by a number of Sabra Hebrew speakers, all teen-agers.

c. Tape 3, Section 1 --

A British television programme -- six minutes of free conversation, the speakers being three young Sabra Hebrew speakers of M.I.H. (all female, two being school-teachers and the third a university lecturer), a middle-aged (male) non-native Hebrew speaker who is a university lecturer, and myself.

Note: The phonetic transcription in square brackets used in this chapter is "broad" -- i.e. it usually features no diacritics and does not distinguish between vowel-allophones.

## 9.02 ELISION, REDUCTION AND HAPLOLOGY

### 1. Vowels:

- a. In natural speech (Sabra Colloquial, Blanc's Style V), most unstressed vowels may become centralized. If the vowel precedes (or, less frequently, if it follows) a syllable carrying primary or secondary stress, it may be devoiced or elided. In fact, the process could be graded as follows:

$$V \rightarrow /ə/ \rightarrow \text{ʔ}/ə/ \rightarrow \emptyset$$

Here are some examples of centralisation:

/a'ta/ → [ə'ta] (you), /et ha / → [ətə] (the), /aħar'kax/ → [əxəħ'kax] (afterwards), /jaʃ'vu/ → [jəʃ'vu] (they sat);  
/'az hu ʔa'mar/ → [əzuə'mar] (then he said).

- b. There exists what may be termed a scale of elidability for vowels, with the closest vowels least elidable (the back vowel /u/ being omitted only very infrequently), the mid-vowels most elidable (/ə/) and /e/ being the most elidable of all), and the open vowel /a/ also being fairly elidable. Centrality and frontedness thus represent criteria favouring vowel-elision, front vowels being more elidable than back vowels, the scale being (from most to least elidable): /ə/, /e/, /a/, /o/, /i/, /u/.

- I. /ə/, the most elidable of vowel-sounds, is usually in free variation with  $\emptyset$ . Inter-consonantly it has practically vanished in M.I.H., giving rise to consonant-clusters. However, when particular emphasis is placed upon a word containing an inter-consonantal shwa, (e.g. in citation-form with contrastive stress, or with "boosted" stress), this

latter may be uttered, giving the word a slow, emphatic quality that makes it stand out against its rapidly uttered background (see the items [agəlu'la] and [a'əka'mot] in Tape 3, Section 1, Speeches 22 and 62).\*

II. /e/ The most frequent word-internal elision of this vowel occurs in the second (unstressed) syllable of segholates, and in the fem. sing. suffix {-(e)t}: Word-external elisions occur most frequently in connection with structural or collocational items such as { (?e)t } = object preposition, { z(e) } = this, { (e)- } = conjunctive that, { (?e)'had } = one (masc.).

Here are some examples:

/ʔe'had/ → [had] (one), /la'ʃevet/ → [la'ʃevt] (to sit),  
/'maʃehu/ → [maʃu] (something), /la'geʃet/ → [la'geʃt]  
(to go to), /bəʔe'met/ → [b'met] (really), /'ʔejze/ →  
[ze] (some);  
/'rega ʔe'had/ → [rega'xad] (one moment), /mikej'van ʃe/ →  
[mi'kvanʃe] (because), /bə'derex'klal/ → [b'de'xklal]  
(generally), /re'ʃit 'kol/ → [ʃitkol] (first of all),  
/ʔa'ni ho'ʃevet ʃe/ → [anxo'ʃevtʃe] (I think that ...),  
/'ʔejze ʔa'dam/ → [eza'dam] (some man), /'ʔi ʔef'ʃar/ →  
[ifʃa] (impossible), /ʃe jisa'pek/ → [ʃisa'pek] (who will  
supply), /ze ʃavo'dot/ → [zavo'dot] (it's jobs).

III. /a/ -- The most frequent word-internal elision of this vowel occurs in the unstressed syllable of the past-tense verb-pattern (C)a'Ca(C), in the final syllable of the pattern (Ca)'Cahat, and in the words { (?a)'hat } = one (fem.), { (?a)h(a)'re(j) } = after, and { (ʃa)x'ʃav } = now. Word-external elisions occur most frequently in collocations with

\* Appendix II.D b





( $\overline{\text{do}}$  I know?), /  $\theta^{\text{t}}\text{im ka'fe/} \rightarrow \overline{\text{timka'fe}}$  (they drink coffee), / $\text{hu } \zeta\text{o'ved/} \rightarrow \overline{\text{u'ved}}$  (he works), / $\text{?ej'fo } \int\text{e-ti'lex/} \rightarrow \overline{\text{ef}\int\text{eti'lex}}$  (wherever you go), / $\text{lak'hu } \text{?o'tanu/} \rightarrow \overline{\text{lak'hutanu}}$  (they took us), / $\text{ma ja'xol lafa'sot/} \rightarrow \overline{\text{majaxla'sot}}$  (what can he do?), / $\text{har'be jo'ter/} \rightarrow \overline{\text{a}^{\text{d}}\text{'bete}}$  (very much more).

- V. /i/ - The most frequent elisions of this vowel occur in the morphemes  $\{-t(i)\}$  = first pers. sing. past tense,  $\{ (?a)'n(i)\}$  = I, and  $\{m(i)-\}$  = from. Here are some examples:

/ $\text{ni}\int\text{'par/} \rightarrow \overline{\text{n}\int\text{a}}$  (is left), / $\text{vaha}^{\text{h}}\text{hi'ta/} \rightarrow \overline{\text{vax'ta}}$  (and the wheat), / $\text{haja}^{\text{h}}\text{hi'da/} \rightarrow \overline{\text{ajix'da}}$  (the only one), / $\text{miha}^{\text{h}}\text{hevre/} \rightarrow \overline{\text{ma}^{\text{h}}\text{hev'e}}$  (of the boys); / $\text{mi}\int\text{um } \int\text{e/} \rightarrow \overline{\text{m}\int\text{um}\int\text{e}}$  (because), / $\text{ja'rakti lo/} \rightarrow \overline{\text{ja'faktlo}}$  (I spat at him), / $\text{pa'ga}\int\text{ti } \text{zet/} \rightarrow \overline{\text{p}^{\text{g}}\text{ga}\int\text{tet}}$  (I met), / $\text{mi}\int\text{ta'lem 'lanu/} \rightarrow \overline{\text{m}\int\text{ta'lemlanu}}$  (it pays us to ...), / $\text{huts mize/} \rightarrow \overline{\text{xutsmze}}$  (apart from this), / $\text{?a'ni 'lo/} \rightarrow \overline{\text{an'lo}}$  (I + neg.).

- VI. /u/ - This is almost exclusively elidable in the third pers. sing. masc. pronoun  $\{ (hu)\}$  = he. Here are some instances:

/ $\text{hu } \text{?o'mer/} \rightarrow \overline{\text{mr}}$  (says he), / $\text{hu 'kvar ha'ja/} \rightarrow \overline{\text{kva}^{\text{h}}\text{fa'ja}}$  (he already was), / $\int\text{e'zim hu ro'tse/} \rightarrow \overline{\int\text{im}^{\text{z}}\text{otse}}$  (that if he wants), / $\text{hu ja'xol/} \rightarrow \overline{\text{j}^{\text{h}}\text{'xol}}$  (he can), / $\int\text{um da'var/} \rightarrow \overline{\int\text{mdava}}$  (nothing), / $\text{'lehem matsu'jan/} \rightarrow \overline{\text{lexem}^{\text{h}}\text{'tsjan}}$  (wonderful bread).

- c. The reduction technique for vowels is quite simple:

- I. A double vowel, or two identical vowels separated by /h/, /z/, or /q/ are reduced to one vowel only -- e.g.

/ˈpaʃam/ → [p̄am] (once), /kaʔaˈmur/ → [kaˈmuʔ] (as I was saying).

II. If the first vowel is a shwa, even if separated from the vowel succeeding it by /h/, /ʔ/, or /ʃ/, then only the second vowel is realised, though it may be given slightly longer duration than on the average -- e.g.

/tsəʃiˈra/ → [t̄siˈʃa] (young), /bəˈʔejzeʃeˈhu/ → [b̄eʔeʃeu] (in some kind or other), /vəʔet ʔaˈhuz/ → [v̄etaˈxuz] (and the percentage of), /bəˈʃetsem/ → [b̄etsem] (in fact), /vəʔaħaˈrej/ → [v̄axˈej] (and after), /məˈʔod/ → [m̄oˈd] (very), /təʃuˈdot/ → [t̄uˈdot] (documents).

## 2. Consonants:

a. These tend to be omitted mainly in structure words and in cliché formulas, provided they are in unstressed syllables. The trend is especially noticeable with the following:

I. /l/ - e.g.

/ʃel/ → [ʃ̄] (of), /ləˈjad/ → [jad] (by), /ləˈtox/ → [əˈtox] (into);

/ˈjeʃlanu/ → [j̄eʃanu] (we've got), /ˈkol miˈnej/ → [k̄omne] (all sorts of), /vəˈze laˈkaħ li/ → [v̄zeˈkaxli] (and it took me), /alˈmavet/ → [aˈmavet] (about death), /ˈjeʃ lax/ → [j̄eʃax] (you've got).

II. /n/, which may be realized either as  $\emptyset$  or as a nasalization of the preceding vowel -- e.g.

/ʔaˈni ʔaˈmarti/ → [aˈmaʔti] (I said);

/ʔaˈnaħnu/ → [aˈx̄nu] (we).

III. /j/ inter-vocalically -- e.g.

/məsujaˈmim/ → [məsuˈaˈmim] (certain), /ʃejisaˈpek/ → [ʃ̄isaˈpek] (that will supply);



/ʔlo jo'daʕat/ → [ʔlodaˈt̪] (I don't know), /ʕa'ta ja'xol/ →  
 [taˈxol] (you can), /har'be jo'ter/ → [aˈbet̪e] (very much more).

**Note:** It is a general rule that /j/ → /iː/ -  $\left| \begin{array}{c} /i/ \\ /ə/ \end{array} \right|$  or  $\left| \begin{array}{c} /i/ \\ /ə/ \end{array} \right|$  -

e.g. /mij'nu/ → [miːˈnu] (they selected), /jəʕe'nim/ → [iːe'nim]  
 (they sleep).

The corollary statement of this rule is /i/ → /j/ (C) -  $\left| \begin{array}{c} /h/ \\ /ʔ/ \\ /i/ \end{array} \right| V(C)$

e.g. /jədi'ʕot/ → [id̪ˈjot] (news)

- b. Two consonants abutting at syllable or word boundaries, if they are identical or differ only as to voicing, are reduced to one consonant with a slightly greater degree of tenseness than either of the two original ones. The consonants in point may also be reduced if they are separated by an unstressed vowel, especially a shwa. Here are some examples:

/ʕiʕim/ → [ʕim̪] (60), /ʕa'vadəti/ → [vatiː] (I worked);

/mux'raħ/ → [muːˈxax̪] (must), /ʕaha'rej/ → [aːˈxe] (after);

/na'niah/ → [niːˈniaħ̪] (let's say);

/və'gam maf'rid/ → [vgamaːf̪rid̪] (and also separates), /ʕana'fim/

məsuja'mim/ → [anaːf̪imsuamim̪] (certain branches), /'derex ʕa'gav/

→ [deːˈxagav̪] (by the way), /vəʕaħar'kax/ → [vɤːˈkax̪] (and after

that), /ʕa'loʕ ʕa'nim/ → [ʕaːloʕanim̪] (three years), /ta'ram ʕet

truma'to/ → [taːˌam̪t̪umaːto] (made his contribution), /bix'lal

lɤha'fik/ → [bixlalaːf̪ik̪] (to produce, all in all), /niʕ'ʕar 'rak

'gan/ → [niːaːˌʕaːgan̪] (only a garden remains).

### 3. Stress

- a. It is a general rule that structure words (including pronominalised prepositions) are unstressed in rapid speech -- e.g.

/ʕaba ʕe'li/ → [ˈTabaʕeli] (my daddy), /ʕa'mar 'lanu/ →



[a'maʎlanu] (he told us), /ma'kir ʒo'to/ --> [ma'kirto] (I know him).

- b. In rapid speech, it is the word carrying the main information point that carries primary (kinetic) stress, the rest of the content and structure words in the group having either no stress or only secondary (static) stress, and the whole group being run together, especially in idioms or cliché formulas -- e.g.

/'ʒejfo 'samnu 'kol da'var/ --> [e'fo'samnu,kolda,və] (where we

put everything), /mata'pelet to'va/ --> [m̄ata'peltəva] (a good

nurse), /'ʕad 'ʒor ha'boker/ --> [adoʔa'boker] (until dawn, i.e.

until morning light), /bəʒarba'ʕim və'teʒaʕ/ --> [baʔbimvə'teʒa]

(in '49), /'ʒi ʒeʔ'ʒar ləhag'dir ʒet ʒe/ --> [iʕ'ʒaʕlag'di]edze]

(it can't be defined).

#### 4. Haplology, syllable- and word-reduction

- a. Following upon such processes as vowel elision, consonant reduction and the de-stressing of minor information points, haplology, syllable-reduction are among the most characteristic features of rapid M.I.H.

Here are some examples:

/bəma'lon hana'si/ --> [bm̄alona'si] (at the President Hotel),

/u'xal ləha'gid lə'xa/ --> [uxa'gidxa] (I can tell you),

/'ʕal hasaf'sal/ --> [asaf'sal] (on the bench), /habəʕa'ja hi lim'noʕa/

--> [abajim'noa] (the problem is to prevent), /bə'xol mi'nej məko'mot/

--> [p̄xolm'ko'mot] (in all sorts of places), /biʕ'vil leʒe'xol/ -->

[p̄ʕile'xol] (in order to eat), /ki'dej ʒena'giaʕ/ --> [kdeʕna'gia]

(in order that we should arrive), /ʒa'naħnu/ --> [iʔaxnu] (we),

/ʒa'ta ja'xol/ --> [ta'xol] (you can), /'derex ʒa'gav/ --> [deʔa'gav]

(by the way), /na'niahħ/ --> [n'iax] (let's suppose), /haʕavo'dot/ -->

[a'v'dot] (the jobs).

b. The same processes may lead to the reduction or even elision of whole words in rapid speech -- these being bound morphemes or structure words (including pronouns). Here are some typical instances:

I. {ba-}{ba} = in: /bavaka'a/ → [vak'a] (please), /ba'a'na haba'ʔa/ → [ʔana'ba] (next year);

II. {ka-} = as: /kaʔekots'rim/ → [ʔekots'ʔim] (when harvesting);

III. {mi'pnej} = because: /mi'pnej ʔeba'ʔim/ → [m'eba'im] (because they come);

IV. {ʔa'val} = but: this is progressively reduced to [ʔav], [al] or [a];

V. {kol} = all: /'lo kol 'kax bʔki'ʔa/ → [lok\*axpki'a] (not all that expert);

VI. {tsa'rix} = must: this is reduced to [tsax] or [tsix], unstressed.

## 9.03 SIMILITUDE AND ASSIMILATION

### 1. Vowels

- a. 'V + N →  $\tilde{V}$ , especially in monosyllables -- e.g.  
/'ham/ →  $\llbracket \tilde{x}a \rrbracket$  (hot), /'ken/ →  $\llbracket \tilde{k}e \rrbracket$  (yes).
- b. As a regional dialectal feature (typical of Jezreel Valley settlements -- see 11.04.2a I, below), /e/ →  $\llbracket e_j \rrbracket$ , in stressed syllables of segholates, e.g.  
/'sefer/ →  $\llbracket se_jfe \rrbracket$  (a book).

Note: An exceptional item of this sound change is met very frequently, namely, /har'be/ →  $\llbracket a_j'be_j \rrbracket$  (much).

- c. /a/ → /j/  $\left/ \begin{array}{l} C_V \\ \text{(with a theoretically possible, but not actually realised, consonant often intervening between the shwa and the vowel), e.g.} \end{array} \right.$

/baʔo'to/ →  $\llbracket bjo'to \rrbracket$  (in that same).

Note: An exception<sup>al</sup> item of a very similar change is met very frequently, namely, /badi'juk/ →  $\llbracket bid'juk \rrbracket$  (exactly).

### 2. Consonants

- a. In connection with "boosted" stress, the more important features of consonant-realisation (in addition to those features typical of citation-forms, such as the actual realisation of /h/, /ʔ/ and /q/) are --

I. extra-tense "holding" of stops and extra-strong aspiration of fricatives,

II. "backing" of velar consonants (e.g. /x/ →  $\llbracket \tilde{x} \rrbracket$ ).

Note: For examples, see above, 7.02.4

- b. Anticipatory assimilation occurs at word-boundaries (similitude at intra-word syllable-boundaries), whereby the realisation of two abutting consonants tends towards the same state of the glottis as that of the second consonant.

I.  $\underset{\circ}{\text{C}}\underset{\circ}{\text{C}} \rightarrow \underset{\circ}{\text{C}}\underset{\circ}{\text{C}}$ , e.g.

/ʃov'tim/ → [ʃo'ftim] (they strike), /ʃa'vadəti/ → [a'vati] (I worked), /la'madəti/ → [la'mati] (I learned), /no'ladəti/ → [no'lati] (I was born); /mi-bxi'na/ → [mipxi'na] (from the point of view of ...), /'ʃad ka'ma/ → [atka'ma] (how far), /'ʃod tʃəʃi'rim/ → [ottsi'ʃim] (still young).

II.  $\underset{\circ}{\text{C}}\underset{\circ}{\text{C}} \rightarrow \underset{\circ}{\text{C}}\underset{\circ}{\text{C}}$ , e.g.

/mak'bil/ → [mag'bil] (parallel), /hitʃats'ben/ → [itadz'ben] (he grew angry); /lənəh'zik et ze/ → [lə'zikedze] (to hold this), /'rak 'gan/ → [ra'gan] (only a garden), /ləfa'hot ba'lajla/ → [ləfxodba'lajla] (at least by night), /bre'xot da'gim/ → [b'exoda'gim] (fish-ponds).

c. Nasals tend to be realized with homorganic similitude to the consonant immediately following them, particularly in unstressed syllables of high-frequency words -- e.g.

/hin'ga/ → [hiŋ'ga] (fun), /ʃinba'lit/ → [imba'lit] (uvular)

d. The consonant reduction rule stated in 9.02.2b also holds, in unstressed syllables, for two homorganic consonants, the one that is realised tending to be the one with less closure -- e.g.

/bəvaka'ʃa/ → [vak'ʃa] (please), /mi'pnej ʃe/ → [mneʃ] (because).

e. The realisation of /h/ shows the following trends:

I. /h/ → /j/  $\left| \begin{array}{l} \text{CV}' \text{ i(C)} \\ \text{Ci}' \text{ e(C)} \end{array} \right|$  -- e.g.

/ba'hir/ → [ba'ji] (light), /mi'hem/ → [mi'jem] (from them).

II. /h/ →  $\left| \begin{array}{l} /h/ \\ /ʔ/ \end{array} \right| \left| \begin{array}{l} \text{V}' \text{ V} \\ \text{V}' \text{ V} \end{array} \right|$  -- e.g.

/ʃa'ha/ → [ʃa'ʔa] (he stayed).



Note: The morpho-phonemic stop/fricative distinction (p/f, b/v, k/v) -- one of the characteristic features of Classical Hebrew -- may tend to be disregarded in rapid M.I.H., to the extent (in some younger speakers) of free variation -- e.g.

/ʃa'fax/-[ʃa'paḥ] (he poured), /lit'por/-[lit'foʃ] (to sew),

/latal'pen/-[latal'fen] (to phone);

/bə'vejt ha'sohar/-[bə'bejt ha'sohar] → [b'e'tsoaf] (in prison),

/uvik'u/-[ubik'u] (and they asked), /lə'xol/-[lə'kol] (to all).

## 9.04 EPENTHESIS

### 1. "Boosted" Stress and Citation-form

- a. Special emphasis realised as "boosted" stress in words or syllables beginning or ending with vowels (together with a non-realised /h/, /ʔ/, or /ʕ/) is marked by the addition of a glottal stop -- e.g. /'h ej/ --  $\overline{[ʔej]}$  (hey!), /'ʕal/ -->  $\overline{[ʔal]}$  (on), /'po/ -->  $\overline{[p^h oʔ]}$  (here!).
- b. Syllable-releasing voiceless stops are strongly aspirated pre-vocally for added emphasis. Otherwise they are only weakly aspirated -- e.g. /ti'pul/ --  $\overline{[ti'p^h ul]}$  (care + contrastive emphasis).
- c. Consonant-clusters in syllable-releasing position are separated by a shwa when special emphasis is placed on a lexical item (the emphasis being realised either as "boosted" stress or as a going over to citation-form within a stretch of natural speech). The shwa may be considered epenthetic in M.I.H. -- though it is a phonological feature of Classical Hebrew, with its C V C<sub>0-2</sub> syllable pattern. Here are some examples:  
/(h)aglu'la/ --  $\overline{[hag\text{ə}lu'la]}$  (the pill), /'(h)arka'mot/ --  $\overline{[ha\text{ə}ka'mot]}$  (the body-tissues).

### 2. Syllable-arresting Consonant Clusters.

An epenthetic shwa (or  $\overline{[ʔ]}$ ) is often realised in syllable-final consonant clusters, where the second consonant is a nasal. The lexical items in this case are loan-words frequently used in M.I.H. -- e.g.  $[fɪl\text{əm}]$  (film),  $[idja'liz\text{əm}]$  (idealism),  $[femi'niz\text{əm}]$  (feminism),  $[ʃa\text{ə}ʃ\text{əm}]$  (Sharm-el-Sheikh).

PART FIVE - FROM SYNTAGM TO DISCOURSE

10. THE TONE SEQUENCE

10.01 GENERAL REMARKS

1. Tonality:

The division of an utterance into syntagms is a delimiting operation, in that it cuts the sentence up into thematic information-spans. Two minimal pairs to illustrate how differences in tonality serve to delimit information-spans and, occasionally, even to point up differences in meaning would be the following:

- a. //māna \je// 'rut / (t)etse// (Menashe! Ruth is going to go out)  
//mā'na / \je'rut / (t)e\tsē// (Prevent Ruth from going out!)
- b. //|lo // et<sup>h</sup>a\sefer / (r)at̄siti// (No: it was the book I wanted)  
//'lo / et<sup>h</sup>a\sefer / (r)a,t̄siti// (It wasn't the book I wanted --  
but, presumably, something else).

2. Tempo and Syntagm-length:

The more rapid the speech, the longer the syntagm tends to be -- as reported by Chayen and Crystal. This can be seen very clearly from Section 2 of Tape 3 (see Appendix II D b, for the transcription) -- and more especially in those portions marked lento or rallentando on the one hand, and presto or accelerando on the other. This can also be seen, on a more general scale, by comparing the reading of Speaker 3 with that of Speaker 9 on Tape 1 (transcription - Appendix II B).

3. Modes of Speech:

It may be said that natural speech tends to consist of stretches of utterance in which the syntagms roughly equal either (surface) clauses or sentences, while written language that is read aloud (or the artificial

type of speech connected with lecturing or oratory) tends to consist of syntagms equalling (surface) phrases. Accordingly, any slowing down of natural speech tends to result in the formation of phrase-equivalent syntagms, while any speeding up of rhetorical speech tends to result in clause-equivalent syntagms. Clearly, the two modes of language (spoken and written) being different in surface structure, the effect of any excessive slowing down of natural speech on the one hand, and of speeding up rhetorical speech unduly on the other, is to make the utterance stylistically unacceptable to a greater or smaller degree. Thus, a markedly phrase-equivalent syntagmal organisation of natural speech creates either a "ponderous" or a "choppy" effect (what Crystal terms "asymmetric"), while a markedly sentence-equivalent syntagmal structure of material that is read aloud, far from achieving a "natural" effect, tends rather to seem "breathless". In each of these cases, the prosody runs counter to the syntactic (surface) structure of the utterance. In poetry (or in metrically structured prose), there is likewise a strong tendency to emphasise the regularity of the rhythmical element (or the rhetorical organisation of the trope) by marking caesura, verse-endings and/or rhetorical periods prosodically with silent feet or "double bars", together with an element of rallentando in the tempo of the last foot or feet (see Tape 2 and the transcriptions of poetry in Appendix II C).

#### 4. Styles of Utterance:

It is possible, in the light of the above, to re-define the major styles of utterance in M.I.H. as follows:

- a. Rhetorical Style, which has phrase-equivalent syntagms, by and large.



- b. Natural Style, which has clause-equivalent syntagms, by and large, and is faster in tempo than rhetorical speech.

Note 1: An important sub-variety of rhetorical style is the citation-form, which tends to be syllable-timed, in which the syntagm is usually word-equivalent, and in which the syllable structure may be a reconstruction of that of Classical (rather than Modern) Hebrew -- namely CVC<sub>0-2</sub> (with an inter-consonantal transition fully realised as shwa at every syllable-release). Here, too, word-accent is realised as kinetic stress.

Note 2: In a rather general way, then, it may be said that the unmarked tonalities of rhetorical speech and of natural speech are phrase-equivalent and clause-equivalent respectively (for that special variety of rhetorical speech known as citation-form, the unmarked tonality may be either phrase- or word-equivalent). The thematically and/or emotionally marked tonality of natural speech will therefore be phrase-equivalent, and the stylistically marked tonality of rhetorical speech will be clause-equivalent. In this way, rhetorical syntagms may be embedded in natural speech discourse, and natural speech - type syntagms may be embedded within rhetorical tone-sequences, in order to create certain stylistic effects.

Note 3: One type of reading aloud (generally practised by readers at an early stage in the acquisition of their reading skills) thus features a prosodically marked tonality-delimitation, whereby a transitive verb may be separated by a double bar from its direct object, and the objective preposition (a purely structural item realised as £t), then becomes deviantly stressed, for reasons outlined above, in 8.08.2), e.g.

//vā<sup>h</sup> em ra\_u//^ // 'et /<sup>h</sup> a\_melex// (and they saw -- the king).

5. Theoretical Foundation:

a. This section is based, in the main, upon the findings and premises expounded in Crystal, Palmer, Quirk and Crystal, Schubiger, and Trim (see Bibliography). The prosodic statements in the following pages have been checked against current Modern Hebrew grammatical theory -- particularly Ornan and Rubinstein 1970 and 1971.

b. The general approach stems from an indication of a possible performance model of discourse in Sgall -- where intonation is linked up with syntax and semantics, namely:

"Where one word of the sentence is stressed (by means of a certain intonational feature, or by a special position ...), the cause being ... a certain sentence-pattern ... or a position of the stressed word as a member of an enumeration or contrast ... such sentences should be looked upon as sentences whose basic Functional Sentence Perspective pattern is modified in a way by ... the position of the sentence (or its part) in the context ... The process of generating a proposition ... does not begin here with a symbol corresponding to the notion of a sentence, but with a lexeme ... chosen as the theme of the sentence. Further, the derivation proceeds with attaching another word to the phrase so derived, so that the newly attached word is rhematic in respect to the phrase ... The newly attached word stands, in the proposition, to the right of the phrase ... Every phrase has its theme and its rheme ...; another word can be added to a phrase (as a rule, it is the rheme of the so-derived

phrase); this new word can function as the head of the new phrase, or as a member depending on the head of the previously formed phrase ... One could admit that there are conditions excluding the form of one sentence as a representation of a proposition, where its representation in the form of a sequence of two or more sentences would be allowed... The set of propositions and their realisations, not of sentences only, would be defined as 'language'. This can be viewed as a step towards taking a larger unit than sentence as the basis of linguistic description (i.e. a unit corresponding to 'text' or 'message' in the sense in which 'sentence' corresponds to 'utterance')... The description... (would)include ... a mechanism with finite storage, where (for some or all levels) the lexical (and morphemic) units from the preceding text would be stored for a certain stretch of time (given, partly, by the stress of these units in the preceding text, as well as by their position in Functional Sentence Perspective, those with a greater amount of communicative dynamism being preferred in some way)."

(pp. 208/213)

However, until the formalisation of such a description of discourse has been worked out both for rhetorical and for natural speech (and that is certainly not the object of the present thesis), the only solution -- other than not going beyond the syntagm at all -- to the innumerable problems raised in this connection is to indicate in the present analysis whatever phonological correlations the corpus of evidence tends to indicate between the phonetic elements in the prosody of M.I.H. on the one hand, and a fairly traditional conception of its parasentential syntax and semantics.



10.02 TONAL COLLOCATION

1. Sentential Tone-groups:

In many instances, the intonation-pattern of a syntagm does not seem to correspond to its syntactic structure (or to its semantic interpretation). This is particularly the case for shorter (phrase-equivalent) syntagms linking up with others of a similar length to form a sentence-equivalent tone-group, whose internal tonality-delimitations are stylistically motivated. Here are some instances:

- a. The high rise typical of a confirmation-question may be syntactically motivated by the first phrase-length syntagm of such a sentence (which, itself, may have a typical continuation-pattern, with a narrow low rise), and appear only in the last syntagm of the tone-group. Clearly, if this syntagm is then analysed by itself, it will show no syntactic motivation for the question pattern.
- b. A sentence-equivalent tone-group may show a certain prosodic unity (as pointed out by Trim) in that each syntagm follows one or more major features initiated by the initial syntagm of the group. Thus, in a series of falls, a down-drift pattern may be dominant, in that each initial syntagmal stress begins on a slightly lower pitch-level than the one preceding it. Alternately, where rises are involved, the initial syllable(s) of a syntagm may follow the direction of the pitch-movement indicated by the tonic foot of the preceding syntagm.
- c. The following examples illustrate these points:

- i. Tape 2, Poem 7: //h<sub>1</sub>aj<sub>1</sub>'d<sub>1</sub>ʌ/a't<sub>1</sub>ʌ /h<sub>1</sub>az<sub>1</sub>k<sub>1</sub>ɛn// m<sub>1</sub>a/du<sub>1</sub>ʌ/h<sub>1</sub>a'j<sub>1</sub>m/  
 (Appendix II C) (int./know you, old/friend/, why - today  
 item III/2) /h<sub>1</sub>aj<sub>1</sub>'n<sub>1</sub>im/ (m)ɛmal'ʔ<sub>1</sub>t<sub>1</sub> /bi<sub>1</sub>ja/bu<sub>1</sub>ʌ//ɛt'k<sub>1</sub>ɔ<sub>1</sub>l /  
 the pigeons fill with motion all  
 /kim'ɔ<sub>1</sub>'n<sub>1</sub>ɛx<sub>1</sub>a/ n<sub>1</sub>s'ʔ<sub>1</sub>ɛ<sup>θ</sup> /a/k<sub>1</sub>ɛn//  
 your crannies bearing nests?)



Clearly, the question-pattern in the fourth (and last) syntagm of this sentence-equivalent tone-group is motivated by the syntactic interrogative marker ({ha-}) placed right at the beginning of the first syntagm in the group. The tonality-delimitations are determined partly by the metrical exigencies of poetry (there are four lines of verse here), and partly by the syntactic structure of the sentence at the surface level (e.g. the parenthetical vocative "old friend").

- ii. Tape 2, Poem 3: //ε<sub>+</sub>xad<sup>o</sup>//xaxa<sub>+</sub>ta<sub>+</sub>// (One: Repentance -- title  
(Appendix II C) 

· ✓	· ·
-----	-----

 of poem, part of a list)  
item II/1

Here, the continuation-rise (expressed in the orthography by a colon) is followed in the subsequent syntagm by the ascending pattern of the first two (unstressed) syllables. The resulting <sup>(almost)</sup>wide low fall is typical of this sort of listing enumeration.

## 2. Triggering:

In the immediately preceding examples, the intonation patterns of the terminal syntagm were regressively motivated -- i.e. triggered off, as it were, by preceding features (syntactic or otherwise). At the communicative level, at least, syntagmal intonation-patterns may also be progressively motivated; this is, obviously, the case for the low rise continuation or the level break. In other words, wherever there is a low-rise continuation pattern, this is a signal for what is to follow. It is often possible to find clear-cut communicative patterns of this sort. Here are some instances:

- a. A wide, "boosted" high-rise continuation pattern usually indicates that another continuation-syntagm follows -- often in an

enumeration-pattern -- unless the sentence is interrupted before it can be completed by its speaker, e.g.

Tape 3, Section 2, Speech 4: // aozni/o<sup>u</sup>t //vəaram/kə<sup>u</sup>l//

(Appendix II D b) (the earphones, and the loudspeakers).

- b. An interruption -- be it by reason of hesitation or through outside interference -- may trigger off a kind of "stuttered" (level intonation pattern) syntagm (or series of syntagms), often ending in an emphatic fall (thematized or topicalized, and therefore wide in pitch-span -- as if to "confirm" what has been made to appear doubtful by the hesitation).

### 3. Tonality Boundaries:

Wherever sentential tone-groups occur, it is noticeable that the syntagmal double-bar boundary may often be realized not so much by means of a silent pause, with or without breath (though this is, of course, quite possible), but by those boundary signals indicated in the footnote to 8.06.7 above as marking off foot boundaries. In this case, it is the presence of kinetic stress that marks off the terminal foot of one syntagm from the initial foot of the next one. A silence is then the realisation of what might be called a "major" double-bar boundary (to adapt Trim's terminology), and serves to mark the end of a sentential tone-group.

4. Clause Demarcation: Particularly outstanding in M.I.H. prosody is the manner in which modifying clauses are separated from their heads.

- a. Thus, almost invariably, even in natural speech, the connectors {e-} and {ki-} ("that" introducing nominal clauses) are preceded by a low (continuation) rise and double-bar, and are often accompanied by a typically syntagm-final hesitation break -- e.g.

Tape 3, Section 1, Speech 2: //xə, ʃavti //ki ze a, ni// (I thought  
(Appendix II D a) that it was I ...)

Tape 3, Section 2, Speech 37: //ani o/daat//eze ,lo//e<sup>↓</sup>ma/eo<sup>↓</sup>sim/  
(Appendix II D b) /bəul<sup>↓</sup>pan/ ze lo<sup>↓</sup>/ al o<sup>↓</sup>to/ba<sup>↓</sup>sis//

(I know that it isn't ... that what they  
do in a "total immersion" course is not  
on the same principle).

b. The same holds good, though less consistently so, for connectors  
introducing a relative clause ( {e-}, {a'er}, etc.) -- e.g.

Tape 3, Section 2, Speech 59: // ze ʃe'jeʃ/kar, jan// o ʃnej/  
(Appendix II D b) /karja, nim//, ken// ʃekor'ʔim/mi/ pat//

(There's a reader -- or two readers,  
yes? -- who read a sentence, ...).

c. However, the same phonemic morpheme ( {e-} ), wherever it denotes  
adjectival or adverbial comparison, does not stand at a double-  
bar boundary -- e.g.

Tape 1, Reader 2: //xə<sub>i</sub>'zak<sup>h</sup>/ k<sub>i</sub>'xɔl/ ʃəj<sub>i</sub>ax<sub>i</sub>l<sub>+</sub>// (as hard as it could)  
(Appendix II B)

11.03 DISCOURSE

1. Co-ordination and Subordination:

As stated by Palmer for English intonation, a tone sequence where the same intonation pattern is repeated (e.g. fall + fall, or rise + rise) often implies a loose form of co-ordination. This can be seen particularly clearly in enumerations (see the example in 10.02.2, above), but also (with possible variations for thematic emphasis) in repetitions (or partial repetitions) of statement patterns (see the example in 10.02.4b above). A typical instance of co-ordination is the exactly repeated prosodic pattern mirroring the partly repeated semantic pattern -- e.g.

Tape 3, Section 2, Speech : //və<sup>h</sup>em(o)mdot/ (ə'ɔt/ba<sub>1</sub> tɔr // baxa<sub>1</sub>nut<sup>h</sup> /  
 (Appendix II D b) /ə<sub>1</sub>zot // və<sup>h</sup>a'xarkax // ə'ɔt/ ba<sub>1</sub> tɔr //  
 (and they stand for hours in a queue)  
 before this shop, and then for hours in  
 a queue ... + interruption)

a. However, pitch movements in contrary directions do not necessarily imply subordination, nor is it invariably the case that repetition of the same intonation pattern signifies co-ordination. Thus, for instance, appositions or parenthetical utterances may be prosodically realised either as oppositions or as repetitions of intonation patterns -- e.g.

Tape 1, Reader 2: //k<sup>h</sup>en/ hit<sup>h</sup>ə'ɪt<sup>h</sup>ef/hə'ɪt<sup>h</sup>/ (b<sub>1</sub> m<sub>1</sub> ɪ<sub>1</sub> l<sub>1</sub> ɔ<sup>0</sup> // / b<sub>1</sub> ɟ<sub>1</sub> t<sub>1</sub> ɔ<sub>1</sub> /  
 (Appendix II B) /sɛt<sup>h</sup> // (so did wrap about himself the man in his  
 cloak -- all the more strongly)

Tape 3, Section 2, Speech 80: //ki<sub>1</sub> li // a<sup>h</sup> marti/ l<sub>1</sub> xa // ə // ga<sub>1</sub> //  
 (Appendix II D b) /mə'ɪd/xə<sup>h</sup> // (for to me -- I told  
 you -- er ... als... it's very  
 important)



Tape 3, Section 2, Speech 92: //və'az/ adva'rim/ (m)itxab'rim/  
(Appendix II D b) /vəni}a'rim/bazika,ron//ani jo,dea//  
(and then the things come together  
and remain in the memory, I know).

- b. Ordinarily, as pointed out by Sgall, contrastive (thematized) emphasis in a syntagm relates the stressed item to an item given in another syntagm -- in which case, it may be said that contrastive emphasis is regressively motivated, often beyond the sentential tone group (in a manner similar to the semantics of anaphoric pronominalisation). Similarly, repetition for emphasis may be said to be progressively motivated, in that the pattern set (in this case outside the sentential tone group) is repeated in precisely the same form -- or, with contrasted emphasis, in a slightly different (often topicalised) form. Here is an example in point:

Tape 3, Section 2, Speech 41: //ani x<sup>d</sup>'{ev/}e'ze/ /ja"zil/mə\ʋod<sup>h</sup>//  
(Appendix II D b) /bi}vi\li/ ze ja,il/mə,od// (I think  
that it's -- very effective: for  
me it's very effective).

## 2. Prosody and Syntax:

The corpus of evidence for the present thesis is insufficient, in my opinion, to indicate correlations of possible prosodic pattern frequencies with syntactic or semantic structures in respect of tone sequences. And, since the object of this thesis is a general description of the phonetics of M.I.H., the corpus of speech was not collected with a view to studying discourse in particular (for which, indeed, a generally satisfactory theory of description is as yet lacking). However, from a simple observation of the material, it would not seem that there is any narrowing of pitch-spans for subordinated syntagms,

as compared with their heads (a phenomenon tentatively noted in respect of English by Crystal -- who, incidentally, also concludes that his corpus is insufficient for the tabulation of sentences containing more than two syntagms). On the other hand, it does seem to me that, in M.I.H. as in English (at least, according to the way in which a general statement made by Schubiger may be interpreted) the separate phrase-equivalent syntagms of the sentential tone sequence follow a clear-cut pattern, where the syntagmal kinetic stress is realised on the head-words of the surface sentence-string. In other words, non-emotionally marked M.I.H. rhetorical speech is organised in such a way as to have its syntagms parallel the syntactic structure of the major nodes in the surface string.

### 3. Conclusion:

In conclusion, it would seem that what Baudelaire said over a hundred years ago of the painter Delacroix's expressive French speech holds just as true today of the average educated M.I.H. speaker (as, indeed, of educated speakers of other natural languages): "In conversation, he could inflect 'Mon cher monsieur' in twenty-four different ways to mean twenty-four entirely different things."

## 11. SOME PARALINGUISTIC FEATURES OF M.I.H. PHONETICS

### 11.01 GENERAL REMARKS

#### 1. The Domain of Para-linguistics:

- a. In keeping with the distinction made in Abercrombie 1967 (Chapter 1, Section 1) and in Abercrombie 1963 (Chapter 6), whatever external action characteristically accompanies the production of speech and assists its perception in addition to the vocal (or aural) medium, will be in the domain of para-linguistics. This will then include gesture, gesticulation and body-motion within the kinesic (or visual) medium (a general description of which may be found in Birdwhistell) and, at the very fringes of language, the haptic element described under the general title of Proxemics in Watson.
- b. Within the vocal medium, the distinctions first termed "metalinguistic" and listed by Trager (and codified in Chapter 6 of Abercrombie 1967) here determine the paralinguistic domain. These are taken to comprise vocalizations (both voluntary and involuntary), features of voice quality, and certain aspects of voice dynamics (particularly those connected with the stylistic and emotive marking of speech).

#### 2. Indexical Features:

The distinction indexical/linguistically significant is a particularly troublesome one to make. First of all, according to de Groot's "law of the two strata" (quoted on p.27 of Hymes), "when the discursive and the expressive import of a message conflict, the latter signals the real intent." Secondly, within the very bounds of the indexical element, it will often be extremely difficult (if not impossible) to determine distinctions between markers of group, individual idiosyncrasy and state of mind or body. Thus, a certain manner of expressing state of mind (e.g. loudness) may be characteristic of a group -- but the



extent to which it is actualized will almost certainly be idiosyncratic (this point is dealt with in some detail in Bar-Adon). Furthermore, within the indexical markers of group, there are more often than not strands leading to several different groupings. Thus, a marker of Oriental linguistic origin (such as the presence of the phonemic pharyngeal/velar distinction) will almost certainly also mark social class, and may also mark region of residence. Then, certain biological distinctions (e.g. male/female, adult/child) may have certain indexical markers in some social, regional and origin groups but not in others. Finally, the kinesic and proxemic elements that might serve as indexical group-markers (for origin and/or social class) may be coupled with vocal markers that tend to contradict the indexical marking of the non-vocal media -- vocal elements being more obviously controllable, and thus easy to alter in the numerous cases of social adaptation and acculturation, than the largely unconscious non-vocal elements. Similarly, a person who has adopted a societal pattern different to the one he or she was born in (which, in a community as socially mobile as Israel, is the rule rather than the exception) may have taken on some of the "new" vocal elements but not the others (e.g. Sabra, de-pharyngalised speech, but Oriental-type loudness -- or Sabra-type vocalisations coupled with Oriental pitch-patterns, etc.).

### 3. Varieties of Para-linguistic Features:

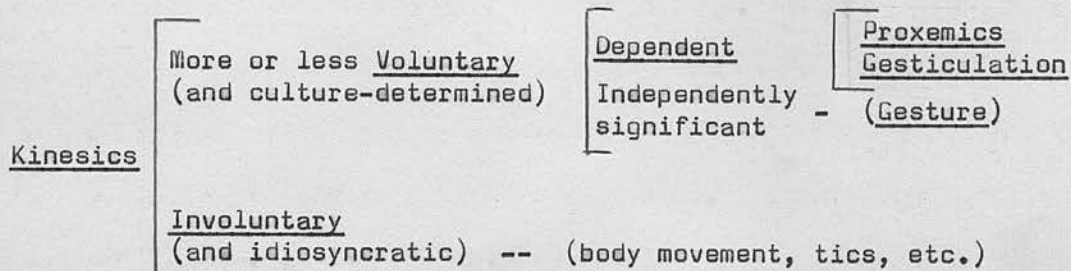
In this respect, then, even more than in respect of intonation, M.I.H. is in a state of flux -- and the following sections will therefore necessarily consist only of a number of non-systematic remarks to exemplify the various para-linguistic features described and listed. By and large, however, it is as possible here as on the linguistically significant level to distinguish between a basically Sabra (Ashkenazic) dialect and a basically Oriental (Judaeo-Arabic) dialect.



11.02 KINESIC FEATURES

1. Varieties:

In this field, the following distinctions may be made:



2. Dependent Kinesic Features:

In the present state of knowledge of this field, only a number of very general statements may be made:

- a. One of the major reasons for inter-personal friction and unconscious socially determined conflict in Israel today is probably to be sought in the differing proxemic habits of people coming from different geo-national backgrounds. Thus, what Hall points out in connection with the differing stand<sup>and</sup> speaker-interlocutor distances in respect of Latin Americans and North Americans (chapter 10, especially pp. 160/64) necessarily holds good for immigrants to Israel from these two areas -- and, probably, their second generation descendants as well. Even more obvious an instance of this aspect of para-linguistic social interaction is the totally different spatial-distance/speech correlation in non-familiar male/female communication for Oriental and non-Oriental communities.
- b. In the domain of gesticulation, it is anecdotally well-known that Israel's second-generation farmers are far less prone to accompany non-emotive speech with gesticulation than town dwellers.

Here, it is worth remembering that farming is still considered (at least at the education<sup>al</sup> level) the morally most prestigious occupation -- and farmers, therefore, appear as socio-cultural models held up to Israel's younger generation for emulation in all things, including language and para-linguistic habits.

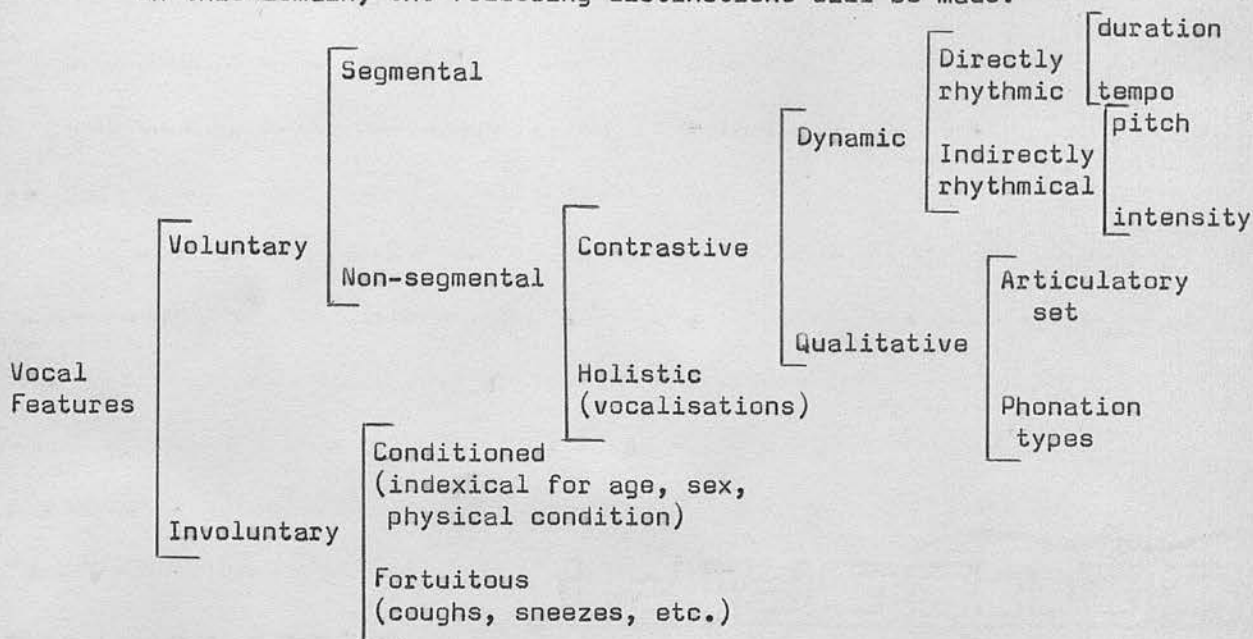
3. Gesture:

Here it is becoming increasingly obvious that the "Mediterranean" sign-language is gaining ascendancy. Thus, the bunched fingers of a hand moved up and down rapidly, with the arm bent fairly closely to the body at the elbow (meaning "Wait!"), the single up-and-down movement of the head to signify "No" (rather than the Occidental "Yes"), the various Oriental "rude" gestures -- all these are far more common to native-born Israelis than to immigrants from the European countries. The reason, probably, is the "melting-pot" combination of non-segregated schooling and compulsory military service (for men and women alike), which have made this development far more noticeable since the establishment of the state (1948) than before it.

### 11.03 META-LINGUISTIC ELEMENTS OF THE VOCAL MEDIUM

#### 1. Varieties:

In this domain, the following distinctions will be made:



#### 2. Linguistic vs. Para-linguistic Elements:

Of the above, the segmental features as well as most of the contrastive dynamic features have been reviewed in the preceding chapters. The segmental features are, by and large, linguistically significant (as phonemes), the directly rhythmic features being in part so (duration is here taken as a major characteristic of rhythmic stress, while tempo -- on the other hand -- is usually connected with stylistic marking), and the indirectly rhythmical features being in the main so (pitch and intensity are considered para-linguistic only if they represent emotive marking). Since the involuntary vocal features, similarly to the involuntary kinesic ones, are of little interest in this thesis, the following remarks will deal with the voluntary para-linguistic features not already touched upon previously -- namely, vocalisations and voice qualities (articulatory set and phonation types), as well as with some indexical aspects of the segmental features and of intensity.

### 3. Vocalisations:

These may be taken to include not only the so-called grunts and clicks (symbolised by "uh-huh", for yes, "tut-tut" for reproach, etc.), the wordless exclamations, and the imitations of various sounds (e.g. "pif-paf" for the sound of a gun, "hav-hav" for the barking of a dog, "hm" for throat-clearing, etc.) -- but also certain unusual intonation-patterns superimposed upon standard expressions to change their significance entirely - e.g. //˘ejfo// (the word itself meaning "Where", with the pattern added to it to indicate that it is an expression of incredulity).

//'ma/pitom// (expressing surprise and doubt, and meaning literally "What, all of a sudden?").

Most of these latter are exclamations, and therefore belong rather loosely to the same holistic type of sound-pattern as such other exclamations as //eɪ// (expressing incredulity), //'a/wa// (expressing pain childishly), //hej// (vocative call), or //a'lo<sup>u</sup>// -- alternately //a\lo<sup>u</sup>// (telephone call). In this connection, it might be worth noting that the so-called oaths, name-callings, etc. come most frequently from languages other than Hebrew (Arabic, Russian, Yiddish, Ladino), and may thus well be counted as holistic vocalisations with non-Hebrew phonological features.

Note: The hesitation-vocalisation, which also belongs in this general category is realised in M.I.H. as  $\left[ \begin{array}{c} \bar{e} \\ \bar{r} \end{array} \right]$  or  $\left[ \begin{array}{c} \bar{e} \\ \bar{r} \end{array} \right]$  (with a level - high, medium or low - pitch).

### 4. Articulatory Set:

In the sense in which this aspect of utterance is discussed by Honikman, the following features seem typical for M.I.H.:



- a. Since the most frequent vowels are /e/ (including /ə/), /a/ and /i/ (in that order), and the consonants (ranging in place of articulation between labial and velar) are distributed fairly equally in the order of their frequency between the (most frequent) bilabial /m/, the apico-prealveolars (e.g. /t/ and /n/), the lamino-palatal (/ʃ/), and the dorso-velar /r/ and /x/, the jaws are ordinarily very slightly open and the lips rather loosely spread and fairly active.
- b. There is, accordingly, a great deal of movement by the active articulator in its two extreme sections (tip and back) along a comparatively wide stretch of the passive articulation-system (from the velum to the back of the front teeth). This implies considerable muscular activity, and the oral cavity is therefore not relaxed, the outer buccal muscles being, on the whole, quite tense.
- c. The tongue would then seem to be anchored laterally to the roof of the mouth, as for English -- but with the tip spread, the body convex to the roof and the underside neutral, as for French.

##### 5. Phonation Types:

In the terminology devised by Abercrombie (1967) and Catford (1964, and 1968), the para-phonological function of the various phonation-types may be both indexical and contrastive -- the contrast being expressive (i.e. emotive, and therefore para-linguistic) rather than discursive. Unlike R.P., the range of M.I.H. seems to be from ordinary whisper to falsetto, rather than from whispery creak to falsetto, and there is far less breathy voice in M.I.H. than there is in R.P. This can be seen in the corpus, where there are not infrequent occurrences of "very high" falsetto pitch on the one hand, and low whisper on the other (for both male and female speakers) -- but only

rather few occurrences of creak. Occasionally, too, there is (together with whisper) utterance initiated on a pulmonic-ingressive air-stream -- e.g.

Tape 3, Section 2, Speech 17: //ken// ani x<sup>0</sup> 'jev/ se\lo//

(Appendix II D b)

(Yes -- I think not!)

(Uttered with ingressive, breathy whisper -- possibly falsetto).

#### 6. Physiological Elements:

The vocal features are noticeably affected by physiological factors. Thus, in respect of the segmental features, smiling has an effect on vowel-quality through its concomitant lip-spreading -- and so has pouting, by virtue of lip-rounding. In a similar fashion, emotional tension may affect phonation, as well as the dynamic non-segmental features. Anger, for instance, in addition to finding expression in increased loudness and higher pitch (due to the tensing of laryngeal muscles connected with this emotion) may also cause velic or pharyngeal constriction, and thus affect the phonation of speech in M.I.H. Accordingly, the remarks made in 11.03.4 and 5 above should be taken as referring to gross articulatory set and phonation-types, both being neutral as to facial expression and physiological changes due to any fairly strong emotion.

## 11.04 INDEXICAL FEATURES

### 1. Linguistic Origin:

Most speakers of M.I.H. who are native speakers of the language grew up in households where the parents or the grand-parents spoke the language of their country (or countries) of origin. This inevitably affected the children's M.I.H. speech, especially in respect of their pronunciation. For the majority of M.I.H. speakers, it is therefore usually possible to distinguish the linguistic background from which they come. And, while the following remarks hold true with greater strength for the pronunciation of M.I.H. as a non-native language, as spoken by people with the various native languages listed, they also hold true to some extent for native M.I.H. speakers with the pertinent linguistic background -- in that some, if not all, of the characteristic pronunciations listed may serve as "give-aways" of their linguistic origin.\* Indeed, in respect of the first group listed below, it may be said that their pronunciation is a dialectal accent (the one termed "Oriental Hebrew" in the first chapter of this thesis). Here, then, are the major indexical features for linguistic origin:

#### a. Arabic --

##### i. Segmental features:

A. Post-velar phonemes realised (especially /ħ/ and /ʕ/)

B. /r/ realised as [ʀ] or [r̥];

##### ii. Non-segmental features:

Comparatively greater loudness and/or intensity on both marked and unmarked utterances.

#### b. Bulgarian --

i. shwa-transition (/ə/) realised as [ɤ];

---

\* In Appendix II, the native language(s) of the speakers' parents will invariably be listed, therefore.

ii. /l/ realised almost invariably as  $\left[ \underline{\underline{l}} \right]$ .

c. English --

i. Segmental features:

A. /t/ and /d/ realised as  $\left[ \underline{\underline{t}} \right]$  and  $\left[ \underline{\underline{d}} \right]$ ;

B. /r/ realised as either  $\left[ \underline{\underline{r}} \right]$  or  $\left[ \underline{\underline{r}} \right]$  ;

C. Stressed vowels tend to be diphthongised towards "closer" position -- e.g. /'o/  $\rightarrow$   $\left[ \underline{\underline{o}} \underline{\underline{a}} \right]$ ;

ii. Non-segmental features:

Presence of creak.

d. German --

i. /r/ realised as  $\left[ \underline{\underline{R}} \right]$ ;

ii. Pronounced lip-rounding on back vowels and /ʃ/;

iii. Closer realisation of front and back vowels; /a/ is an open back vowel ( $\left[ \underline{\underline{a}} \right]$ ).

e. Polish --

i.  $v \begin{pmatrix} m \\ n \end{pmatrix}$  is often realised as  $\tilde{v}$  (e.g. /'xam/  $\rightarrow$   $\left[ \underline{\underline{x}} \underline{\underline{a}} \right]$  - hot);

ii. /i/ is often realised as  $\left[ \underline{\underline{i}} \right]$ ;

iii. /h/ may be realised as  $\left[ \underline{\underline{x}} \right]$ .

f. Romanian --

i. /r/ is realised as  $\left[ \underline{\underline{r}} \right]$ ;

ii. /h/ may be realised as  $\left[ \underline{\underline{x}} \right]$ ;

iii. shwa-transition (/ə/) realised as  $\left[ \underline{\underline{ə}} \right]$ .

g. Russian --

i. Segmental features:

A. Consonants tend to be palatalised when grouped with either of the two front vowels or with /j/;

B. Stressed vowels tend to be diphthongised from "closer" position -- e.g. /'o/ --  $\left[ \underline{\underline{o}} \underline{\underline{u}} \right]$ ;

ii. Non-segmental Features:

Pitch-spans tend to be wider than the standard in M.I.H., particularly as regards falls.



h. Yiddish --

- i. Stresses tend to be pre-posed;
- ii. Vocatives have the typical rise-fall intonation described by Weinreich.

2. Regional Accents:

These may be combined with indexical markers of linguistic origin: thus, the original settlers of Rosh-Pinna came, in the main, from the Romanian-speaking part of Bessarabia, the settlers of the Jezreel Valley from the Ukraine, and the settlers of Ramat-Yokhanan from German-speaking parts of Czechoslovakia. In addition, it is extremely doubtful whether actual dialectal varieties have developed fully; on the whole, it would probably be more to the point to list the following details under a heading called something like "local idiosyncracies of pronunciation" rather than "regional accents".

a. Jezreel Valley settlements --

- i. /'e/ is realised as  $\overline{[e_j]}$  in ante-penultimate position, and also in final position in the word /har'be/ (many).
- ii. /x/ may be realised as  $\overline{[k]}$  word-initially, after morphemic  $\{C\_ \}$  or  $\{C^{\partial}\_ \}$  (e.g. /bə'xol/ -->  $\overline{[b_e'k_{\partial}l]}$ : "in every ...")

b. Ramat Yokhanan (a settlement in the vicinity of Haifa) --

Extra length and openness for all vowels, very slow tempo.

c. Rosh Pinna (a village in Upper Galilee -- the first to be founded there, some 90 years ago) --

/v/ almost invariably realised as  $\overline{[b]}$  -- e.g. /zvu'vim/ -->  $\overline{[zbu'vim]}$ : "flies".

d. Ultra-Orthodox settlement (Jerusalem, Bnej-Brak, Kfar Hassidim, etc.) --

Intonation-patterns of Yiddish rather than M.I.H., pre-posed stresses, strongly nasalised vowels (especially in stressed syllables)\*

Note: In many cases, the above regional idiosyncracies of pronunciation have tended to become more widespread geographically, and to merge into indexical-social markers. Thus, the second-generation settlers of the Jezreel Valley have founded and partly populated many of the new kibbutzim in the Negev and the South (and so, their pronunciation-habits are becoming more and more closely identified with "kibbutz" social marking). Similarly, ultra-orthodox pronunciation-patterns have spread throughout the country, with the establishment of new villages and suburbs by this social group.

### 3. Biological:

#### a. Female --

##### i. Segmental features:

/ʃ/ realised as [ʃ̣<sup>s</sup>] (described in Blanc 1961 and Chayen as "pre-palatal, possibly alveolar") is an indexical marker (to quote Chayen again) of "young female, coy"; \*\*

##### ii. Non-segmental features:

Breathy voice and a slightly wider pitch-span than for males or children.

#### b. Childish --

i. As reported by Klausner, the childish lisp seems to be more prevalent among non-oriental M.I.H. speakers than among those with a linguistic background of Arabic. The realisation here

tends to be /s/ → [ʃ̣<sub>̣</sub>];

ii. In many cases, a typically child-indexical realisation of /l/ is [ḷ] -- especially inter-vocalically.

\* See especially Reader 6, Tape 4 (Appendix II B)

\*\* See especially Reader 8, Tape 4 (Appendix II B)

Note: Typical markers of that style of speech known as "baby-talk" are:

- i. lisp and jotisation, as in 11.04.3b above;
- ii. high-pitched voice -- at times, falsetto;
- iii. wider than ordinary pitch-spans, especially on rises.

## 11.05 PHONAESTHESIA

### 1. General:

The effect upon M.I.H. of its Semitic morpho-syntactic patterning techniques is such as to militate against any but the most limited phonaesthetic features. These may, in future, become more abundant and easy to recognise (especially in view of the permissibility of many consonant-clusters in M.I.H., as well as the gradual acceptance of foreign loan-phonemes and phono-tactical possibilities into the language) -- but, for the time being, the standard word-formation method "consonantal (semantic) root + vocalic (grammatical) pattern" must necessarily make it difficult to attach any non-arbitrary interpretation to the standard morpho-phonemic sound-patterns. On the other hand, the co-existence and mutual interaction of the Hebrew with other, non-Semitic, phonological and syntactic systems have made phonaesthesia feasible in such domains as the coining of acronyms and trade-names, onomatopoeia and other imitative devices, and nicknames. Furthermore, while the conflation of various Classical Hebrew phonemes in the far smaller number of M.I.H. phonemes (in respect of both vowels and consonants) also militates against phonaesthetic patterning (or, at least, against the survival of most such patterns, if they were feasible), the resulting multitude of homonyms and homophones has made punning a favourite form of linguistic play-activity in M.I.H. (for the purposes of both humour and serious poetry). This, added to the recentness of its revival (and the concomitant lexical creativity that is still in progress), has made for a current flowering of M.I.H. not dissimilar in spirit to those of Tuscan at the time of the dolce stil nuovo, or of English during the Elizabethan age.



## 2. Imitative Devices:

If one excludes vocalisations and verbal gestures of the types denoted by Firth as "pooh-pooh" (//\feɪ// -- "ugh", expressing disgust), "yo-ho-ho" (//\he.j/hop// -- "heave-ho", to accompany strenuous physical activity) and "ta-ta" (//\na lɔxa// "there you are!", accompanying a contemptuous offer or a blow, in which the tongue-movement mirrors the physical gesture), what remains to be dealt with under this heading is onomatopoeia and "take-offs". Here it is important to point out once again the state of flux pervading the whole domain of M.I.H.

phonaesthesia: while the following statements are true as regards the majority-practice, most of the forms listed below will have alternative realisations favoured both idiosyncratically and, to some small extent, by linguistic-origin and/or regional groups.

a. Onomatopoeia are basically of two types:

i. Imitations of natural sounds based on Hebrew morpho-phonemic materials. These are usually quadri-consonantal or reduced (bi-consonantal) roots -- often obtained by eliding one of the consonants of a tri-consonantal root; reduplication often re-inforces the onomatopoeic element -- e.g.

/lɔmal'mel/ -- to mutter; /bak'buk/ -- bottle; /ri(r)'ru(r)/ -- rustle; etc.

ii. Imitations of natural sounds based on non-Hebrew morpho-phonemic materials -- often Hebraisations of loan-onomatopoeia from Yiddish, Arabic or Russian -- e.g.

/'hav 'hav/ -- bow-wow; /kuku'riku/ -- cock-a-doodle-do;  
/'pif 'paf/ -- bang; /'tik 'tak/ -- tick-tock, etc.

Note: When -- especially in baby-talk -- onomatopoeia of this type are nominalised, they take the primary accent (realised as rhythmic stress) on the first syllable only, if the onomatopoeic expression has more than one accent) -- e.g.

/ha'pifpaf/ -- the gun.

- b. Take-offs consist in a sort of imitative Hebraisation of foreign or dialectal indexical markers. Arabic take-offs will thus be fully pharyngalised, German take-offs will feature extremely open vowels, ultra-orthodox take-offs will feature "sing-song" intonations, etc.

### 3. Nicknaming:

This is basically of two types --

- i. Diminutive, effected by means of reduplication -- e.g.

/kelev/ -- /klav'lav/ (dog -- puppy); /ka'tan/ -- /ktan'tan/ (small -- tiny); /ja'rok/ -- /jərak'rak/ (green -- greenish); etc.

- ii. Diminutive, partitive, etc. effected by non-Hebrew affixation and/or sound-change -- e.g.

/ka'tan/ -- /ka'tant̃ik/ (small -- tiny); /bu'ba/ -- /'bubəle/ (doll -- dolly); /'dan/ -- /'danile/ (Dan -- Danny); /ki'but̃s/ -- /ki'but̃snik/ (collective settlement -- member of collective settlement); etc.

### 4. Word-formation:

In the phonaesthetic sense, four types may be distinguished here, namely --

- a. Acronyms, especially military ones, with an onomatopoeic element (or imitative of words with related meanings) -- e.g.

/rar'nat/ -- antitank grenade thrower (from the initials of the full compound word, /ro'me ri'mon 'neged 'tānkim/); /'xen/ --

Women's Corps (from the initials of the full compound word, /'xɛjl na'ʃim/ -- which, with appropriate vocalisation, is a homonym of the M.I.H. word for "charm"); etc.

b. Nonce-words, especially slang and trade-names, often coined by combinations of M.I.H. and non-Hebrew elements -- e.g.

/tʃik tʃak/ -- nonce word in "underworld" slang, signifying "all of a sudden", "quickly", etc; /ktav'lav/ -- "journalese" slang term, signifying "muck-raking reporter" (and made up of a combination of /ka'tav/ -- reporter, and /klav'lav/ -- puppy); /ta'sas/ -- trade-name for a type of fizzy lemonade (based on the Hebrew root-and-pattern structure for "something-that-fizzes" and the onomatopoeic element, which is otherwise purely fortuitous); etc.

c. Calques of various types -- e.g.

/lid'fok/ -- army-slang word for "to mess up, to do (someone) a bad turn" (from the Hebrew root-and-pattern structure for "to knock" and the four-letter word connotation familiar to ex-British servicemen);

/tʃiz'bat/ -- Hagana-slang term for "tall tale" (from the Arabic, and thus, by its phonological pattern, associated with "Arabian Nights");

/'jeke/ familiar-type word for "of German origin" (occasionally expounded as an acronym for "Jew slow on the uptake" -- /jəhu'di 'kʃe hava'na/ -- but more probably a phonological calque on the German for "jacket" in a typical Yiddish mis-pronunciation, and used because, in the 30s, German immigrants were among the few people in the country, except colonial officials, to wear jackets and ties); etc.



## 5. Systemic Mispronunciations:

Hebrew, as a revived language, while officially prescriptive to the extremest degree, has in actual practice proved extremely hospitable to phonological importations from other linguistic systems. This has, naturally, proved to be the case most particularly in those phonological slots where Classical Hebrew had unoccupied positions (e.g. /ʒ/, to parallel the voiceless /ʃ/), and in phonotactic slots related to M.I.H. practice (e.g. /t̂/ and /d̂/, to parallel the M.I.H. practice of affricating /t̂s/). However, foreign words (e.g. place-names) and loan-words may be systemically Hebraised, with the following major categories being the most obvious:

- a. /w/ → /v/, e.g. /'viljam/;
- b. /ŋ/ → /n/ + either /g/ or /k/, e.g. /'vaŋ(ɪ)ngton/, /'tankim/;
- c. /θ/ and /ð/ → /t/ or /d/, e.g. /'temza/;
- d. Arresting CC → C<sup>3</sup>C, e.g. /femi'nizəm/, /'filim/;
- e. De-pharyngalisation of the emphatic consonants of Arabic (e.g. [na'sr̥] → [ˈnatsɛɪʃ]).

Note: What this amounts to, of course, is the realisation of non-Hebrew phonemes as their closest approximation in M.I.H. (especially where more complex vowel-systems than those of M.I.H. are concerned), and the imposition of the M.I.H. phonotactic system on the non-Hebrew one.

## 6. Aesthetics of M.I.H. Pronunciation:

- a. The following statement (from Rieger, 1953) is typical of the prescriptive approach that still dominates most academic investigations into M.I.H. pronunciation -- "Modern Hebrew pronunciation tends to be careless and little attention is paid to the aesthetic aspect. Those



who take care to pronounce Hebrew well are often considered ... pedantic or affected" (p.47). It is, moreover, noteworthy that, in his review of this book (in Language 30/1 -- 1954), Chomsky remarks upon its author's awareness of modern descriptive techniques, and repeatedly mentions his non-prescriptive approach with no small measure of approval. "Unfortunately," he points out, however, "this awareness seems to dissipate when he in fact approaches the linguistic material." Rieger, in fact, agrees that the creation of a unified non-guttural pronunciation is more important than the insistence on a so-called "scientific" reconstruction of the ancient Biblical pronunciation recommended by some academicians. However, he too insists on the necessity to root out certain so-called errors -- such as the non-realisation of shwa-transition and the failure to distinguish between the stop and the fricative aspects of the labial consonants. Clearly, there is a picture, variegated and vague though it may be, of what is "aesthetically good" Hebrew -- namely a standard of pronunciation as close as possible to that expounded in the various ancient and medieval comments on the Bible and its language, (and, in some versions, almost as pharyngal as Arabic). This may be termed the prescriptive, academic approach.

b. Another approach to the aesthetics of the language is the more personal one of people actually working in and with it -- principally the poets and belle-lettrists of M.I.H. These would often prefer to import certain non-Hebrew features into the pronunciation standard. Thus, the poet Abraham Shlonsky (one of the few representatives of the first revival of M.I.H. as a standard, spoken language who is still living) called in a public lecture in 1969 for an abandonment of the final-syllable stress rule, claiming that it made Hebrew sound

harsh and inflexible, whereas pre-posed accentuation made it sound soft and beautiful. One reason for this, of course, is that in the Ashkenazic-type Hebrew familiar to Shlonsky in his childhood that was the standard accentuation rule. However, it is interesting to note that Shlonsky, with a poet's true ear for the aesthetics of real speech, was only echoing what seems to have become at least the partial practice in M.I.H. For, again in Rieger (Note 26 to Chapter 3, p.64), we find that "whereas more and more native speakers are beginning to accentuate men's names on the last syllable ... they still continue for the most part to accent women's names on the syllable before the last". Clearly, then, in the constant (and natural) struggle for the maintenance of language-traditions against the necessity for a living language to change, the aesthetic standards of the creative artists will often mark the true mean between the prescriptivists and the "slovenly" articulations of everyday common speech. This may be surprising, since poets tend quite frequently to be conservative in their linguistic habits -- but in the context of M.I.H., where the poet's ear for speech is more often than not the truest way of determining what "vox populi" finds acceptable and what it rejects, it may be as good a criterion, at least aesthetically, as the inflexibly neutral recording apparatus of the field worker in phonetics and/or dialectology.

## 11.06 CONCLUSION

### 1. Effectiveness of Previous Works in the Subject

The pronunciation of Modern Hebrew has been investigated a number of times in the past. However, such work has usually been characterised by one of the following two shortcomings --

- a. It has presented a normative rather than a descriptive picture (e.g. such early works as Segal 1928, Burstein 1941 and even the article in *Le Maitre Phonétique* by Garbell). Thus, the phonemes of Hebrew are regularly described in this type of work as conforming to the rules of Tiberian vocalisation (a ten-vowel system + shwa) and feature prescriptively "pharyngalised" consonants.
- b. It has dealt with theoretical phonology, morpho-phonemic theory (e.g. Chomsky 1951, Tĕnĕ 1961, Chayen 1969) or has taken as its task the comparison of Hebrew with other languages (e.g. Enoch 1965, Mendelsohn 1970).

### 2. The Purpose of the Present Work:

M.I.H. is probably the best modern example of the revival of a language long considered to be as "dead" as Latin or Classical Greek, In its pronunciation, however, it is far from being the same language as that of the Bible -- or even of the post-Biblical commentaries or Medieval liturgy. It has, in the recent past, benefited considerably by the activities of the prescriptivists who revived it and who held (in Rieger's words) "that our principal objective should be to achieve a common standard pronunciation in Israel and in the Diaspora". That this was still necessary a quarter of a century ago is amply documented in such books as Rieger's and Weiman's (1950). It is, however, no

longer true today, at least insofar as the segmental features of M.I.H. are concerned. As for the non-segmental features, there is still a considerable amount of fluctuation, the flux being increasingly evident as one moves <sup>N</sup> farther away from the linguistically significant to the para-phonological domain. Here it would still be pertinent to quote Rieger (p.67):

"Modern Hebrew is not yet fixed in its forms as are English or French, for example. It is still undergoing very rapid change. Teachers and writers have a far greater influence on Hebrew than teachers and writers in Europe and America have upon their languages. Hebrew speech still draws to a very considerable extent from written sources. The language of the Bible, the Mishna and the Agada have had a great influence on Hebrew during the last 50 years and still exercise a marked influence on both spoken and written Hebrew."

Since this is still, to some extent at least, true to the facts, it is hoped that the present work, by describing the actual details of M.I.H. pronunciation in the widest possible sense -- i.e. from the isolated segments, through the syllable, the foot and the syntagm, to connected discourse -- will have contributed, in some small way, to the advancement of the revival of the language.



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\* The tape-recordings in this section are separately attached to the thesis.

APPENDIX I\*

"UNIFIED" BROAD TRANSCRIPTION

The North Wind and the Sun - // 'ruah/hatsa'fon/vaha(eme)//

A. Standardised Transcription

1 2 3 4 5 6 7  
 // 'ruah/hatsa'fon/vaha(eme)//nixnə'su/'paɪam/ləvi'kuah//^ // 'mi-mihen/  
 8 9 10 11 12 13 14  
 /haza'ka-joter//^ //vəhi'ne/'ba/likra,tan//ho'lex,regel//ʃa'tuf/  
 15 16 17 18 19 20  
 /bəmə'qil/ham//^ //ha'ʃtaim/his,kimu//^ //se'zot/aʃer-tatsliah/  
 21 22 23 24 25 26 27  
 /riʃo'na//ləhaf'ʃit/et-ha'ʃi/ məməʃi,lo//^ //təha'ʃev/ka'haza'ka/ jo'ter//  
 28 29 30 31 32 33  
 //^ //az-na'va/ha'ruah/ha'zak/kə'xol/ʃəjax,la//^ //aval-kə'xol/  
 34 35 36 37 38 39 40 41  
 /ʃəna'va/ha'zak/joter//^ //ken/hitʃa'tef/ha'ʃi/ bəməʃi,lo//bə'jeter/  
 42 43 44 45 46 47 48  
 /s'et//^ //ulva'sof/vit'ra/ha,ruah//ʃal-'kol/nisa'jon/no'saf//^ //^ //  
 49 50 51 52 53 54  
 //az-hit'hila/ha'ʃeme/ ləha,ʃits/et-kar,neja/heha,mot//^ //umi'jad/  
 55 56 57 58 59 60 61  
 /pa'ʃat/ho'lex/ha,regel//et-məʃi,lo//^ //və'xax/ne'el'ʃsa/ha'ruah/  
 62 63 64 65  
 /ləho,dot//^ //ʃəha'ʃeme/haza'ka/mi'mena//

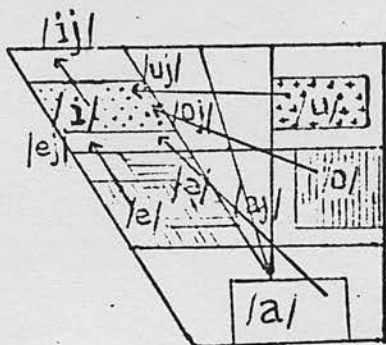
B. Translation

1 2 3 4 5 6  
 //Wind/of the North/and the sun//entered/once/into (a) dispute,//  
 7 8 9 10  
 //which - of them/(was the) strong more// -- //and lo/(there) came/  
 11 12 13 14 15 16 17  
 /towards them// (a) goer/ (on) foot,// wrapped/in a coat/warm.// The two/  
 18 19 20 21 22  
 /agreed,//that that one/who-should succeed/first//in stripping/  
 23 24 25 26 27  
 /the man/of his coat,//should be considered/as the strong/more.//  
 28 29 30 31 32 33  
 //Then-blew/the wind//as strongly/as ever/she could// -- //but - as ever/  
 34 35 36 37 38 39 40  
 /she blew/strongly/more,//indeed/wrapped himself/the man/in his coat//  
 41 42 43 44 45 46 47  
 /with more/energy,//and at last/renounced/the wind//(on) - every/attempt/  
 48 49 50 51 52 53  
 /additional.//Then-began/the sun/to diffuse/her rays/the warm ones, //  
 54 55 56 57 58 59  
 //and at once/stripped (off)/(the) goer/of the foot//his-coat.// And so/  
 60 61 62 63 64 65  
 /was compelled/the wind/to admit//that the sun/(was) stronger/than herself//

\* This Appendix sums up the major characteristics of M.I.H. phonetics, as expounded in the present thesis.

C. Conventions

1. The two main dialects of M.I.H. are "Sabra" (no post-velar consonants, /r/ → [ʁ]) and "Oriental" (including post-velar consonants, /r/ → [ʁ]).
2. Syllable → C<sub>0-2</sub>VC<sub>0-2</sub>, where arresting C<sub>2</sub> → /t/, and arresting C<sub>1</sub> may be any consonant except /p/, /b/, /t/\* or /d/\*.
3. M.I.H. has a system of five vowels and a shwa-transition. All vowels may occur syllable-initially, between consonants, and syllable-finally; shwa can only occur in syllable-final position. While shwa can not carry stress, all vowels may occur in both stressed and unstressed position; in the former case, they tend to be more open, in the latter (especially when following a stressed syllable) more close. Shwa may, however, occupy a whole foot - as a hesitation-signal, in which case it is realised as [ɛ̃]



Notes

- i For (/a/), see 18i, below.
- ii There are five possible diphthongs, all "falling" - namely:  
/ij/, /ej/, /aj/, /oj/ and /uj/.
- iii Any V + V combination places a syllable-boundary between the two vowels.

\* Though these may exist idiolectally, as geminations.

- iv Stressed vowels are appreciably longer than unstressed ones, the range being about  $1/6$  more duration for a stressed vowel in an open syllable than for an unstressed vowel in a closed one. "Boosted" stress adds to vowel-duration and implies diphthongisation towards "closer" position - e.g.  $(C)\varepsilon^{\text{B}}(C)$ .
4. All M.I.H. consonants are pulmonic and egressive. There are 18 essential consonants, to which may be added two consonantal phonemes in dialectal currency ( $/\text{ɟ}/$  and  $/\text{h}/$ ), two in free variation with  $\emptyset$  ( $/\text{r}/$  and  $/\text{h}/$ ) and a dialectal division of the phoneme  $/\text{r}/$  into either  $[\text{r}]$  (in the  $/\text{ɟ}/$ ,  $/\text{h}/$  dialect) or  $[\text{x}]$  (in the dialect where  $/\text{ɟ}/ \rightarrow \emptyset$  and  $[\text{h}/\text{x}/] \rightarrow [\text{x}]$ ). The latter is the most frequent in occurrence. The following table shows the articulatory distribution of the 23 consonants, the five items additional to the 18 essential phonemes being given in brackets:



	Labial	Dento-Alveolar	Palatal	Velar	Pharyngeal	Glottal
Obstruent	Plosive	/p/, /b/	/t/, /d/		/k/, /g/	(/ʔ/)
	Affricate		/tʃ/			
	Fricative	/f/, /v/	/s/, /z/	/ʃ/	/x/, [χ]	(/ħ/), (/ʕ/)
	Tap/Trill		([ɾ], [r])			
Sonorant	Nasal	/m/	/n/			
	Lateral		/l/			
	Approximant			/j/		

Examples.

(Initial - Intervocalic - Final)

- /p/: /pa'rax/, he flourished - /ma'pa/, map - --  
 /b/: /ba'rax/, he ran - /ma'ba/, expression - --  
 /t/: /ta'rax/, he toiled - /ma'ta/, plantation - /'peret/, small change  
 /d/: /da'rax/, he trod - /ma'da/, science - /'pered/, mule  
 /k/: /ka'rax/, he bound - /ma'ka/, a blow - /'perek/, chapter  
 /g/: /ga'ra/, he detracted - /ma'ga/, contact - /'pereg/, poppy  
 \*(/ʕ/): /ʕa'rax/, he edited - /ʕa'(ʕ)on/, clock - /'pera(ʕ)/, tousled  
 (/ʔ/): /ʔa'rax/, the infant - /ʕa'(ʔ)on/, noise - [ʔ'pere(ʔ)], wild  
 /tʃ/: /tʃa'rax/, he screamed - /ma'tʃa/, programme - /'peretʃ/, breach  
 /f/: -- - /ka'fa/, he froze, /'teref/, prey  
 /v/: /va'rax/, and soft - /ka'va/, he decided - /'kerev/, inside  
 /s/: /sa'rax/, he sinned - /a'sa/, he did - /'peres/, vulture  
 /z/: /za'rax/, it shone - /a'za/, powerful, fem.sing. - /'berез/, tap  
 /ʃ/: /ʃa'rax/, fern - /ma'ʃa/, he pulled out - /'kereʃ/, plank  
 /x/: /xa'rax/, he scorched - /ma'xa/, he clapped - /'perex/, oppression  
 [χ]: [χax], soft - [ma'χa], gall - [χ'geχ], convert  
 \*(/ħ/): /ħa'rax/, he scorched - /ma'ħa/, he clapped - /'perħ/, flower  
 (/h/): /h'a'rax/, the infant - /ʕa'(h)a/, he stayed - --  
 ([ʀ]): [ʀax], soft - [ma'ʀa], gall - [ʀ'geʀ], convert (/r/ may also be trilled)  
 /m/: /ma'rax/, he smeared - /ʕa'ma/, he heard - /'terem/, not yet  
 /n/: /'nax/, he rested - /ʕa'na/, year - /'keren/, horn  
 /l/: /la'rax/, to the infant - /a'la/, he rose - /'petel/, raspberry  
 /j/: /ja'ra/, he shot - /ma'jan/, classifier - /ʕa'maj/, assessor

Notes.

i. Additional consonant-sounds realized without significant difficulty in loan-words are:

/tʃ/, /dʒ/, /ʒ/, and [ʎ] (e.g. /tʃaj'kovski/, /'dʒip/, /ʒar'gon/, [ʎ'baɲkʎ]).

\* Dialectal varieties ("Oriental").

- ii. /p/ and /b/ occur in word-final position in foreign loan-words only, e.g. /'xap/ (grab) and /'ʒlob/ (bully).
- iii. Word-initial /f/ occurs in foreign loan-words only - e.g. /'fuja/ (pfui!).
- iv. Word-initial /v/ occurs in a small number of words only, though its statistical frequency is great because it occurs in the conjunction /v (ə)/, and.
- v. Morpho-phonemically, the plosives /p/, /b/, /k/ pair respectively with the fricatives /f/, /v/, /x/.
- vi. Wherever the consonants under a certain heading are paired, the first must be taken as voiceless, the second as voiced (e.g. /p/, /b/); of the remainder, all are voiceless, except the nasals and the lateral, which are voiced. The approximant /j/ may be either voiced or voiceless.
- vii. Syllable-releasing clusters occur in any pattern except the following, the exceptions occurring in foreign loan-words (e.g. /'zbeŋ/, /'pfuj/, /'flik/, etc.):

$$1. C + \begin{vmatrix} /p/ \\ /b/ \end{vmatrix} \\ \text{(except /s/+/p/)}$$

$$2. \begin{vmatrix} /p/ \\ /b/ \end{vmatrix} + C_{\text{labial}}$$

$$3. \begin{vmatrix} /f/ \\ /v/ \\ /j/ \end{vmatrix} + C \\ \text{(except } v + \begin{vmatrix} /s/ \\ /ʃ/ \\ /l/ \\ /r/ \end{vmatrix} \text{)}$$

$$4. /d/ + C_{\text{alveolar}} \\ \text{(except /d/ + /l/)}$$

$$5. /tʃ/ + C_{\text{obstruent}} \\ \text{(except /tʃ/ + } \begin{vmatrix} /f/ \\ /v/ \\ /d/ \\ /x/ \\ /r/ \end{vmatrix} \text{)}$$

$$6. C_{\text{sibilant}} + C_{\text{sibilant}} \\ \text{(except /ʃ/ + } \begin{vmatrix} /s/ \\ /z/ \end{vmatrix} \text{)}$$

$$7. C + /j/$$

$$8. C_{\text{velar}} + C_{\text{velar}} \\ \text{(except /r/ + } \begin{vmatrix} /k/ \\ /g/ \end{vmatrix} \text{)} \\ \text{and} \\ \text{Plosive + Fricative}$$

$$9. /r/ + /l/$$

$$10. \begin{vmatrix} /g/ \\ /z/ \end{vmatrix} + \begin{vmatrix} /t/ \\ /ts/ \end{vmatrix}$$

viii. Syllable-releasing consonant clusters have the following tendencies:

$$1. C_1 C_2 \rightarrow \overset{\curvearrowright}{C_1 C_2} \text{ (except when } C_1 \rightarrow C_{\text{sonorant}}, \text{ in which case } \rightarrow \underset{\underset{|}{\cdot}}{C_1} \text{)}$$

$$2. C_1 C_2 \rightarrow \begin{vmatrix} *C \\ C C \end{vmatrix} / C_1 = C_2$$

$$3. \underset{\underset{|}{\cdot}}{C_1} \underset{\underset{|}{\cdot}}{C_2} \rightarrow \underset{\underset{|}{\cdot}}{C_1} \overset{\curvearrowright}{C_2} \text{ (except for } \underset{\underset{|}{\cdot}}{C_1} \underset{\underset{|}{\cdot}}{C_2} \rightarrow \overset{\curvearrowright}{\underset{\underset{|}{\cdot}}{C_1} C_2} / \underset{\underset{|}{\cdot}}{C_2} \text{ sonorant)}$$

$$4. \underset{\underset{|}{\cdot}}{C_1} \underset{\underset{|}{\cdot}}{C_2} \rightarrow \underset{\underset{|}{\cdot}}{C_1} \overset{h}{C_2} \text{ (if } C_1 \text{ plosive then } \underset{\underset{|}{\cdot}}{C_1} \overset{h}{C_2} \text{)}$$

$$5. \underset{\underset{|}{\cdot}}{C_1} \underset{\underset{|}{\cdot}}{C_2} \rightarrow \begin{vmatrix} \underset{\underset{|}{\cdot}}{C_1} \overset{\curvearrowright}{C_2} \\ \underset{\underset{|}{\cdot}}{C_1} \underset{\underset{|}{\cdot}}{C_2} \end{vmatrix}$$

On the whole, then, it may be said that the interconsonantal shwa-transition may be realised (in different ways) in all (word-initial) syllable-releasing consonant clusters, except for those where both consonants are voiceless.

5.  $V \rightarrow \tilde{V} / - \left| \begin{array}{l} /m/ \\ /n/ \end{array} \right|$ , or in word-final position (in some speakers).
6.  $/e/ \rightarrow \left[ \bar{e} \right] / \_ /j/$ , and in final unstressed position - otherwise  $\left[ \bar{e} \right]$ .
7.  $/ə/ \rightarrow \left[ \bar{e} \right]$ , and is often realised as a brief inter-consonantal transition at syllable-boundaries. The latter is the prescribed (but not generally observed) realisation.
8. Consonant-clusters may differ phonemically from consonants separated from a shwa-transition if the initial segments form a bound morpheme ( $\{b\bar{ə}-\}$ ,  $\{v\bar{ə}-\}$ ,  $\{t\bar{ə}-\}$ ,  $\{k\bar{ə}-\}$ ) - e.g. /'bro /, cypress - / bə'roʃ/, at the head of.
9.  $C \rightarrow *C / \_ V$  (consonants releasing "boosted"-stress syllables tend to be extra-tense).
10.  $C_{\text{plosive}} \rightarrow C_{\text{plosive}}^h / \left| \begin{array}{l} \bar{C} \\ \_ V \end{array} \right|$  (otherwise  $C_{\text{plosive}} \rightarrow C_{\text{plosive}}^c$  generally, or  $C_{\text{plosive}} \rightarrow C_{\text{plosive}}^{\phi} / \_ C$ ).
11.  $C \rightarrow \left[ \bar{C} \right] / \_ C$  (syllabic consonants carry secondary word-stress).
12.  $/t/, /d/ \rightarrow \left[ \bar{t} \right], \left[ \bar{d} \right]$ .
13. a.  $/r/$  is realised by some speakers as voiced velar or post-velar fricative ranging from  $\left[ \bar{r} \right]$  to  $\left[ \bar{ɹ} \right]$ , by others as  $\left[ \bar{r} \right]$ , the latter being the prescribed realisation, the former the statistically most current.  
 b.  $\left| \begin{array}{l} \left[ \bar{r} \right] \\ \left[ \bar{x} \right] \end{array} \right| \rightarrow \left| \begin{array}{l} \left[ \bar{ɹ} \right] \\ \left[ \bar{x} \right] \end{array} \right| / \_ V \text{ or } \_ V$
14.  $/ts/$  is an affricate, for phonological reasons motivated by the syllabic pattern.
15.  $/ʔ/ \rightarrow \phi$  in some speakers -- while, in others, word-initial 'V may be preceded by  $\left[ \bar{ʔ} \right]$  in free variation with  $\phi$ ; word-final 'V is often followed by  $\left[ \bar{ʔ} \right]$



16. a. /h/ is realised mostly as  $\text{p}$  -- but sometimes (especially in stressed word-initial syllables) as either  $\text{[ʔ]}$  or  $\text{[h]}$ , the latter being the prescribed realisation.
- b.  $\text{/ha/} \rightarrow \text{[h\varepsilon-]} \left/ \begin{array}{l} \text{[ʔa]} \\ -\text{[ha]} \end{array} \right|$  is a prescribed morpho-phonemic transformation -- but it is not always observed, since neither /ʔ/ nor /ħ/ occurs in the M.I.H. sound-system of most Hebrew-speakers.
17. Speakers with an Arabic linguistic background may have two back fricative phonemes - namely /ħ/ and /x/, in which case their /r/  $\rightarrow$   $\text{[ʁ]}$ . Other M.I.H. speakers have only one phoneme of the /x/-type, thus conflating the prescribed /ħ/ - /x/ distinction.
18. Some speakers with an Arabic linguistic background may have a weak voiced pharyngeal fricative phoneme, /ʕ/; others realise it as a pharyngalisation of the preceding vowel. For most Hebrew-speakers, this phoneme is not part of their M.I.H. sound system, even though /ʕ/ is the prescribed realisation of the graphemic symbol 'Ayin. However, where the /ʕ/ is realised, this also implies a division of /a/ - as follows:
- i.  $\text{/a/} \rightarrow \text{[a]} \left/ \begin{array}{l} \text{[ʕ]} \end{array} \right|$ . (e.g. /na'tati/, I gave - /na'taʕiti/, I planted).
- ii. /a/ everywhere else.
19. /l/ is "clear".
20. Intervocalic or word-initial /j/ is consonantal, while pre-consonantly (or word-finally) it may be considered as either a consonant or as the second element in a diphthong, if preceded by a vowel.



21. Releasing cluster  $C_1 C_2 \rightarrow C_1 C_2$  (with certain obligatory morpho-phonemic transformations in  $C_2$  - such as, for instance, /k/  $\rightarrow$  [x]) is the prescribed, but not generally observed, realisation of word-initial consonant clusters, in conformity with the Classical Hebrew syllable pattern  $C VC_{0-2}$ . This realisation generally occurs in citation-form.
22. a. Many M.I.H. speakers realise non-word-initial consonant clusters. However, in the text, word-internal syllable-division has here been indicated as conforming to the pattern  $C_{0-1} VC_{0-1}$  -- such that  $VCVCV \rightarrow V CV CV$ , and  $(C)VCCV(C) \rightarrow (C)VC CV(C)$ , the latter with a possible inter-consonantal shwa-transition and patterning  $(C)V C_3 CV(C)$ . The only exception to this convention occurs when a bound morpheme is prefixed (as may be the case <sup>with</sup> the prepositions, conjunction, tense- and person-markers, as well as the definite article {ha-}): In such cases, a consonant cluster may possibly occur in syllable-releasing position after the prefix.
- b. Where word-internal clusters of more than two consonants occur, the following syllable schema has been adopted:  
 $(C)VCCCV(C) \rightarrow (C)VC CCV(C)$ , if the releasing cluster is in keeping with M.I.H. phonotactics. Otherwise, the cluster is clearly marked as belonging to a phonological system foreign to M.I.H., and the syllable-cutting will be ad-hoc.
23. In the separation of words, the conventions of Hebrew orthography have been observed throughout. Thus, the bound morphemes mentioned in 22 above have been prefixed, and personal pronouns (including possessives) have been suffixed. Since, however, certain structural words do not usually have rhythmic stress, such words (prepositions and conjunctions, in the main) have been linked with the stress-bearing lexical word by means of a hyphen.

24. The favoured word-stress\* pattern is word-final, but there are a number of unstressed suffixes and some morphological patterns where the penultimate syllable is accented. Ante-penultimate syllable stress occurs almost exclusively in loan-words, as well as in personal- and place-names.
25. Secondary word-stress may occur in words of more than two syllables, and also on the first syllabic consonant of a consonant-cluster. This type of accent is realisable, under certain circumstances, as contrastive rhythmic stress.
26. There is considerable vowel elision, consonant reduction and haplology in connected speech. The most frequently occurring type of assimilation is connected with glottal state  
( $\begin{smallmatrix} \text{C} & \text{C} \\ \text{V} & \text{O} \end{smallmatrix} \rightarrow \begin{smallmatrix} \text{C} & \text{C} \\ \text{O} & \text{O} \end{smallmatrix} ; \begin{smallmatrix} \text{C} & \text{C} \\ \text{O} & \text{V} \end{smallmatrix} \rightarrow \begin{smallmatrix} \text{C} & \text{C} \\ \text{V} & \text{V} \end{smallmatrix} )$ .
27. Foot  $\rightarrow /R_{0-4} IR_{0-2} /$  (where R = remiss syllable and I = ictic syllable). The ictic syllable is most frequently foot-final, and the stress may be silent ( $/\wedge /$ ).
28. Syntagm  $\rightarrow //(\text{H})/\text{N}/(\text{T})//$ , where H = a head usually consisting of 0-4 feet with non-kinetic stresses, N = a nucleic foot carrying kinetic stress, and T = 0-2 feet (in most cases), with non-kinetic stresses following the same direction as that of the kinetic stress in the nucleus. The non-kinetic stresses of the head usually tend to have a downward drift.
29. Breath-pauses will often, but by no means always, occur between syntagms. They will always occur between tone-sequences. In the present notation obligatory breath-pauses have been notated as a double-(or triple-) foot silent-stress syntagm ( $//\wedge/\wedge/\wedge//$ ) and optional ones by a single-foot silent stress syntagm.

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\*Word-stress is here taken to be an abstract potentiality realisable in actual utterance as rhythmic stress. The latter is produced and perceived as a function of pitch-variation, duration and intensity (in that order of significance).

30. In rhetorical style (which includes material read aloud), the syntagm is usually phrase-equivalent, in the style of natural speech the syntagm is usually clause- (or sentence-) equivalent.
31. The five basic intonation-patterns of M.I.H. are:
- the declarative statement - a narrow low fall ( $\setminus X$ )
  - the order - a wide high fall ( $\setminus X$ )
  - The confirmation-question -- a narrow high rise ( $\acute{X}$ )
  - the hesitation - a level tone ( $\overrightarrow{X}$  or  $\overleftarrow{X}$ )
  - the continuation-pattern - a narrow low rise ( $\underset{\cdot}{X}$ )

Note: These patterns denote the modal aspect of the utterance, under unmarked thematicity. However, if the attitudinal aspect of an utterance is also affected by marked thematicity and/or emotion, the above prosodic patterns may have a different communicative significance - and, contrariwise, any of the above communicative connotations may be realised by a different prosodic pattern (e.g. narrow high fall = "indifferent" order; topicalised high rise = echo-question).

32. Other intonation-patterns, including complex and divided tones, are non-basic - i.e. derived from the above five basic patterns. They may denote modality, thematicity and/or emotion (often a combination including the third element). The most characteristic of these tones is the "dramatised continuation", a "sung" rise-fall-rise denoting the graphemic comma.
33. Thematisation and topicalisation are realised by either widening the pitch-span of the syntagm, or by having a non-syntagm-final foot carry kinetic stress. Stress "boosting" (an emotionally-triggered span-widening) usually also affects the quality of the segmental phonemes realised in actual speech. The "narrow" pitch-span extends from mid to low (and vice-versa) or from mid to high (or vice-versa), all terms being relative and different from speaker to speaker.



34. The tempo of utterance varies -- but tends to be slower for rhetorical speech (including written material read aloud) and faster for natural speech.
35. M.I.H. is a stress-timed language, but its citation-form tends to be syllable-timed.



APPENDIX II

TRANSCRIPTIONS OF THE RECORDED CORPUS

PART A: SYNTHETIC SPEECH

a. Transcription

1. //<sup>h</sup><sub>1</sub> a'ruax/<sup>h</sup><sub>1</sub> atsfa'nit /v<sub>1</sub>ε<sup>h</sup><sub>1</sub> a(ε<sub>1</sub>me)//
2. //<sup>h</sup><sub>1</sub> ruax/<sup>h</sup><sub>1</sub> atsa'fɔn/v<sub>1</sub>ε<sup>h</sup><sub>1</sub> a(ε<sub>1</sub>me)//

b. Translation and Realisation

1. The-wind (the)northern and-the-sun.
2. Wind (of-)the-north and-the-sun.

Each of the above two syntagms is read three times -- the first two readings being at normal tempos (the first slightly faster than the second, which has been chosen for spectrography as likely to show clearer detail) and the third being very slow (in order to show in auditory detail the composition of each segment).

c. Production Method

The first syntagm is based on the experience gained in the production of the second syntagm, and it is therefore expedient to begin by describing how that was arrived at.

Starting out from a spectrogram of the reading by Reader 9 (Doron M.) of the title of the diagnostic passage (The North Wind and the Sun) in M.I.H., I then proceeded to synthesise this utterance by hand, using the PAT technique (drawing in 8 parameters on a plastic sleeve programming the Edinburgh University's Parametric Artificial Talker).\* Following upon this, I proceeded to devise a slight change in the text of the utterance, in order to introduce an additional vowel into the text - which now featured all five vowels of M.I.H., the shwa-

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\* See Uldall, E.T.: Text of PAT Demonstration Tape (mimeographed Edinburgh University handout, 1962).

transition, eight of its 18 essential consonants (/f/, /v/, /m/, /t/, /ts/, /ʃ/, /n/ and /x/), one of its post-velar consonants in free variation with  $\phi$  (/h/) and a dialectal realisation of the phoneme /r/, namely  $\overline{[r]}$  (a three-tap apico-alveolar trill). The same rhythm-and-intonation pattern was followed as that shown on the narrow-band spectrogram of the original version (see Appendix III D 6), and the synthesis was <sup>then</sup> produced by rule - in accordance with the procedure outlined in Iles, 1970 (see Bibliography).

An additional note may be called for here as to the reasoning behind the various choices.

1. The title of the diagnostic passage was chosen as being both of suitable length (as fitting within one spectrogram) and easily available for comparison (including spectrographic comparison) with non-synthetic speech; at the same time - for perception and recognition tests - it would provide a short sketch of speech not immediately identifiable by the unsophisticated listener within any reasonable situational context: thus, if it was identified by such listeners, this would be ample proof of its validity as synthesised speech.
2. The reading chosen was one which, being particularly fast in tempo, most nearly approximated natural speech. Moreover, the reader, a young native speaker of "Sabra" M.I.H. (a 20 year old male) had had some experience as a radio-announcer, and his diction was both clear and natural, as well as being technically suited for recording.
3. The rhythm-and-intonation pattern was dictated by that of the utterance itself - but it could be compared with a different one: the first syntagm following the title of the diagnostic passage contained the same segmental material but with a different prosodic pattern (narrow low rise indicative of "continuation", as against

narrow low fall indicative of "declarative statement"). It also happened to be the most unmarked tone of M.I.H., and therefore the most easily identifiable.

4. The presence of the post-velar phoneme (/h/) was, in part, dictated by its presence in the utterance of the speaker, and, in part, a choice motivated by its occasional presence in the continuous discourse of any M.I.H. speaker. The choice of the trilled allophone as the realisation of /r/ was a more complex one. Firstly, the spectrogram of the actual reading (Appendix III D 5) showed no tracing at all for the [ʁ] - the reason being that for this speaker (as for most others) this phoneme is often realised word-initially and -finally as a voiceless frictionless continuant. Accordingly, I chose the trilled variety (three taps being chosen as the most realistic form after trying out two and four - the former being too little, the latter too much, of a trill) as the one realised by many speakers word-initially (and prescribed in this form by the Hebrew Language Academy as the "correct" realisation of /r/).
5. The actual synthesis was then done by altering the specifications of the Iles tables in accordance with the information I had obtained from earlier instrumental work (palatography and kymography). Thus, in deciding upon the instructions to be given for the computer print-out in respect of the /i/ in my synthetic version, I started out from the specifications for English /i/ in Iles, compared them with those for English /ɪ/ in the same tables and then moved the three formants slightly up or down to adjust the actual phone towards the  $\left[ \frac{i}{\tau} \right]$  position characteristic for interconsonantal stressed /i/ in M.I.H. (my finding based on auditory discrimination). Similarly, M.I.H. /t/ was produced by programming the computer to



realise a "forwarded" version of English /t/ located between the specifications for this alveolar phoneme and the inter-dental /θ/ (M.I.H. /t/ →  $\int_{\bar{n}}^{\bar{t}}$ ) - which meant, specifically in this case, placing the first formant medially (i.e. higher) between the third level specified for /t/ and the tenth level specified for /θ/. These hypothetical solutions were proved correct when actually listening to the synthesised speech, even though it was occasionally necessary to shift the levels slightly upward or downward in order to get a more satisfactory realisation.

6. Duration proved the trickiest problem of all. For consonants this was less difficult than for vowels - and, finally, durations were arrived at that specified shorter realisation -lengths for consonants notated as "half"-phones (e.g.  $^hX$ ) and those beginning non-stressed syllables than for syllable-final consonants or for consonants beginning stressed syllables. As for the vowels, I started out from the findings expounded in Tĕnĕ 1962, but soon discovered that, while these might work in citation-form utterances (probably syllable-timed!), they could not produce natural-sounding, connected stress-timed discourse. Accordingly, I checked against spectrographic evidence, corrected my duration-specifications and, after some trial and error, found that duration-differences in M.I.H., while appreciable, were nothing like the order specified by Tĕnĕ (stressed, open-syllable vowels twice the duration of unstressed closed-syllable vowels), but rather of the order of up to 15-20% greater length for stressed than for unstressed vowels.
7. The intonation-pattern specified in the spectrogram featured "jerky" down-drift towards a narrow, low fall - and it is this pattern for which I programmed the computer, rather than a "smooth" down-drift, which would have been easier to synthesise.



The recording of the synthesised speech (both syntagms) at a speed about 25% slower than that of the original model was played to five M.I.H. speakers, all unsophisticated linguistically (the two Israeli speakers in the conversation recorded on Tape 3 B,\* their two children - a boy, aged 10, and a girl, aged 15, and a 32-year-old lady, a research-worker in Botany at the Hebrew University, Jerusalem). Three of them immediately identified both syntagms correctly and the remaining two (the two children) failed to identify the last word in both syntagms correctly, mistaking the nasal /m/ for the voiced stop /b/ and therefore interpreting the word as /'sebe/ (spoil, ruin) rather <sup>than</sup> /'seme/ (sun) - thus producing the interpretation "The North Wind and what it spoils", rather than "The North Wind and the Sun". The reason, obviously, is the lack of a nasal parameter for P.A.T. - which, incidentally brought forth the comment, from one of the listeners "Did the reader have a cold when he recorded this?"

Note: The slower speed was chosen for two reasons:

1. To produce a clearer spectrographic picture than the original (non-synthetic) reading.
2. To give listeners a better chance of perceiving the utterance.

In fact, the original reading was by about 20-25% faster than that of the slowest reader <sup>(other than myself)</sup> of the diagnostic passage in my corpus. This made for a good approximation to natural (rather than rhetoric) speech - but obviously, made it a little difficult to understand the text, unless one knew it in advance.

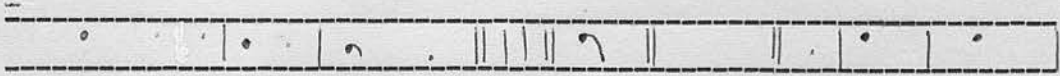
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\*For details, see Appendix II D b 2.

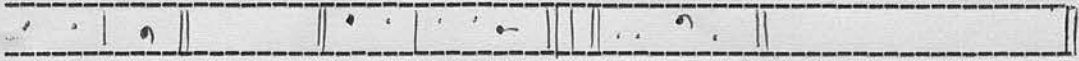
Part B: The North Wind and the Sun (12 Readings)

1. Transcription\*

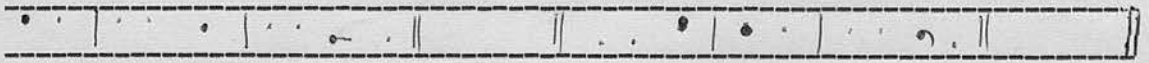
1. 'mɔdʒ·n ɪz'jɛ<sup>e</sup>lɪ hi·j<sup>i</sup>b<sup>i</sup>ʒ<sup>u</sup>w<sup>u</sup> ʌ ʌ ʌ ʌ tɛkst (breath) ʌ ðʒ 'nɔ·θ 'wɪnd



and ðʒ san (breath) 'rʊpɪx ɛtsɛ'fɔn ʌ ʌ vɛhɛʃɛmɛʃ (pause+breath)



'rʊpɪx ɛtsɛ' fɔn vɛhɛʃɛmɛʃ (breath) nɪxɪz' sɔ 'pɑ?am lʒvɪ'kɔɪx (breath)



'mɪ mɪhɛn xɑzɑ'kɛjɔ't<sup>h</sup>ɛr (pause+breath) vɛɪ'nɛɪ 'bɛ lɪkrɑ'tɛn'ɔ'lɛx



rɛgɛl v't<sup>h</sup>ɔf bʒmʒ'iɪl xɛm (pause+breath) hɛʃ't<sup>h</sup>qɪm ɪs kɪmɔʃɛ'zɔt<sup>h</sup>



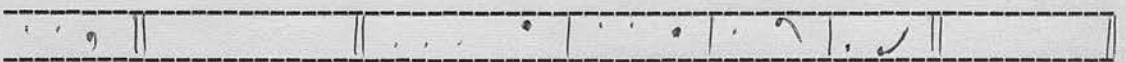
ɛʃɛr tɛts'liɪx rɪʃɔ'lvɛ (breath) lʒhɛf'ʃɪt<sup>h</sup>ɛt 'ʔɪʃ'ɪmɪzɪ'lo? (breath)



t<sup>h</sup>ʒɛp'ʃɛy kɛxɛzɛ'kɑ jɔ'tɛr (breath+pause) ɛz nɛʃ'vɑ'ɛ'ruɪx xɑ'zɛk<sup>o</sup>kɛ'xɔɪ



ʃɛjɪx'ɛ (pause+breath) ʌvɪl kɛ' xɔɪ ʃɛnɛʃ'vɑ xɛ'zɑk jɔ'tɛr (breath)



'k<sup>h</sup>ɛn ɪt<sup>v</sup> tɛf ʌ ʌ hɛ'ʔɪʃ' bʒmɪzɪ'lo bʒjɛtɛr sɛt ʌ ʌ ʌ ʌ ulvɛ'sɔf (breath)

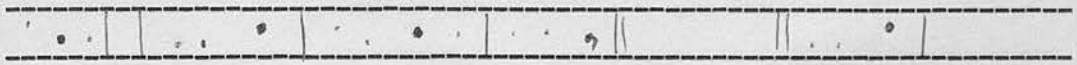


vɪt'ra<sup>h</sup> rʊɪx ʌ ʌ kɔɪ nɪsɛ jɔn nɔ'saf (pause+breath) ɛz ɪt'xɪlɑ



\* /t/, /d/ → [t<sub>n</sub>], [d<sub>n</sub>] throughout.

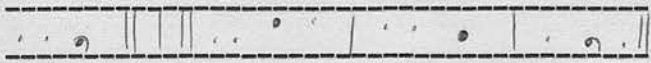
ʋʃɛmɛʃ<sub>1</sub> lʒhɛ' fɪʃs ɛt' kɔr'neʃɛ ɛxɛmɔt<sup>h</sup> (breath) ɔmi'jad<sup>h</sup><sub>1</sub>



pɛ'ʃɛt' ɔ'lex ɛ'regel ɛt mʒi'lo<sup>?</sup> vʒ'xɛx<sub>1</sub> nɛɛl' fɪʃɛ<sup>h</sup> ɛ'ruɛx



lʒhɔ' dɔt<sup>h</sup> ʃɛhɛ'ʃɛmɛʃ xɛzɛ'kɔ<sub>1</sub> mɪ mɛnɛ



2. (\dali\Lambda - 'yuax<sup>h</sup> atsa) fo<sup>o</sup>n v\eha [εme] (breath)



'buX atsa<sup>h</sup> fo<sup>o</sup>n v\eha [εme] niXne'su pa'm l\evi'kuax (breath)



'mi me hen xaza<sup>h</sup> ka jo<sup>h</sup> t<sup>h</sup> e<sup>3</sup> (breath) v\zhi'ne 'ba lik\sa tan<sup>h</sup>



ho l\ezX<sup>h</sup> b\egel (breath) a'tuf b\zme'i<sup>?</sup>il xom (breath) ha<sup>h</sup> t\oim



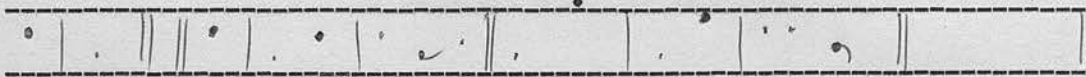
his<sup>h</sup> k<sup>h</sup> imu<sup>w</sup> [ε'zot<sup>c</sup> ?a]εy tats'li\X bi\fo'na<sup>h</sup> (breath) l\haf'fit



εt<sup>h</sup> ha<sup>h</sup> 'i<sup>h</sup> f memzi<sup>h</sup> lo<sup>o</sup> (breath) t\εx<sup>h</sup> εy k<sup>h</sup> i\za<sup>h</sup> ka jo<sup>h</sup> t<sup>h</sup> εy (breath)



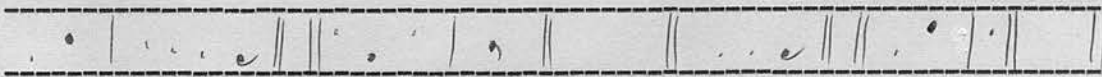
'az ni\fv? 'az na<sup>h</sup> f'va ha<sup>h</sup> bu'ax xa<sup>h</sup> zak<sup>h</sup> kε'xol [εjax lo] (breath)



aval k<sup>h</sup> ε'Xol [εna<sup>h</sup> f'va xa<sup>h</sup> zok jo<sup>h</sup> t<sup>h</sup> ε<sup>3</sup> (breath) k<sup>h</sup> en hit<sup>h</sup> a<sup>h</sup> t<sup>h</sup> ef



ha<sup>h</sup> 'i<sup>h</sup> f b\zme'i<sup>h</sup> lo<sup>o</sup> b\z<sup>h</sup> jεt<sup>h</sup> z\y set<sup>h</sup> (breath) v\zliv<sup>h</sup> so<sup>h</sup> vit<sup>h</sup> yoh<sup>h</sup>?





vit'bo ha yu'ax al 'kol nisa jon no saf (breath)



'?az hit'Xila ho'feme l'ha'fits et kay'neja xa mo't (breath)



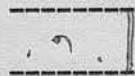
umi'jad pa 'fat ho'lex ho'yegel et mzi lo (breath)



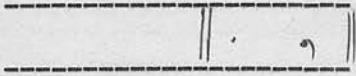
ve'xax neel'ta ha buax l'ha do't (breath) f'ha'feme xaza'ka



mi mena



3. (breath) rΛ xE1



'yux hets'e fon vee, semej



'yux hets'e fon vee, semej nixne' su 'pem levi, kureh (breath)



'mi me'ʔen xez'e ke joteb (breath) vxi'ne' 'be likbe' ton ɔ'lex



yegel (breath) e'tof beme'il xam (breath) e'natm ts, k'imo



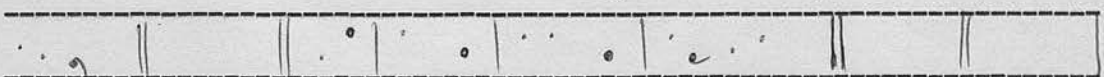
ʃe'zot ʃeʃ tets'liex yi, ʃo'ra lef'ʃit et h'e' i'ʃ memei, lo' (breath)



te'xe'ʃev kexeze k'ha jotey (breath) 'ez na'ʃ'va e'buex xa'ze ke'xol



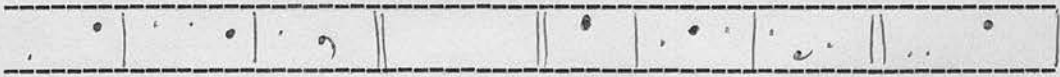
ʃejax lʔ (breath) e'val ke'xol ʃene'ʃ'va xezek jotey (breath) 'ken



lte'tef e' i'ʃ bime'i' lo' bi'jotey set (breath) ulve' soy vit ʒ'be ayux



ɛl 'kɔl nɪsɛ'jɔ̃ nɔ̃ saf (breath) 'ʔaz ɪt'Xɪlɑ a,ʃemeʃ lɛɛ' fitθ



ʒt kɛɣ'neɟɛ ɛxɑ moʒt (breath) omɪ'jad pɛʃɛt<sup>h</sup> ɔ̃lɛx ɛʔɛɟel



ɛt<sup>c</sup> meɪ lo vɛ'kɛx neɪl'fɛɛ ɛ'buax leɔ dɔt [ɛɛ,ʃemeʃ]  
rallentando



xɛzɛ<sup>c</sup> kɛ ml mɛnɑ (laughs)



4. (breath) rʁʁ,ɛlʁ



ε? 'Ruox h'ʁʁʁ' fɔn vɛʁʁ ʃe'meʃ (breath)



'Rwox h'ʁʁʁ' fɔn vɛʁʁ ʃe'meʃ niXni' so 'pʁm levi ku'ʁx (breath)



'mi me'hɛn Xʁʁʁ'ka jo tɛʃ (breath) vɛhi'nɛ' 'bʁ lɪkʁ t'an ʁɔ'lɛX



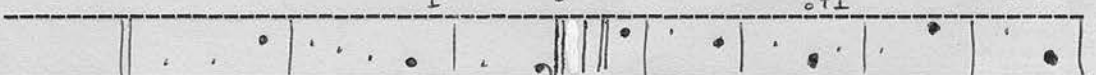
ʁɛgel, ʁ'tuf bɛmɛ'tl Xom (breath) ha ʃtaim his k'imo ʃɛ'zɔt'



ʒʃɛʃ tʁʃ's'liox biʃɔ'mɛ (breath) lɛʁʁʃ'ʃit' et h'ʁ'ʃiʃ mɛmiɪ lo°



(breath) t'ɛʁʃ'ʃev kiXʁʁʁ'ka jo t'ɛy'ʁz nʁʃ've ʁʁ'yuox Xʁ'zɛk kɛXɔl



ʃɛjʁX lo (breath) ʁvɛl kɛ'Xɔl ʃɛnʁʃ've Xʁ'zak jo tɛy (breath)



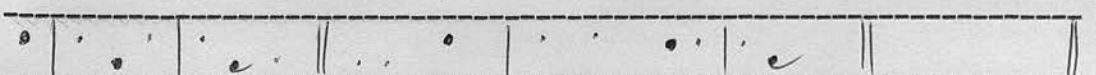
'Xɛn it'ɛ't'ɛf ʁʁ'ʃiʃ bɛmɛɪ lo° bʒ'jɛt'ɛʃ ʃʔet' (breath)



vɛlɛvʁ'sɔf vɪt'ʁɛ ʁɛ'buʁX ʁl 'kɔl nɪsʁ'jɔ nɔ'sɔf (breath)



'ʁz it'Xilɔ ʁʁ'ʃemeʃ lɛʁʁ'ʃit' et kɛʁ'neja Xʁ'mɔ't' (breath)

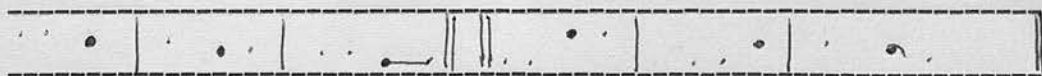




omi'jəḡ pʌʋʃɛt ho'lɛX hʌʋegɛl ɛt<sup>c</sup> mɛi lo<sup>o</sup> (breath) vɛ'kɛX



nɛɛl'ʃɛp hɛ'bu<sup>w</sup> aX lɛho<sup>h</sup> dɔt<sup>h</sup> ʃɛɛ'ʃɛmɛ<sup>s</sup> Xɛzɛ'kɔ<sup>+</sup> mɛ mɛnɛ?



5. 'ʃmi ʁəu'vɛn sʌ,de (breath) nɔ'latʃi? ʌ bə'ʔiʁ bʲitɔn bɛpɔlin ʌ ʌ



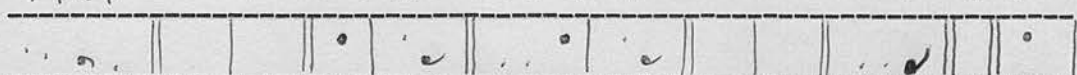
bɛ'ɛlef 'tʃamɛɔt aʁbʌim vɛʃɛvɔ (breath) 'ɣwɔx ʌtsɔ'fɔn



vɛʰaʃɛmɛʃ (breath) 'ɣuʌx ʌtsʌ'fɔnʰ vɛʰaʃɛmɛʃ nɛxɔ'su'pɔ:m



lɛvi kɣax (breath) 'mi mɛʃɛn xɔzɔ'kɔ jɔtɛʁ (breath) vɛʰi,neʔ'ba



likʁʌ'tɔn ɔɔlɛx ʁɛʒel ʌ'tɔf bɛmɛ'ʲil xɔm (breath) hʌ'ʃtɔim



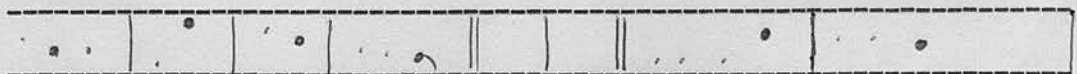
ʰis kɪmu ʃɛ'zɔtɛ ʌʃɛʁ tʌts'liɔx ʁiʃɔ, nɔ lɛʰɔf'ʃitɛ ɛtʰ ʌʔiʃ



mɛmɛi, lɔ (breath) tɛxʌ'ʃɛʁ kɛxʌzʌ'kɔ jɔ tɛʁ (breath) 'ɔz nɔʃ'vɔ



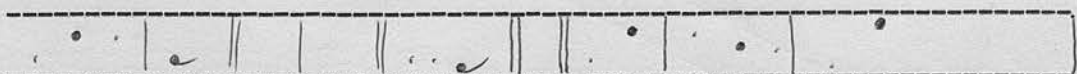
hɔ'ɣuʌx xʌ'zɔk kɛxɔl ʃɛjɔx, lɔ (breath) ɔvʌl kɛ'xɔl ʃɛnɔʃ'vɔ



xɔ, zɔk jɔ'tɛʁ (breath) 'kɛn hitʔʌ'tɛf ʰɔ'ʲiʃ bɛmɛi, lɔʔ (breath)



bɛ'jɛtɛʁ sɛtʰ (breath) uliv, sɔf ʌ vit'ɣɔ ʰɔ'ɣuʌx ʌl''kɔl



nɪʌ'jɔn nɔ sɔf (breath) 'ʔɔz ʰʲit'xɪlɔ ʰɔ'ʲɛmɛʃ lɛʰɔ'fɪts



ετ κλυ'νεα ἡ ἀναπνοή (breath) ομι'jad πα'fat<sup>h</sup> ho'lex λ'yegei



et mei lo (breath) ve kax nel'tsa ἡ ἀναπνοή leho dot<sup>c</sup> [ehλ'feme]



καζα'κα μι'μενα

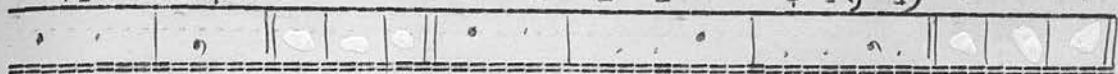




6. 'smi m'ε pɔ, tɔlski (breath) nɔlad<sup>ɔ</sup> ti bεtel<sup>ɔ</sup> viv ^ bε'ta<sup>ɔ</sup> 'Rej



'tsadek<sup>ɔ</sup> tɛt<sup>h</sup> (breath) 'ru'ah<sup>h</sup> hatsa'fɔn ve<sup>h</sup> a<sup>h</sup>semej (breath)



'ru'ah hatsa'fɔn ve<sup>h</sup> a<sup>h</sup>semej nɔxnɔ'su pa'lam levi ku'ah (breath) 'mi



me'hen hazl'ka jɔ, tɛf<sup>ɔ</sup> (breath) vε'hine 'ba likra'tan hɔ'lex fεgel



(breath) qa'tuf bem'zil<sup>ɔ</sup> ham<sup>ɔ</sup> (breath) ha'staim<sup>h</sup> is<sup>h</sup> kimu<sup>w</sup> ^ se'zɔt



fa'ser tats'liah rɔna (breath) lehaf'sit<sup>ɔ</sup> et<sup>h</sup> a'zi<sup>h</sup> memei<sup>lɔ</sup> (breath)



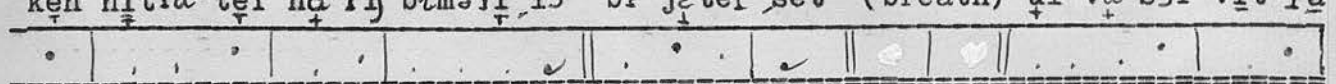
teha'sev krhaza'ka jɔ, ter<sup>ɔ</sup> (breath) 'az nɔsa'va haru'ah ^ ha'zak<sup>h</sup>



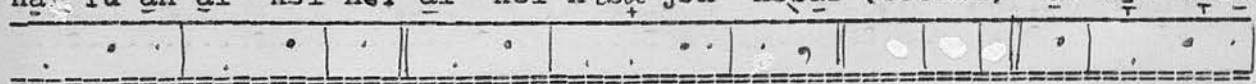
ke'xɔl sejax<sup>ɔ</sup> la (breath) ^ val ke'xɔl sena<sup>ɔ</sup> va ha'zak jɔ, ter<sup>ɔ</sup> (breath)



'ken hit'a'tef ha'zi<sup>h</sup> bɔmɔsi<sup>lɔ</sup> bɛ'jeter set<sup>h</sup> (breath) ul<sup>ɔ</sup> va'sɔf vit'ra



ha'ru'ah al 'kɔl nɔ? al 'kɔl nɔsa'jɔn<sup>ɔ</sup> nɔsaf (breath) 'az hit'hila



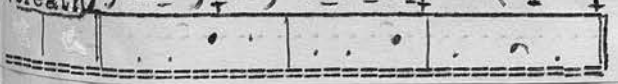
ha'semej leha'fits et kar'neja<sup>h</sup> ^ haham<sup>ɔ</sup> t<sup>h</sup> (breath) omi'jad<sup>ɔ</sup> pa'sat<sup>ɔ</sup>



hɔ'lex ha'fεgel 'et mɔsi<sup>lɔ</sup> (breath) vε, xax nezel'tsa ha'ru'ah le hɔdɔt<sup>h</sup>



(breath) seha'semej haza'qa mi, mɛnna





6a. ~ → 'Yuax hatsa' fɔn vɛha sɛmɛs (breath) 'Yuax hatsa' fɔn vɛha sɛmɛs

nɔxnɛ' su 'pa<sup>a</sup>m lɛvi kuax 'mi mɛ'hen haza'ka jɔtɛɣ<sup>a</sup> (breath) vɛ'hine 'ba

likɔ'a tan hɔ'lex ʁegɛl ʁa'tuf bɛm'ʁil x m (breath) hɔ'ʃtaim hɔs kɛmɔ ^

ʃɛ'zɔt aʃɛɣ tats'liax ʁiʃɔ'nalɛhaf'ʃit ɛt h<sup>a</sup>ziʃ mɔmʃi'ɔ<sup>o</sup> (breath) tɛha'ʃev

kɛhazaka jɔtɛɣ<sup>a</sup> (breath) 'az naʃ<sup>a</sup> va ha'Yuax ^ x<sup>a</sup>zak<sup>c</sup> kɛ'xɔl ʃɛjɔx la (breath)

aval kɛ'xɔl ʃɛnaʃ'va xɔzak jɔtɛɣ 'kɛn hitɛa'tɛf aʃ bɛmʃi'ɔ be'jɛtɛɣ se't

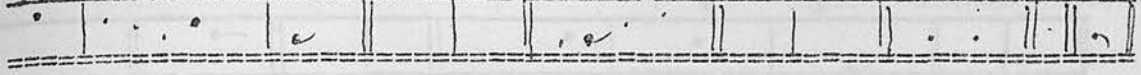
(breath) ɔlvɔ'sɔf vit'ʁa h<sup>a</sup>Yuax al 'kɔl nisə'jɔn nɔsaf (breath) 'az

hɔt'xila aʃɛmɛs le h<sup>a</sup>fits ɛt kaɣ'neja haxamɔt ɔmɔ'jad pa'ʃat hɔ'lex

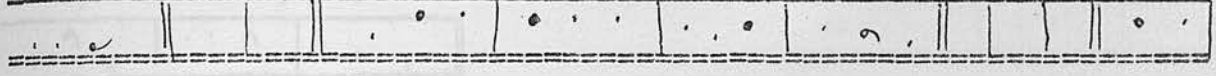
h<sup>a</sup>ʁegɛl ɛt mɛʃi'ɔ<sup>o</sup> (breath) vɛ'xax nɛɛl'tsa ha'Yuax lɛhɔ'dɔt ʃɛha'ʃɛmɛs

xɔza'ka mɔmɛna

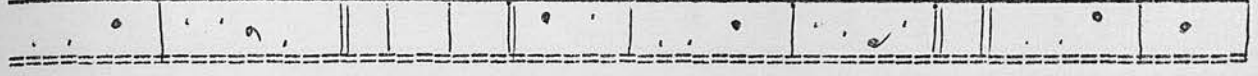
7. 'mi j<sub>h</sub>ona'dav ʃif (breath) nɔ<sub>+</sub>lad<sup>o</sup>ti (breath) b<sub>+</sub>tɛlɪ<sub>h</sub> b<sub>+</sub>ɛ:



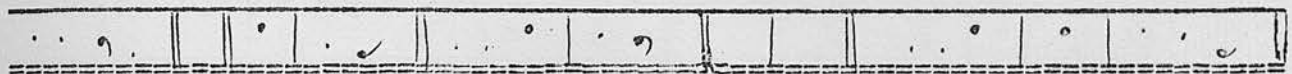
tɛla<sub>+</sub>viv<sup>o</sup> (breath) b<sub>+</sub>ɛ<sup>o</sup>ʔɛlɛf 'tʃaməst<sup>o</sup>ab<sub>+</sub>im vɛ<sub>+</sub>teʃa (breath) 'ɣuɪx



ʌtsʌ<sup>o</sup>fɔŋ vɛha<sub>+</sub>(seme) (breath) 'ɣuɪx ʌtsʌ<sup>o</sup>fɔn vɛa<sub>+</sub>(seme) ʌ nɪxnɛ<sub>+</sub>su<sup>o</sup>'pa<sub>+</sub>m



lɛvi<sub>+</sub>kuɪx ʌ 'mi<sub>+</sub>mɛ<sub>+</sub>hɛn xʌzʌ<sup>o</sup>ka<sub>+</sub>jɔ<sub>+</sub>teɟ (breath) vɛi<sub>+</sub>'ne<sup>o</sup>'ba<sub>+</sub>likɔ<sub>+</sub>tʌn<sup>o</sup>



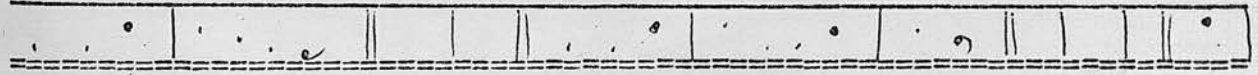
ʌ ɔ<sup>o</sup>lɛx ʃɛgɛl (breath) a<sub>+</sub>tuf<sup>o</sup>bɛmɛ<sub>+</sub>'il xam (breath) h<sub>+</sub>a<sup>o</sup>ʃtʌim<sub>+</sub>is<sub>+</sub>kimɔ<sub>+</sub>



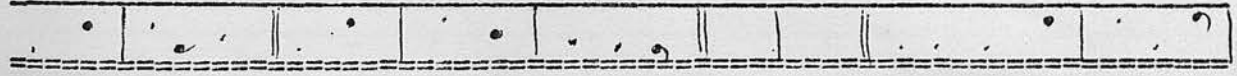
(breath) ɛ<sub>+</sub>'zɔt<sup>o</sup>a<sub>+</sub>ɛɟ tʌtsʌ<sup>o</sup>tʌtsʌ<sup>o</sup>tʌts<sup>o</sup>liɪx ʃiɟɔ<sub>+</sub>na<sub>+</sub>(breath) lɛaf ʃit<sup>o</sup>



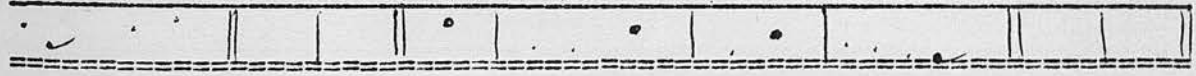
ɛt<sup>o</sup>h<sub>+</sub>'a<sup>o</sup>ʔiɟ mɛmɛi<sub>+</sub>lɔ<sup>o</sup> (breath) tɛxa<sub>+</sub>ʃɛv kɛxʌzʌ<sup>o</sup>ka<sub>+</sub>jɔ<sub>+</sub>teɟ (breath) 'az



na<sub>+</sub>ʃ<sub>+</sub>va<sub>+</sub>h<sub>+</sub>a<sub>+</sub>ɣuɪx xa<sup>o</sup>zʌk kə<sup>o</sup>xɔl ʃɛjɪx<sub>+</sub>la<sub>+</sub> (breath) a<sub>+</sub>val kɛ<sub>+</sub>xɔl ʃɛnɪʃ<sub>+</sub>va<sub>+</sub>



xa<sub>+</sub>zʌk jɔteɟ (breath) 'kɛn<sub>+</sub>hit<sup>o</sup>a<sup>h</sup>'t<sup>h</sup>ɛf h<sub>+</sub>a<sup>o</sup>ʔiɟ bɛmɛi<sub>+</sub>lɔ<sup>o</sup> (breath)



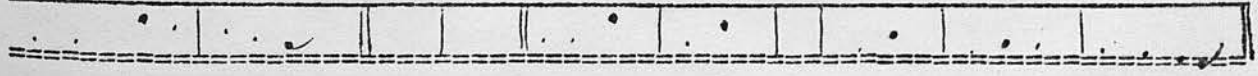
bɔ<sup>o</sup>jɛtɛɟ ʃ<sub>+</sub>ʔɛt<sup>h</sup> (breath) ɔlvə<sub>+</sub>sɔf (breath) vit<sub>+</sub>'Rə<sub>+</sub>h<sub>+</sub>a<sub>+</sub>ɣuɪx (breath)



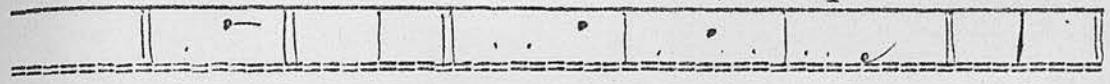
ʌl<sup>o</sup>'kɔl nɪsə<sup>o</sup>jɔn nɔ<sub>+</sub>saf (breath) az hət<sup>o</sup>xila<sub>+</sub>a<sub>+</sub>(seme) (breath) lea<sub>+</sub>fɪts



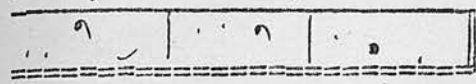
ɛt kə<sub>+</sub>ʎ<sup>o</sup>neə<sub>+</sub>axɪ<sub>+</sub>mɔt<sup>h</sup> (breath) ɔmɔ<sub>+</sub>'jad<sup>o</sup>pʌ<sup>o</sup>ʃat<sup>o</sup>ʔɔ<sup>o</sup>lɛx ʌ<sup>o</sup>ʃɛgɛl ɛt mɛi<sub>+</sub>lɔ<sup>o</sup>



(breath) və'xāx (breath) n̄el'ts̄a h̄a'ŷuax ləp dət<sup>h</sup> (breath)



(εa'eme) xλzλka mɹ mɛnλ

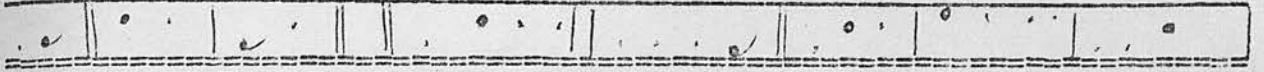








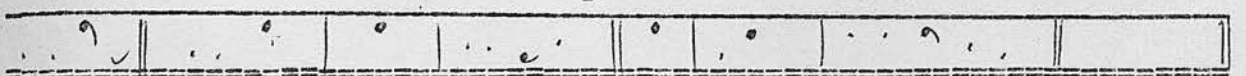
∫<sub>1</sub>mi 'doʎən maʎbe ^ no'ladɛti bɛtɛl^ viv b<sup>ɛ</sup>ɛlef "tʃamɛst xami'∫<sub>1</sub>im



vɛɛ xad<sup>ɔ</sup> (breath) ʎuɛx ɛtsɛ' fən vɛ<sup>h</sup>v ∫<sub>1</sub>ɛmɛ∫ (breath) ʎuax atsa' fən



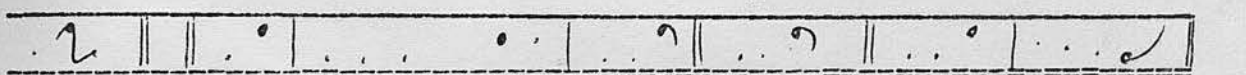
vɛa ∫<sub>1</sub>ɛmɛ∫ nɪxnɛ' su 'p'a'm lɛvi kuax 'mi mɛ'hɛn xaza'k jɔtɛʎ (breath)



vɛi'ne<sup>e</sup> 'ba likɛ' tɛm ɔ'lex ʎɛgɛl a'tuf bɛmɛ'il xam (breath) ha'ʃtrɪm



ɪs|kimu' ^ ɛ'zɔt' ɛʎɛ tɛts'liax ʎiʃ'na lɛafʃ|ɪt<sup>h</sup>ɛt ɛ'ɪʃ mɛmɛi/lɔ<sup>o</sup>



(breath) t3xa'∫<sub>1</sub>ev kɪxaza ka jɔtɛʎ (breath) 'vz nɛʃ'va a'ʎuax xa'zak



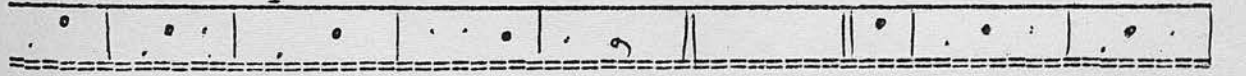
ke'xɔl ∫<sub>1</sub>ɛjax la^ ayal k3'xɔl ∫<sub>1</sub>ɛnaʃ'va xa'zak j3tɛʎ (breath) 'kɛn



it'a'tɛʃ a'ɪʃ bɛmɛr'lɔ bɛ'jetʃ/s,ɛt<sup>h</sup> (breath) vɛllvʔ^ vɛllv'sɔʃ



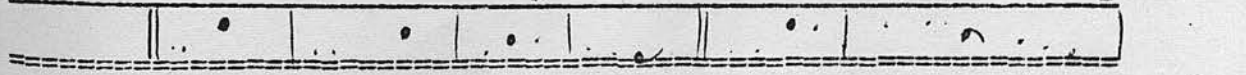
vɪt'ʎa a'ʎuax al 'kɔl nɪsa'jɔ no saf (breath) 'az it'xila a'∫<sub>1</sub>ɛmɛ∫



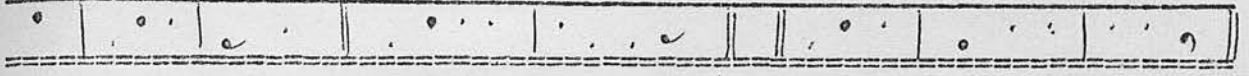
lɛa'fɪts et kɪʎ'nea axa mo<sup>o</sup>t<sup>h</sup> ɔmɪ'j ad pɛ'ʃat'ɔlex a'ʎɛgɛl et mɪz,lɔʔ



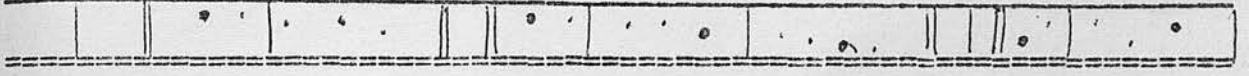
(breath) v3'Xax nɛɛl'tsa a'ʎuax lɛɔdɔt ∫<sub>1</sub>ɛa'∫<sub>1</sub>ɛmɛ∫ xaza kamɪnɛna



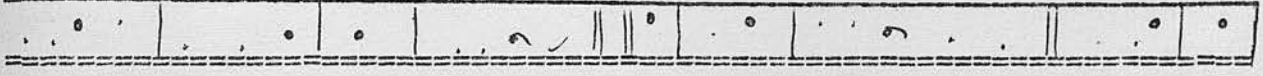
'šmi a'uva xatsek npladati betela viv be'elef tšam<sup>o</sup>t v'brim



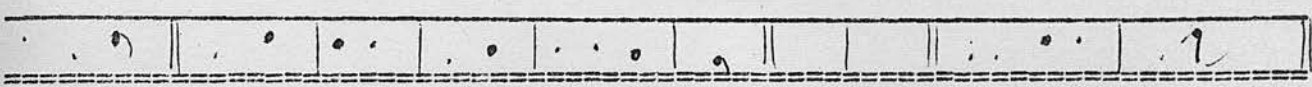
(breath) 'uax žts<sup>3</sup> f'ž<sup>2</sup> ruax tše'f<sup>+</sup>n vea'šemeš<sup>+</sup> uax atsa'f<sup>+</sup>n



vea'šemeš naxne'su'pa<sup>g</sup>m lev<sup>2</sup> kuax<sup>+</sup> mi mi'en xaza<sup>+</sup>ka joter vei'ne 'ba



likr<sup>+</sup>tan ho'lex 'regel<sup>+</sup> tš<sup>+</sup> beme'il ham (breath) vea'štaim iski<sup>+</sup>mu<sup>+</sup>



š<sup>+</sup>zot šer tšts'liax riš<sup>+</sup>na leaf'f<sup>+</sup>it<sup>+</sup> et<sup>+</sup> h'a'is mimei'lp<sup>+</sup>? (breath)



texa'šev kixaza'ka joter (breath) 'az naš'va'a'ru<sup>+</sup>ax xa<sup>+</sup>zek ke'x<sup>+</sup>l



š<sup>+</sup>jax<sup>+</sup>la (breath) ax ke'x<sup>+</sup>l šnaš'va j<sup>+</sup>ter xa'zak<sup>h</sup> ken ita'tef a'is



bemei'lp be'jeter set<sup>+</sup> (breath) ulva's<sup>+</sup>of vitre ha'ruax<sup>+</sup> al 'kol



nisa'j<sup>+</sup> n<sup>+</sup>saf (breath) 'az it'xila a'šemeš<sup>+</sup> lea'f<sup>+</sup>ts et kar'nea<sup>+</sup>



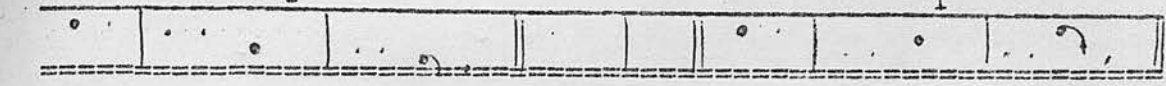
axa<sup>o</sup>t šmi'jad pa'šat š'lex<sup>+</sup> a'regel et me<sup>+</sup>lp (breath) ve'xax



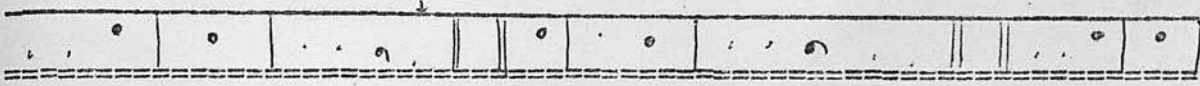
neel'tsa a'ruax leš<sup>+</sup>d<sup>+</sup>ot ša'šemeš<sup>+</sup> xaza<sup>+</sup>ka mimena<sup>h</sup>



10 a. 'ruah hatsa' f3n vea (seme) (breath) 'ruax vtsa' f3n vea (seme)



naxn3'su 'pa<sup>q</sup>m levi kua<sup>h</sup> ^ 'mi m'hen xzv<sup>r</sup>,ka j3ter ^ v3i'ne 'ba



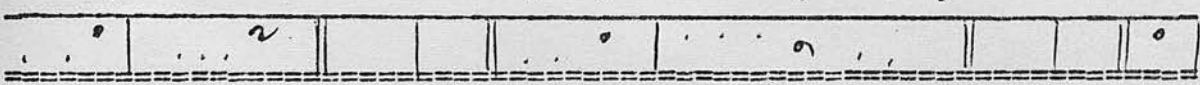
likra tan h3'lex ,regel ^ a'taf beme'il ,xam (breath) h'a' staim



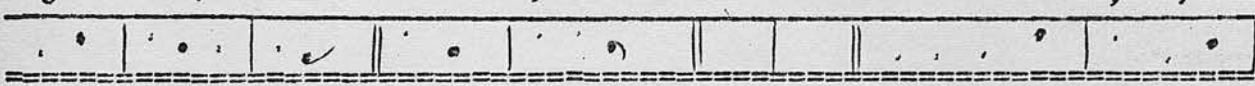
is'kimu (breath) s3'zot' 3er t3ts'lia<sup>h</sup> ri3' na leaf' sit et ame'il m



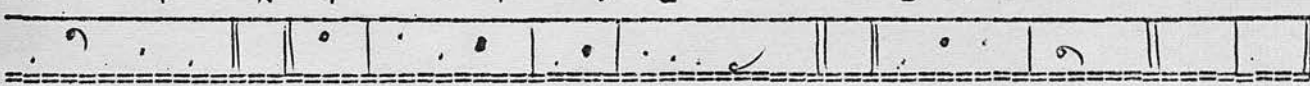
et a'i) memli<sup>v</sup> l3<sup>2</sup> (breath) t3ha' sev kixzv<sup>r</sup>,ka j3te<sup>3</sup> (breath) 'az



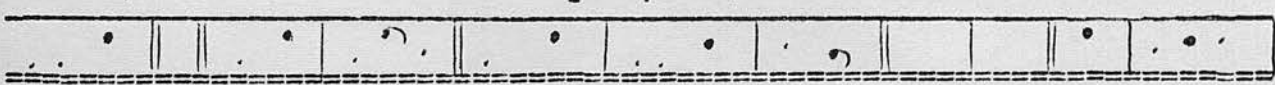
na3' va v' ruah ha zak ki x3l s3jax ,la<sup>2</sup> (breath) aval ke' x3l (ena) 'va



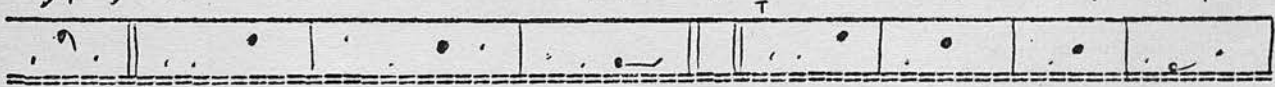
xa zak j3ter ^ 'ken it3a'tef v'i) b3mi, l3<sup>02</sup> ^ b3'jeter set<sup>h</sup> (breath)



ulv s3f ^ vit'ra a ruah 3l 'k3l nis<sup>h</sup> j3<sup>n</sup> no saf (breath) 'az it'hila



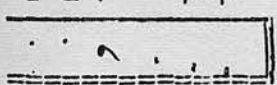
a (seme) lea' fits et kar'nea aha m3<sup>0</sup>t<sup>h</sup> ^ umi'jad pa'sat 3'lex a ,regel



et mei l3 (breath) v3'Xax neel' tsa a ruah ^ l3h3 ,dot s3a' (seme)



xaza ka mimena





## 2. TECHNICAL DETAILS AND TRANSLATION

### a. The Material

This is a translation (by myself) of the I.P.A. diagnostic passage featured in the Principles of the International Phonetic Association (and its literal translation appears in Appendix I, above). It was chosen partly in order to conform to the I.P.A. format and partly in order to give the readers a choice of material that could be read either as "rhetorical" or as "natural" speech, having been so structured syntactically as to be realisable in either of the two modes. A collation of the various readings with the rest of the recorded material served as the basis of the "Unified" transcription in broad phonemic notation contained in Appendix I, above (the notation of which was derived according to the principles expounded in Abercrombie 1964). The readers were asked to "eye-read" the passage for as long as they liked before recording their reading of it. They saw the passage for the first time at the actual recording session.

### b. The Readers

These are, with one exception (myself, as Reader 1), native M.I.H. speakers - of whom eight are "Sabra" speakers and one is a native speaker of "Oriental" M.I.H. who, consciously or unconsciously, has "switched" to Sabra M.I.H. There are ten readers in all - but two of them read twice (see below, Readers 6 and 10). The following are the relevant details in respect of the readers, taken from a questionnaire filled in by all of them\*:

---

\*Originally, I recorded 20 readers, but decided not to use 8 readings, as showing no features not present in the other recordings.



Reader 1: Alan Marbé - the author of this thesis, born in Romania in 1924, came to Israel in 1940 and completed secondary education in a Hebrew-speaking school there. My speech is typically Sabra M.I.H. - with three exceptions:  
/r/ → [r̄] (which is the prescribed, "correct" realisation);  
/a/ → [ã]; and a rather slow tempo (typical of lecturers, teachers, etc.) implying phrase-equivalent (rather than clause-equivalent) syntagms.

Readers 2-4: Dalia R., Rachel N., Rafaela S. (For details, see Appendix II Da 2, below).

Reader 5: Reuven S., born in 1947, an Accountancy student, whose parents speak Yiddish.

Reader 6: Moshe P., born in 1939, a proof-reader and religious instructor, whose parents speak Yiddish.

Note: This reader is an ultra-orthodox Jew. Considering the diagnostic passage (about which no advance information had been given to the readers) to be taken from one of the obscurer Apocrypha with which he was unfamiliar, he read it in the academically "prescribed" fashion - to honour its supposedly sacred nature. However, on being told that it was a (non-Jewish) folk-tale, and asked to read it again in his ordinary "conversational" fashion of speech, he produced the second reading (recorded and transcribed here as 6a). It should be noted here that, had he not been convinced of its non-religious nature, Moshe P. would have refused to read it in any but the "prescribed" way since this - as he informed me - would have been against his   principles. The first reading, therefore, approximates that version of Classical Hebrew speech with which Moshe P. has become familiar in the liturgy - as modified by the prescriptive instructions of the Hebrew Language Academy (obligatory inter-consonantal shwa, distinct /h/, /ç/ and /h/

phonemes, plosive-fricative alternations) - but /r/ --> [ʁ], typical "nasalised" vowels and "Yiddish" type intonation, rather than Biblical cantillation), predominate in the second reading (which is also much faster).

Reader 7: Jonadav S., born in 1949, a history-student whose parents were (non-native) speakers of M.I.H., and whose grandparents spoke Yiddish.

Reader 8: Mira N., born in 1952, a student of Speech Therapy, whose parents speak German.

Reader 9: Doron M: (for details, see Appendix II C 2, below).

Reader 10: Ahuva Ch., born in 1940, currently an accountant and for ten years elementary-school teacher of Hebrew at a Kibbutz, whose parents spoke Jamani-Arabic.

Note: This reader obviously started out in life as a speaker of "Oriental" M.I.H. As a Hebrew teacher, she should have clung to this accent, which is the one prescribed by the Hebrew Language Academy as normatively "correct". However, it was obvious from her first reading that this was not the case: probably without doing so consciously (unless she was unwilling to admit it, which - considering her kibbutz background - I believe unlikely) she "switched" to "Sabra" M.I.H., probably under the social influence of her fellow settlers in the communal village where she has lived since the age of 16 (but, possibly, even earlier). I then asked her to read the passage "as teachers should, in the correct Hebrew pronunciation". The only difference in the two readings (10 and 10a) is that in the second she has a fairly consistent realisation of a /h/ phoneme - but, interestingly enough, she tends to realise the /x/ phoneme as /h/ as well <sup>and vice-versa</sup> (which I take it to mean that, in her original speech, there were at least two post-velar phonemes - /h/ and /x/, though there is little evidence that she ever had a /h/-phoneme).

General Note on Translation: The readings of Readers 5-10 are preceded by the following introduction:

My name is \_\_\_\_\_, I was born in \_\_\_\_\_ (town, country),  
in \_\_\_\_\_ (year).

c. Instrumentation

The readings were recorded as follows:

Reader 1 -- as for the conversation recorded on Tape 3, Section 2  
(see Appendix II D b 2, below).

Readers 2-4 -- as for the conversation recorded on Tape 3, Section 1  
(see Appendix II D a 2, below).

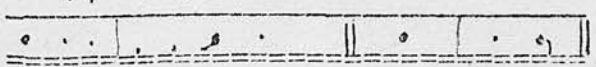
Readers 5-10 -- The recording was made in Tel Aviv in August 1970, on  
a Brennel tape-recorder with an Ampex microphone, and  
using Scotch-tape (standard polyester, type 175 Super-life)  
at  $7\frac{1}{2}$  "/sec.



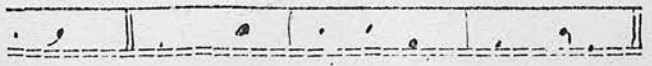
Part C: 9 Poems.

1: Transcription\*

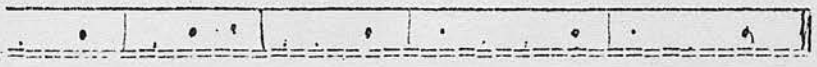
1. 'dalia xabi, kovit<sup>h</sup> 'snei si, yim



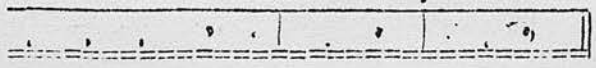
4. ε, xad<sup>h</sup> ha' zman hanit<sup>h</sup> ba, ve set<sup>h</sup>



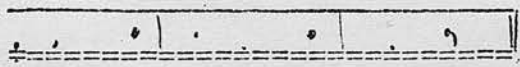
ve' suv ha' iti kea' xat hajila' dot hakta, no<sup>h</sup>



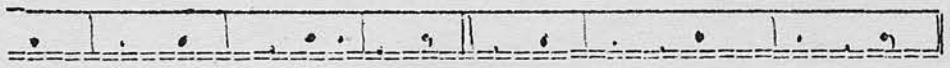
be' tsip<sup>h</sup> naim x<sup>h</sup> dot me<sup>h</sup> mal<sup>h</sup>



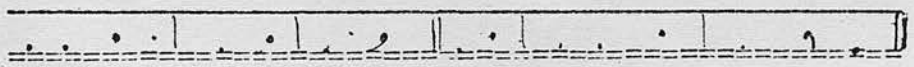
uvin' jan minna' dot ba x<sup>h</sup> o<sup>h</sup>



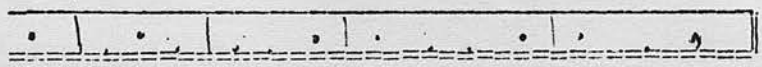
'kol ma' kam se' naxa ei ni ha' ju x<sup>h</sup> su' o<sup>h</sup> ga, man



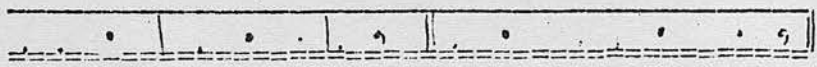
ve' ei' naim x<sup>h</sup> dot za' xu ke' mo x<sup>h</sup> u' zim sel kesef



'suv ha' iti kea' xat hajila' dot hakta, no<sup>h</sup>



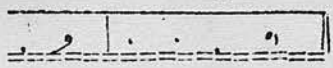
'snei' dot be' la'ila ε, xad sa' viv la' lam ku, lo



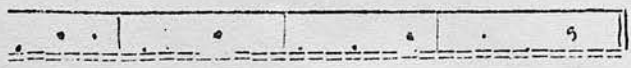
uva' dot ad 'e' x<sup>h</sup> tsin



ve' ad madagas ka<sup>h</sup>



ve' ele se' v' dot tsala' xot usfa, lim



\* /t/, /d/ → [t̪], [d̪] throughout. No breath-pauses are marked; these are implied at verse-ends, unless marked by a single- (fort-) bar.



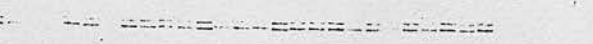
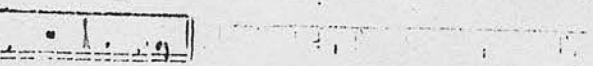
me'xov a(h)ava



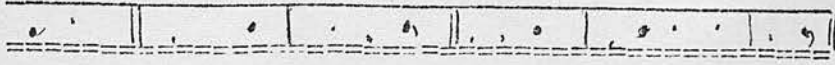
me'xov ahaava



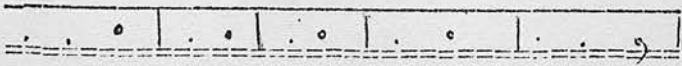
me'xov aava



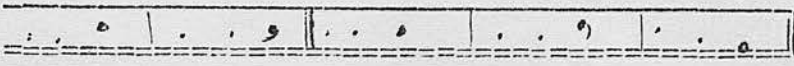
2. staim tfi'lat<sup>h</sup> gka'va lea'xal svaεsε lanu



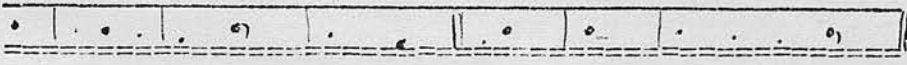
haxa'zan a'ja ko'ε pi'kor tεhi lim



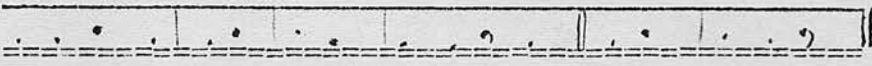
haε'tsim laxa su ka'dat koha'nim xo'εim



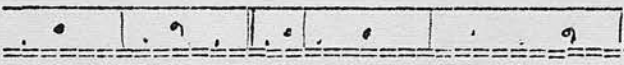
lo fiainu gv'nim ha'ber me'al pnei hamatε vot<sup>h</sup>



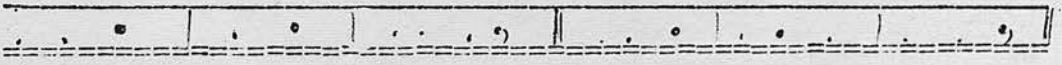
vεja'danu εl tu je bejameanu txijat<sup>h</sup> ame t<sup>h</sup>im



mi'sam vehalia hikni' tsav<sup>h</sup> asu lam



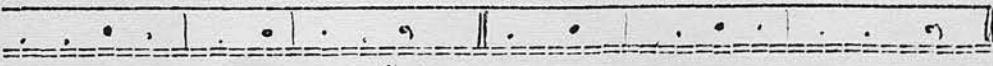
lema'lad gd'jim utoh'jim seti'vam ke'εtsεm hasa pid



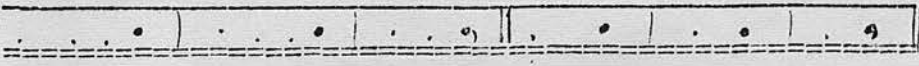
vu'bam ha'ju na'xim lema'gel teanu



vεxa'jeinu a'ju ke'xa'sil bi'gvul<sup>h</sup> a'εme veha'tsel



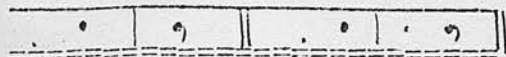
ax kεav'a hanag'a atvula et 'kol xad'εe a'jam



je'danu εa'jam vu hamo lid et anaxa lim



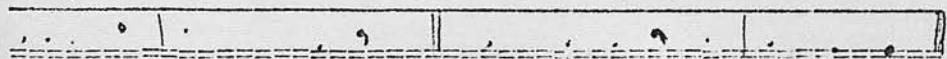
II. na'tan zax ʃɔ'ʃa ʃi'ʃim



4. ɛxadʰ xaʃa'ta



kʃam'ʃu li lɔitxaʃɛʰt kvak lɔja'xɔlti lɔitxaʃɛʰt



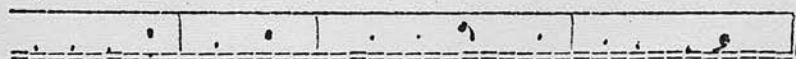
h'a'laxti ʃa,xɔk mɔdar'amaʃti lɛa'tsmi vɛla,həm mikder lɛitxaʃɛʰt



ɛ'nɛni j'a'xɔl (l)axʃuvʰ amaʃ amɛtʰ



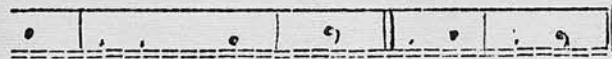
katɔla'im ɛɪ'nam (m)ani'xim li lɔitxaʃɛʰtʰ



vaʃaxʰ aada'ma mɛma'lɛ't naxiʃaʰi j



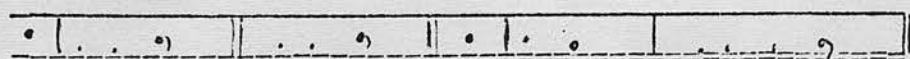
'kɔl maʃɛ 'xaxiʃaʰi j amaʃ a,xaxaʰi j



avalʰ aʃaxaʰi j al titjaʃʃu mɔppɛʰ h'a,mɛtʰ



'hu lɛɔʰ\lam' lɛɔʰ\lam' 'lɔ ju'xa(1) lɛitxaʃɛʰtʰ





2. Staim naaka'ti i'ja k<sup>h</sup>ta'na

naa'ka'tii'ja k<sup>h</sup>ta'na vεns<sup>2</sup> εεt

.....

kεani mεxa'βεk εta<sup>h</sup> hi k<sup>e</sup>'mε bε'tεx

.....

'βεεt εl nεxa'lar

.....

kεani xε'ε εta bivga'δεa

.....

ani xε'εv al da'vad ε'xad bil'vad

.....

vεhi jε'daat<sup>h</sup> txi'la ktsat<sup>h</sup> mitba'εεt<sup>h</sup>

.....

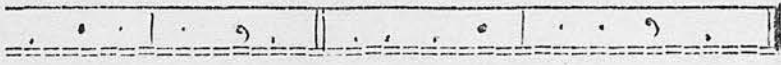
ε'xakax gε'εεt<sup>h</sup>

.....





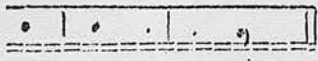
ha' se fe y pa tua x ata mo' si f le al ve l bo' ?



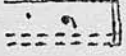
'daf a x ab daf ha' si pu' y im al ana' si x ma' a nim



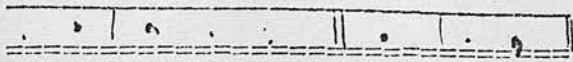
'od 'kama mi lim



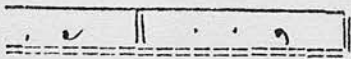
So la re



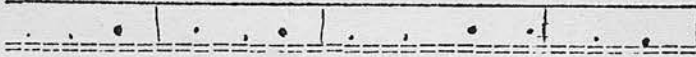
mīnā' tan ʔaltāʔman ʔnāʔ ʔi ʔim



1. ʔxād<sup>h</sup> hasad, na<sup>h</sup>



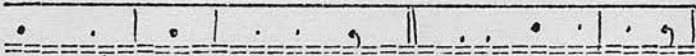
baʔiā' ləm hana' paʔ hɔləm ʔpa<sup>2</sup>am ʔi ʔn



nif<sup>2</sup>a' mim naʔ ʔe a, kfaʔ



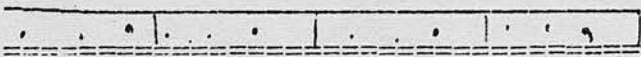
ʔam hu ʔkɔl aʔaʔ, zɛl baʔa' maim ʔvɔ



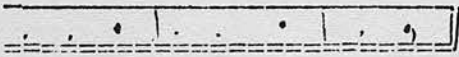
hābi ʔna mēha' sig tik, tsaʔ



bɔ ha' ju lɛɛ ʔxād<sup>h</sup> hāzi' nuk vɛ<sup>h</sup>a' si



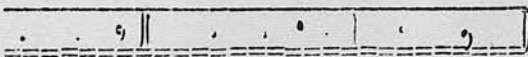
lɛɛda' tɔ vɛ<sup>h</sup>ka' rav<sup>h</sup> a, naʔ



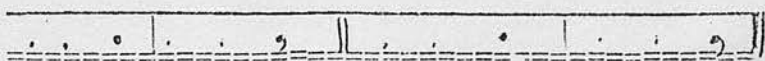
ɛun ʔi vā lɛ tim ʔt<sup>h</sup> kɔxɔ tav ki hɔʔ sim



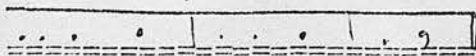
ɛl maʔm ki pa' ti tsa, naʔ



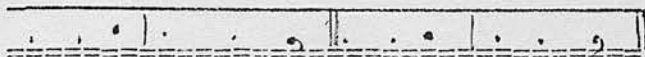
ki a'xat ul? lam ki nex'kats maslu lam



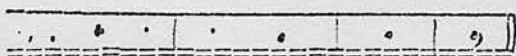
uvε mis' pεd ut(u'za sp\gεv



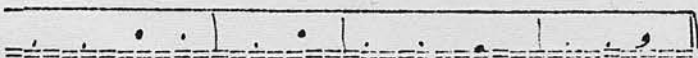
vεxa' lε al bli, ma bεsi'ε<sup>e</sup> h<sub>asu</sub> lam



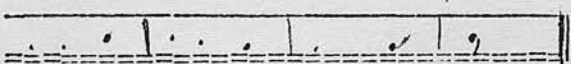
ufz' sεket hial' mut 'kol vεv



ax be'te εem dma' ma lεjov' lεt' ba(nim



na'z' εei asad' na kod, Tim vax.



az mε' id ana' pak hεlεm 'paqm εεni



vεha' jom hani' tsol nim sax

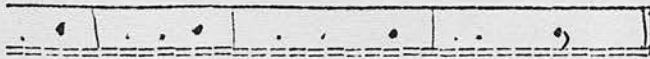




2. )taim 'bait ja'jan vejd,nim



le'xa pitu'Xe<sub>r</sub> ma(ko'fim ve xa' ko<sub>v</sub>'



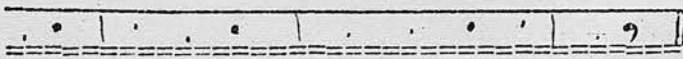
tsi'pu<sub>r</sub> ha<sub>m</sub>a'p<sub>t</sub> ha<sub>p</sub>'m<sub>em</sub> veni<sub>r</sub>klaf



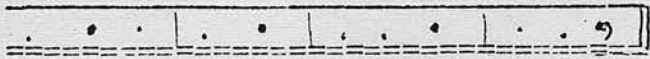
ha'baith<sup>h</sup> ja'm<sub>exa</sub> ba'im la<sub>a</sub>'<sub>v</sub>



le'p<sub>z</sub> zikna't<sub>am</sub> sel ma't<sub>exet</sub> y<sub>r</sub>klaf



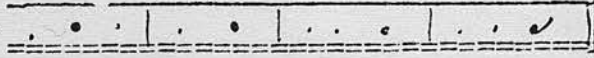
ex'kaits ti'p<sub>es</sub> besiv'Xe<sub>r</sub> aga<sub>r</sub>de<sub>r</sub>'



ve'ka<sub>ma</sub> sta'vim ba'ta'lu ha<sub>a</sub>de<sub>r</sub>et<sup>h</sup>



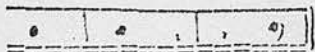
be'ka<sub>ma</sub> do'p<sub>t</sub> jon'xa m<sub>efa</sub>ge<sub>r</sub>'



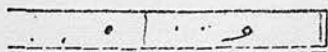
i'mi d<sub>a</sub> ha'b<sub>er</sub> meda<sub>r</sub>be<sub>r</sub>et<sup>h</sup>



'beit 'even ʔaxem



began'xa asa' iʔa



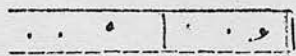
tia'xi ananim hitxak, ku lesov, ʔam



ʔe' a'aim kxu'le' apaxva



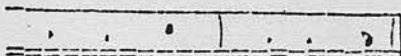
beyv'xam et' aiʔ



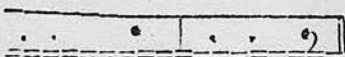
le'xa matshi lim



(m) ikha'lot' xali lim



k'el 'hay vegiv ʔa



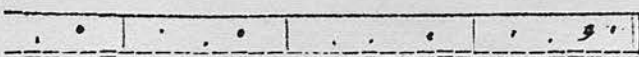
hajj'dax a'ta haza, ken



ma/duʔ



ha'jom hajj'nim memal'ʔot' bijja/bun

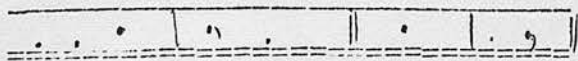


et'kol kimʔa'nexa nos'ʔe' a/ken

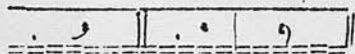


A

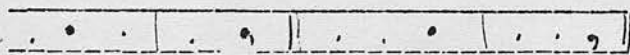
h<sub>+</sub>av' h<sub>+</sub>am ∫ l<sub>+</sub>ski ' ∫ n<sub>+</sub>er ∫ r<sub>+</sub>im



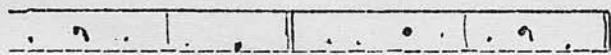
1. ε, xad h<sub>+</sub>e t<sub>+</sub>son'



h<sub>+</sub>a' h<sub>+</sub>av h<sub>+</sub>a, z<sub>+</sub>e<sup>h</sup> h<sub>+</sub>am f<sub>+</sub>a' s<sub>+</sub>ek n<sub>+</sub>xi, h<sub>+</sub>av



h<sub>+</sub>a' g<sub>+</sub>ova<sup>h</sup> h<sub>+</sub>a, z<sub>+</sub>e<sup>h</sup> h<sub>+</sub>aka' m<sub>+</sub>ea ε<sup>e</sup> l<sub>+</sub>exa



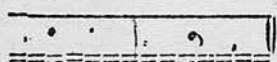
h<sub>+</sub>a' h<sub>+</sub>av h<sub>+</sub>a' f<sub>+</sub>ea l<sub>+</sub>av' n<sub>+</sub>ut<sup>h</sup> h<sub>+</sub>exa' l<sub>+</sub>av



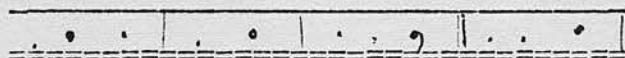
v<sub>+</sub>3' h<sub>+</sub>ax a' t<sub>+</sub>sem<sup>h</sup>



v<sub>+</sub>3' h<sub>+</sub>ax a' l<sub>+</sub>exem



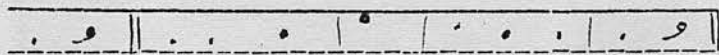
ul' h<sub>+</sub>eg<sub>+</sub>el h<sub>+</sub>at<sub>+</sub>son v<sub>+</sub>ε<sup>?</sup> a' d<sub>+</sub>am h<sub>+</sub>aka' h<sub>+</sub>av



l<sub>+</sub>3' h<sub>+</sub>on h<sub>+</sub>alik' luk b<sub>+</sub>et<sub>+</sub>x ∫ k<sub>+</sub>et<sup>h</sup> a' m<sub>+</sub>aim



ja' h<sub>+</sub>ef b<sub>+</sub>em<sub>+</sub>ax' s<sub>+</sub>of "k<sub>+</sub>ol x<sub>+</sub>a' m<sub>+</sub>es<sub>+</sub>et x<sub>+</sub>u' h<sub>+</sub>av

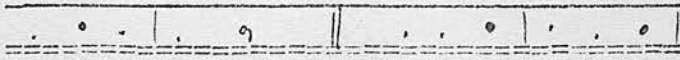


p<sub>+</sub>o' s<sub>+</sub>ea a' b<sub>+</sub>ok<sub>+</sub>el ε<sub>+</sub>l' mul t<sub>+</sub>so<sub>+</sub>h<sub>+</sub>o' h<sub>+</sub>aim

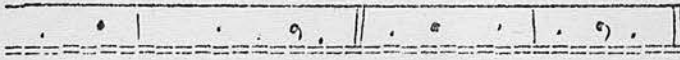




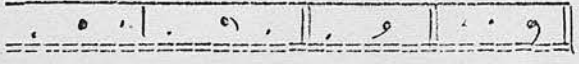
ze' b<sub>+</sub>o<sub>+</sub>k<sub>+</sub>e<sub>+</sub>δ b<sub>+</sub>δ<sub>+</sub>e<sub>+</sub>δ<sub>+</sub>i<sub>+</sub>t<sup>h</sup> ba<sub>+</sub>sa<sub>+</sub>'d<sub>+</sub>o<sub>+</sub>t je<sub>+</sub>²<sub>+</sub>a<sub>+</sub>δ<sub>+</sub>d<sub>+</sub>e<sub>+</sub>



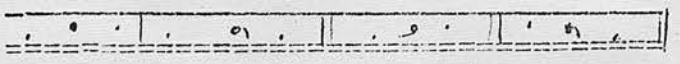
tlā' lim (m) inā<sub>+</sub>δ<sub>+</sub>e<sub>+</sub>δ<sub>+</sub>e<sub>+</sub> u'<sub>+</sub>kt<sub>+</sub>δ<sub>+</sub>e<sub>+</sub>t<sub>+</sub> a<sub>+</sub>zēv<sub>+</sub>e<sub>+</sub>l



m<sub>+</sub>e<sub>+</sub>'δ<sub>+</sub>f<sub>+</sub>e<sub>+</sub>k<sub>+</sub> a<sub>+</sub>d δ<sub>+</sub>f<sub>+</sub>e<sub>+</sub>k<sub>+</sub> a<sub>+</sub>dam vēsa<sub>+</sub>δ<sub>+</sub>e<sub>+</sub>



m<sub>+</sub>e<sub>+</sub>'δ<sub>+</sub>f<sub>+</sub>e<sub>+</sub>k<sup>h</sup> a<sub>+</sub>d δ<sub>+</sub>f<sub>+</sub>e<sub>+</sub>k<sup>h</sup> ha<sub>+</sub>δ<sub>+</sub>e<sub>+</sub>δ<sub>+</sub>e<sub>+</sub>δ<sub>+</sub> vē<sub>+</sub>h<sub>+</sub>e<sub>+</sub>v<sub>+</sub>e<sub>+</sub>l

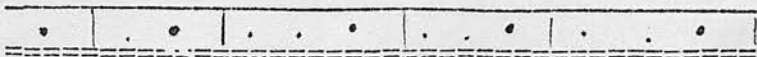




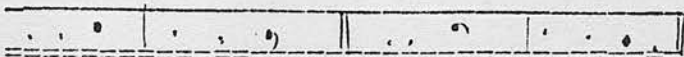
2.  $\int_{\tau} \text{taim}$   $v_{\tau} a_{\tau} i' h_{\tau}$   $i_{\tau} \epsilon \delta \epsilon v$



'j<sub>τ</sub>am t<sub>τ</sub>a' m<sub>τ</sub>im h<sub>τ</sub>ist<sub>τ</sub>a' b<sub>τ</sub>el h<sub>τ</sub>a<sub>τ</sub>∫<sub>τ</sub>a' v<sub>τ</sub>av a<sub>τ</sub>l t<sub>τ</sub>sa' va<sub>τ</sub>∫



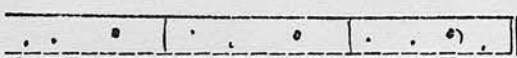
h<sub>τ</sub>a<sub>τ</sub>∫<sub>τ</sub>' lam h<sub>τ</sub>a<sub>τ</sub>∫<sub>τ</sub>a' n<sub>τ</sub>ak<sup>h</sup> m<sub>τ</sub>ab<sub>τ</sub>a' t<sub>τ</sub>im a<sub>τ</sub>∫<sub>τ</sub>ε' f<sub>τ</sub>uh<sub>τ</sub>



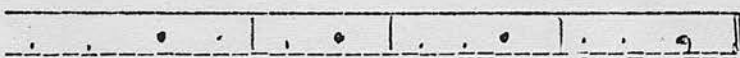
k<sub>τ</sub>im' t<sub>τ</sub>il a<sub>τ</sub>ba<sub>τ</sub>' z<sub>τ</sub>el a<sub>τ</sub>l t<sub>τ</sub>sa' v' ∫<sub>τ</sub>ε f<sub>τ</sub>alu' da<sub>τ</sub>∫



∫<sub>τ</sub>εka' pav h<sub>τ</sub>a<sub>τ</sub>gd<sub>τ</sub>' l<sub>τ</sub>∫<sub>τ</sub>' k<sub>τ</sub>∫<sub>τ</sub>ε' f<sub>τ</sub>uh<sub>τ</sub>



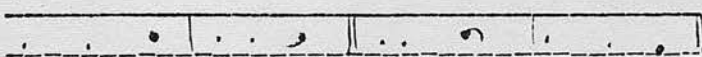
i<sub>τ</sub>m k<sub>τ</sub>∫<sub>τ</sub>l 'k<sub>τ</sub>ε∫<sub>τ</sub>f a<sub>τ</sub>m' t<sub>τ</sub>il j<sub>τ</sub>εna' ∫<sub>τ</sub>εf bun<sub>τ</sub>xi' ∫<sub>τ</sub>av



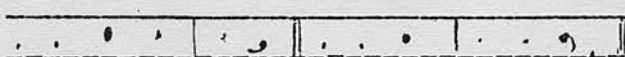
v<sub>τ</sub>εnid' m<sub>τ</sub>ε l<sub>τ</sub>∫<sub>τ</sub> ju' x<sub>τ</sub>al l<sub>τ</sub>∫<sub>τ</sub> ju' x<sub>τ</sub>al (l)∫<sub>τ</sub>a<sub>τ</sub>x' n<sub>τ</sub>ia



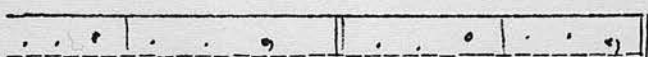
a<sub>τ</sub>x' s<sub>τ</sub>∫<sub>τ</sub>' gu' h<sub>τ</sub>a<sub>τ</sub>gi' d<sub>τ</sub>im v<sub>τ</sub>εni' ∫<sub>τ</sub>ba<sub>τ</sub>∫<sub>τ</sub> a' v<sub>τ</sub>av



u<sub>τ</sub>m∫<sub>τ</sub>' l<sub>τ</sub>εx<sub>τ</sub>t x<sub>τ</sub>ama b<sub>τ</sub>ε∫<sub>τ</sub>u' l<sub>τ</sub>εi h<sub>τ</sub>a' ∫<sub>τ</sub>a' k<sub>τ</sub>ia



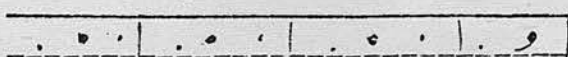
u<sub>τ</sub>∫<sub>τ</sub>ki' a' k<sub>τ</sub>adm<sub>τ</sub>∫<sub>τ</sub> nit<sup>h</sup> x<sub>τ</sub>ats<sub>τ</sub>u' fa u<sub>τ</sub>∫<sub>τ</sub>xa' va



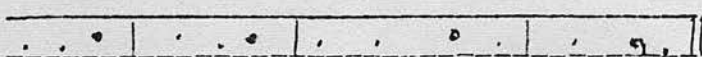
b<sub>τ</sub>ε∫<sub>τ</sub>i' n<sub>τ</sub>ε<sup>h</sup> a' n<sub>τ</sub>∫<sub>τ</sub> ε<sub>τ</sub>set x<sub>τ</sub>a' ma m<sub>τ</sub>εv<sub>τ</sub>u' k<sub>τ</sub>a' ∫<sub>τ</sub>at<sup>h</sup>



ba' paam h<sub>τ</sub>a' ∫<sub>τ</sub>el<sub>τ</sub>εf m<sub>τ</sub>∫<sub>τ</sub>' ε<sub>τ</sub>t<sub>τ</sub>εt x<sub>τ</sub>a' va



l<sub>τ</sub>∫<sub>τ</sub>a' dam a<sub>τ</sub>∫<sub>τ</sub>i' ∫<sub>τ</sub>∫<sub>τ</sub> n εt' (t) a' puax<sup>h</sup> h<sub>τ</sub>a' daat<sup>h</sup>



## 2. TECHNICAL DETAILS AND TRANSLATION

### a. Reader:

All nine poems were read by Doron M. - born in 1951, a reporter and announcer with the Israel Defence Army Broadcasting Unit, whose mother speaks German and whose father speaks Romanian. The language generally used in the household (but not by the children) is English. This situation (in which father and mother are native speakers of different languages and use either Hebrew or another language - often Yiddish or English - as the standard "family" language) is quite common in Israel, a country whose native population is still largely descended from first-generation immigrants.

### b. Instrumentation

The poems were recorded under studio conditions on the same type of machinery and with the same materials as the material on Tape 2 (see Appendix II B 2c, Readers 5-10.).

c. Translation

I. Dalia Rabikovitsh: Two Poems

1: Time Caught in a Seine

Again I was a little girl  
Whose hands are stained with toil  
Of digging deep in sand;  
Each glance's settling-place was purple-fringed,  
And many eyes would gleam like silver beads,  
Once more I was a little girl  
Circling the whole wide world within a single night  
To reach far-off Cathay,  
And Madagascar-land --  
A girl who would smash dishes, shatter cups  
All for excess of love  
All for excess of love  
All for excess of love.

2: Requiem After 17 Years

The psalms were being chanted by the cantor,  
The trees were whispering like a dark conclave of priests,  
We were not then much taller than the tomb-stones,  
And knew the dead would not arise in our days  
A little distance from us stood the ladder  
Serving the pure and saintly, whose soul is opal-like  
(There most of them were resting at our feet),  
And life was like a gnat poised between sun and shadow,  
But then we knew the sea gives birth to rivers  
Once the drowned maiden's passed through all its myriad halls.

II Nathan Zach: Three Poems

1. Repentance

They told me that I should repent,  
But then it was too late:  
"I've gone too far," I told myself,  
To say "I'm sorry, mate!"  
"I can't return," the dead man said,  
"The maggots don't allow  
Repentance, and the smell of earth  
Has filled my nostrils now".  
The live man said, "Whatever lives  
Has life, my brothers - yet  
You mustn't fear the dead, for they  
Can never voice regret."

2. My Girl is a Little Woman

My girl's a woman, desperate and small:  
When I embrace her, she's caught in the coil  
Of my deceitful guile.  
I see her dressed,  
                  and have but one design;  
And, knowing this, at first she's rather shy —  
Then glows with savage joy.



3. Fairy Tales

He's taken her up, and he takes her away,  
And he's waving farewell, as well he may:

A dream, you say?

The boys were flying their kite:

it flew.

Filled with red water, the pot

floated too.

Adieu, adieu!

He's journeying far, and his sly beard will rake

The breezes. A sudden exhaustion will make

The foliage shake.

The book is open, and you leaf on,

Turning the pages, one by one;

Tales of princes will pall anon.

A few <sup>more</sup> words, then all is done,

Farewell, begone!

III Nathan Alterman: Two Poems

1. The Smithy

When the smith's first hammer-blow is driven,  
The village boys grow wild:  
The loud iron's voice clangs up to high heaven -  
Too far for the puny wind.  
The start and the finish are all at one,  
The birth and the life in plumb:  
There's no return once the hammer's smashed down --  
Its strength is spent in the slam,  
For there's only one run to the fated goal,  
Be it ever so high or low:  
Yes, the steeper the climb, the sheerer the fall,  
And the heart-beat's end comes due.  
But before the eternal hush can return  
The smithy lads join in:  
The mighty hammer is brought down again  
And the day that's been spared goes on.

2. Old House with Pigeons

Your lintels are hand-carved, your cornices too,

Your mirrors are dimmed and decaying;

The twilight of life winds its shadows round you:

Your woodwork, your fretwork are fraying.

The summers have crept through your overgrown hedge,

The autumns have crowned it with glory.

Your clock's a decade late, or so they allege,

And your well has turned silent and hoary,

Drowsy old house --

The rains of the sky

Have tussled their fill in your unkempt grounds,

And the blue-cloaked shepherds of clouds on high,

While walking their rounds

Make merry with sounds

Of pan-pipe and flute,

As from echoing hillsides, the city blocks mute.

Now, tell me, old friend, do you know

Just why

The pigeons all flutter, and flit, and fly

About the nests in your walls to and fro?

IV Abraham Shlonsky - Two Poems

1. Shepherd

The breadth of this view, straining nostrils aflame,  
The height of this zenith that's flowing towards you,  
The sunlight suffusing the milky-white air,  
The fragrance of wool  
Mixed with bread from the oven --  
Envelope the man with the flock in his care,  
All ears to the slosh of the water-trough's plashing,  
Unshod, with his senses' awareness laid bare,  
To the morning's slow strides and high noon's stillness clashing.  
This primordial morning from meadows has fanned  
The incense of droppings and grass-clinging dews --  
And, ringed in by the skyline, a man on his land,  
Here Abel stands, watching his rams and his ewes.

2. And it was Evening

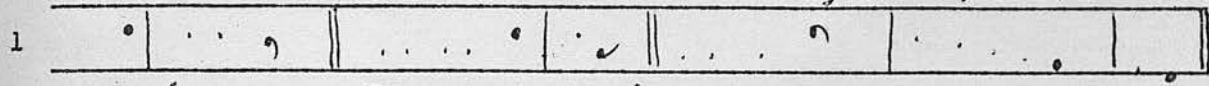
The desert wind beset the world  
The livelong day, searing its eyeballs -- till  
We'd bent it back like iron ingots, curled  
About Greek wrestlers' necks, to dull their skill.  
It blazed in our nostrils with brazen attack  
Till it seemed we must either defeat it or die,  
But, knitting our sinews, we broke its back:  
*And the sun was flung out to the edge of the sky.*  
Then primordial twilight, impertinent, wide  
Sinks its teeth in the sun that has split -- while, once more,  
Held out in her hands Eve, primeval man's bride,  
Shows the apple of fate, as so often before.



PART D: 2 Conversations

a. TAPE 3, SECTION 1 (6 MINUTES). 1. Transcription

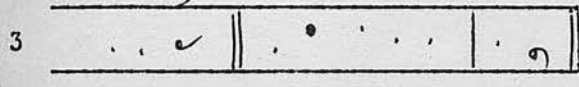
D: 'i mʲtsu jan aval ani 'lo ro,ej arej ik ʃavt ma ʃeamak, let a, mar



D: xa ʃavti ki ze a,ni ə aməmu-tsa ʃelxʌ

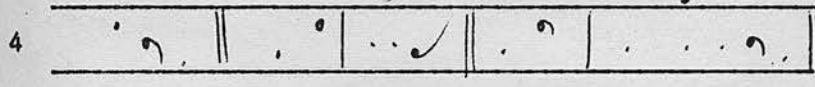


R: vʌax ʃav a'tejprikorder ik lit



SONG. LAUGHTER

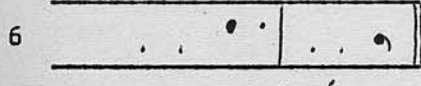
D: o'vadja kol'xa bəʃi/ra roʒim (m)a ʃea,sita



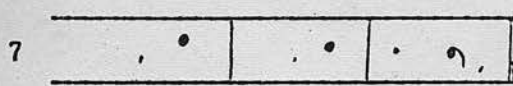
D: na xon



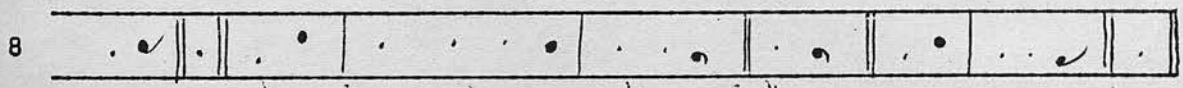
D: vʌtsi'jona ze ʃi,ra



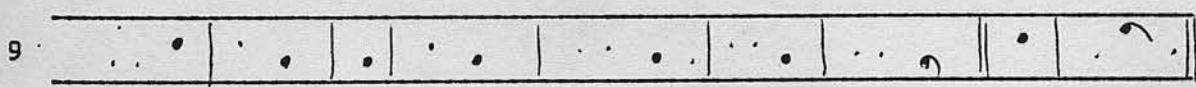
RN: ta'xol (l)a'ʃir ba radjo



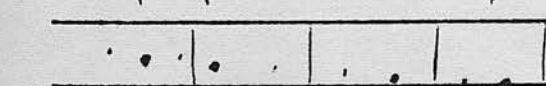
A: a,ni ə tsa'rix kʲsat dugma'ot ʃel iv,rit pʃu,ta si'xa rəgi,la ə



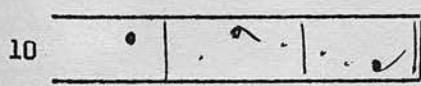
R: əta 'lo ja xol lo la zor ləko lega ʃeo se dokto, rat 'mi ka monu



jo dea, ma ze nik,ra la, sot

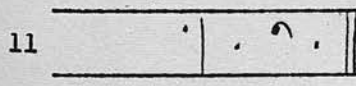


D: 'mi ka moxa bae, lim



LAUGHTER

R: '(o)j va voj li



11

MIXED VOICES

D: ax' } av xanu, ka

12

D: , ken na, xon

13

RN: , ken

14

R: , ken ə ani xo' } ev(t) } e' 'xad mik xəm 'je } aəm əx' } av , e }

15

D: \ a 'je } ax , e }

16

RN: bi, ka } ti ' e }

17

D: 'ma zə si' } garia mi' } tsad e xad , e } mi' } tsad } e , ni ti , pe }

18

RN: və , uj ə atem ik' } avtem et' } mol ə 'mi } e(u) mikem ik' } iv lə / frost ə

19

D: ubə' } ze a(n) i ga , (m) arti

20

D: o' } vadek

21

R: ze' } a' alagəlu , la

22

A: lif' } nej } a' } vua ik' } avti vəze a' } ja mas' } pik li ləta , mid

23

D: zə aj' } zə : et' } mol

24

Q: al bar'nard al a'par(t) ala<sub>Λ</sub>

25

R: et'mol ze haja 'mät'su<sub>Λ</sub>jan

26

A: lo

27

R: \lo bæ ə \lo bæ<sub>Λ</sub>

28

A: lo zome \ken və\ala ze ə ze it\xil aval ze a'ja<sub>Λ</sub> 'xarkax im ana\jim

29

R: al 'barnard ze aja mät'su<sub>Λ</sub>jan

30

D: a<sub>Λ</sub> atxa'la \el sixa'to \el \frost aval ze a'ja mə<sup>h</sup>od ma'n\jen

31

RN: aval et'mol ze a<sub>Λ</sub>ja

32

A: ze ha'pam hari\o<sub>Λ</sub>na bæxol \ofen \e\sa'mati \ena'\jim mədab'rot

33

k<sup>h</sup>mo mala<sub>Λ</sub>xim

RN: bæsa'vua \ea'var ze a'ja

34

R: bæsa'vua \ea'var

35

A: \ken

36

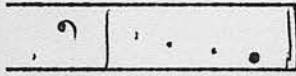


D: ə: bəxa\jaj ə: 'lo ik'ʃavnu bəʃa,vua ʃea,var ə:a'inu bezeʃeu

37



mā'kom bajom ʃi,ʃi



R: ken na'xon mə,od

38



RN: 'efo a'inu bə'jom ʃi,ʃi

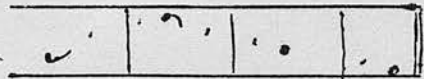
R: ,efo a'inu bə'jom ʃi,ʃi

39

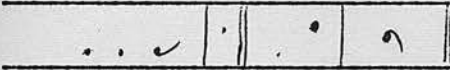


A: ze ha,jal<sup>h</sup>aal'mis wʒ:ld

40

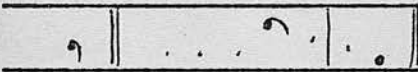


41



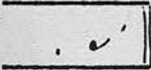
O: a ani ra'iti əd,ze

42



D: a,inu

43



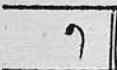
A: al ataxa,rut vəal ha - femi/nizəm

44



D: \a:

45



R: m.ə: et'mol ze aja ma\maʃ a.ʌ

46



D: az 'ejze keʃer (je)ʃax'ʃav lə doktor 'barnard

47



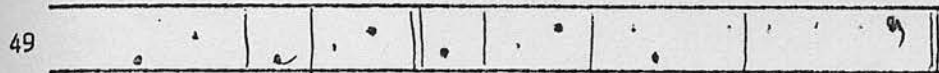
A: zeit'xil mi kax ʃehu<sub>ʌ</sub>ə:m! ito'nen ʃe'ba'nəd 'lo ra'tʃa la: 'not lo

48

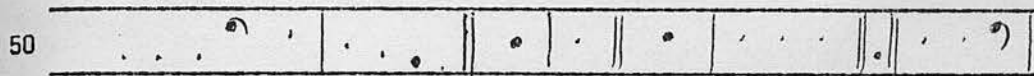




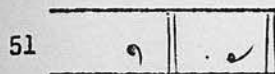
D: barnard lo a'mar lo ra'tsa la tet lo et at'u'vot



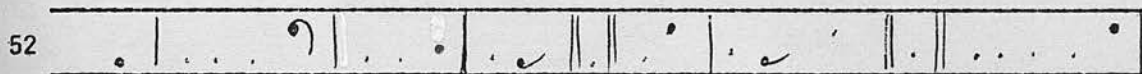
A: aval a'xarkax u i gia 'ze ha' 'zot ajta rak ə hakda'ma



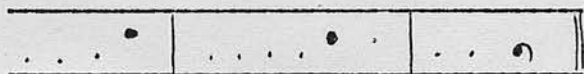
RN: a: aj,ta



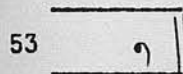
R: lo aval et'mol ze a,ja ma,ma) ə ja' av pro,fesor ə sebəmtso'zo



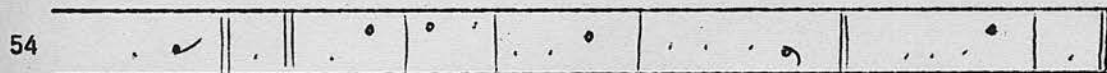
u mitma'xe bəmetabo'lizəm mənut,ral



D: ken



R: vəhu. ə na'tan 'eser nəku'dot neged<sup>n</sup>a,pil vəxa'rej se



O: ha'pil vəha'se: 'la hajəhu'dit /gam ken



RN: lo



D: a'pil vəha'se: 'la ajəu'dit 'lo aja



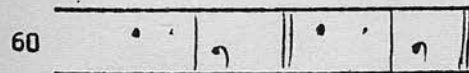
RN: a'se: 'la abriu'tit a.



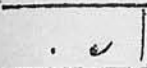
D: a'pil vəha'se: la ajta




R: 'bidi,juk 'bidi,juk




D: na\_xon

61 

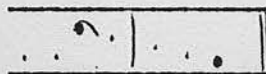
RN: araka\mot

62 

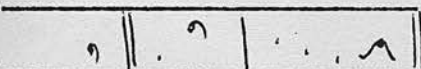
D: vaze a'ja ma'ma) maza: \zea ze a.Λ ja'vu )ama baka'hal elu

63 

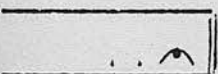
sei`givu əxar,kax



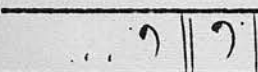
R: lo ba'sa' seuzma\_nu:

64 

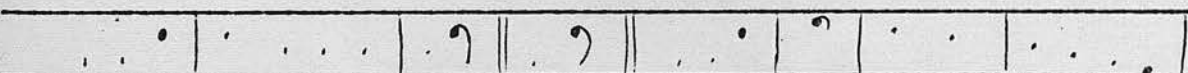
RN: uzma\_nu:

65 


R: uzma\nu \ken

66 

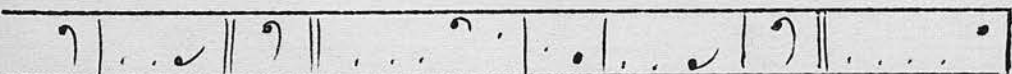
D: az la'em je) inte'res a\fux va\ken sea'pil \ken jam, six ləina, ten

67 

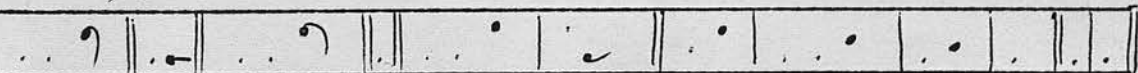
0: lo xa'suv mi a,ja 'lo ra,it \lo

68 

D: \lo u o,mer \lo alapro`fesor a,ze bəfe,ru) \lo avalu a'mar

69 

bəfe\ru) se\_u hu bə\lad ə mətsi'at si,tat bə'ad mətsi'at si'ta sel\_ə'ə'

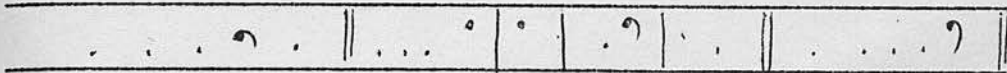


R: sel kontra\_septiv

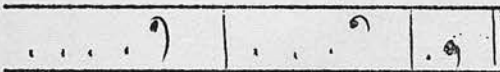
70 

D: ∫el kontra<sub>1</sub>septiv avalə 'u'rak me'vi et<sup>h</sup>a: et aliku\im

71



et a.saka\not ∫e(l)a ∫i'ta a<sub>1</sub>zot

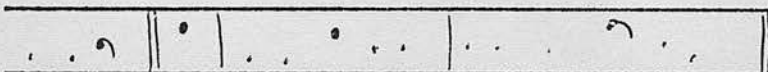


R: \ken aval ə<sub>1</sub>bəod ∫ea.xe'rim rak<sub>1</sub> və'u ista<sub>1</sub>kel (i)m'ko(l)azman

72

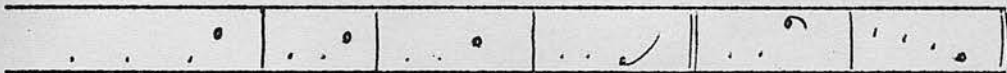


kivja<sub>1</sub>xol 'em matki'fim oto ∫e(u)l(o) 'sajəntis

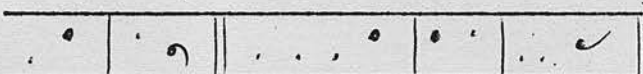


A: bi ∫vil a'dam ∫eo'med mina'xutš ze no'ra. məgu'xax kolainjan

73



al 'ma dib<sub>1</sub>ru al emtsa'e 'mena ləpi'lim



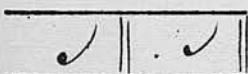
R: lam'rot ∫e'hem barov rof<sub>1</sub>zim

74



D: /lo? dib/ru

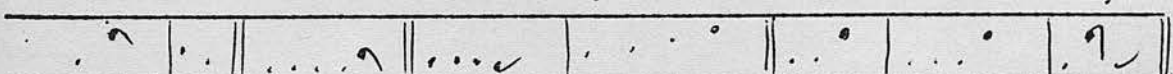
75



LAUGHTER

R: dib'ru ala<sub>1</sub> alagəlu<sub>1</sub>la asaka<sub>1</sub>not ∫el aglu'la və'a'im asaka'not<sup>h</sup> a'ejlu

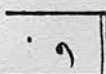
76



∫egi'lu. adax<sub>1</sub>∫av 'je∫ bahem ki'dej oxa'xa mas<sub>1</sub>peket lə(h) o'tsiməm

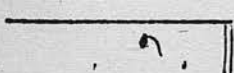


zə<sub>1</sub>pil



D: tu \baləns

77

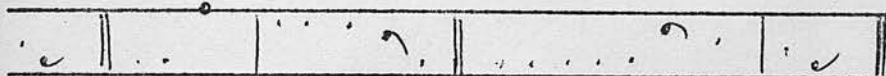




R: vəjavi`kuax aja mə,od məan\_jen mʃumʃea'tsad aʃe(n)i aja mə'od



xa,laʃ vəmā'ʔod emotsjo\nnali bəod ʃeapro`fesor ja,ʃav



vəaja\_kar vəʃa,lev im dia,gramot



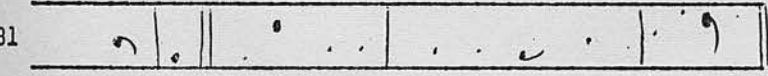
O: ax'ʃav uja,gid ha,pil ze \kar ax,ʃav



R: \aʃ a`zeu və'ʔem am,ru lo ʃea\_ʌ



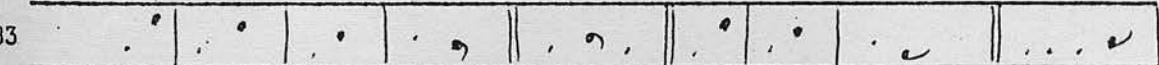
O: \lo lo ha'iʃ haze lo ex,pat<sup>h</sup> lo kani\re



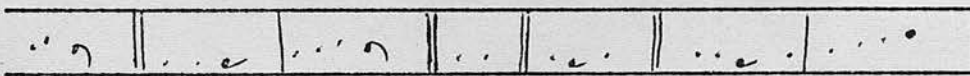
D: ken (h)em am,ru lo ʃeada\_ʌ



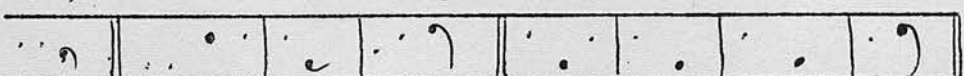
RN: a'ja da'var mə'od man\_jen am,ru lo ə'ta ko're kol,pa. m vəʃea,sur



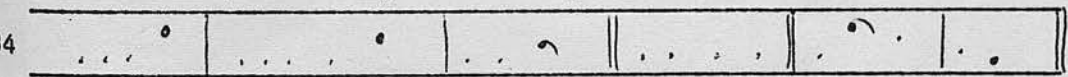
ləa\_ʃen vətə,xuz amaxa\_lot v<sup>h</sup>am\_ʌ<sup>h</sup>a\_mavet ʃemo\_fia bəikə'vot



h'ai\_ʃun vərə'iti ot\_xa məa\_ʃen ma'dua ze lo maf\_xid ot\_xa



D: azua'mar ʃeani ma.'ʃen rak si\_gar vəlo sigə\_ʌ və'derəx əga(v)



zeasi'gar ari\_ʃon ʃeli mize ʃlo'ʃa ja\_mim



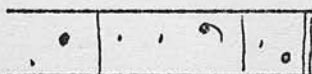
84



R: va\daj lif'nej tox'nit tele'vizja a,dam (m)itadz\ben ugama'ja

85 

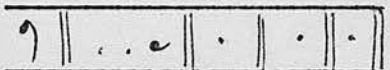
bə'ad əzdra'minə,ze



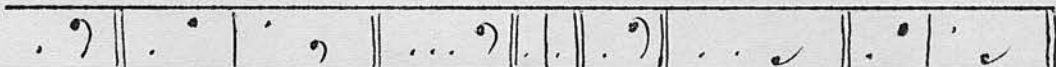
D: a'xarkax ua,mar bə'ofen kla,li sekəseo'sim kim(edib\ru lə ze,λ

86 

R: \lo u əmar im,λ im,λ kə,λ

87 

RN: ka'\mur dib'ru al ,risk azua\mar ə ə u\lo (u)ma',sen u'lo zi,sen

88 

uma'')sen si'gar 'pa.m bətku\_fa k<sup>h</sup>van se u,lo muλ,u,lo u,λ



D: mu\χan

89 

RN: ul,λ u,λom ulomo/tse bix,lal ətam,λ

90 

R: u'lama la'kaxat \risk (k)se'f, sar 'lama lista,ken k<sup>h</sup>se'f, sar

91 

ze pa'ut<sup>h</sup> a'ba (ja) (l)im,λnoa



A: ə bə'derex ,klal a'risk aga'dol bəjo ,ter ze ləxi\ot na'xon

92 

'mi se,xaj bə'dexklal



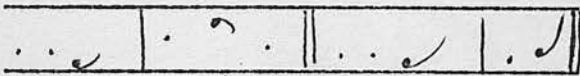
D: m, m\ken a,(l)'ze ma'fe am,λ a'ze'xa(d)adva'rim searo, fe əxa(d)arof'zim

93 

dib ru və, po me'tim və, sam (m)e'tim vəi, ti ta'mut və, ze ja'mut

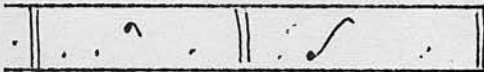


vədi, ber a(l) mave't vədib/ra.l ma/ma



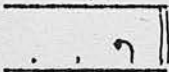
O: ə tislə'xu li ma'taj (h) em

94



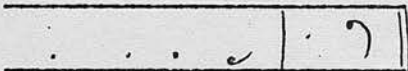
RN: ze b met

95



R: (h)em tsiltə, lu lif nej

96



D: rafa'ela val ze ko, re em ba'im me'n duwe ze bmet bejn edimbur

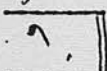
97



lə'glazgo əmtilfə'nu am'ruxa se'tox fa'za vətilfə'nu zea'ja lifnej

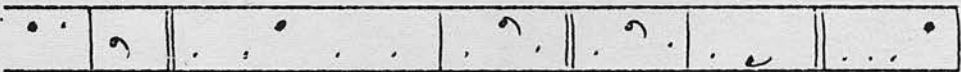


smone

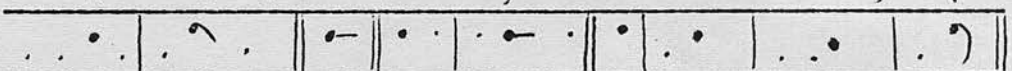


O: 'rega xad az mi'kamberland lə'hena lin'soa ba, kvi əzəto'me

98

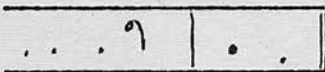


ləha'gia lə'glazgo 'ze. 'eze x'jav es'ze es'rim vəxa'mes da'kot



R: aval bə'tox ,glazgo

99



O: aval bə'tox ,glazgo ze, od 'eze xa'tsi fa, a biə'xud şhem no'a'gim

100

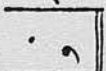


bə



D: na xon

101



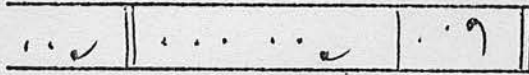
Q: nax, az zəha<sub>Λ</sub>

102



R: ubik, su im axnu muxa, nim ləxa\kot

103



O: ma taj ze a'ja lif, nej jəa'ni di\barti

104



R: tilfa\_nu ləfa'nexa od

105



D: ,ken

106



R: am, ru lanu m• imaxnu (m)itak, vim

107



O: a, ni til\fanti bə, rev? be•s, rim lə\smone

108

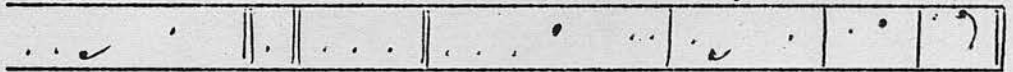


D: və, em tilfa'nu ze xa'me) da'kot ləfa, nexa azu<sup>ə</sup>, mar a'naxnu

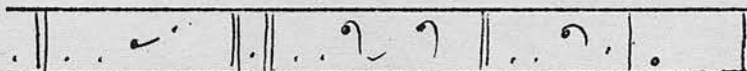
109



mitak, vim ktsat əm axnu no, vəze i'kax lanu kə, floset rə've fa\za



ə ze bə'seder ə ia\marti \ken ki a'inu ,od



RN: vəja, savnu od ba\xeder a, u• vədi, barnu

110

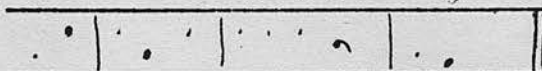


O: ,ken az ax' sav em ba, derex a'ni ma, tsia lax ez<sup>ə</sup> da, var ka, z<sup>ə</sup>

111



h'a'im a'naxnu məurga, nim ax, sav



RN: \ken

112



D: ,ken

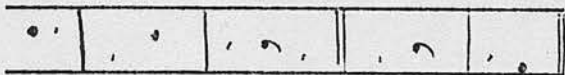
113





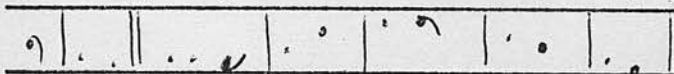
O: 'bou nat'xil la redet nif,goſ o,tam

114



R: 'oj axnu,ani lo a'mod ba'xuts ba,kor a,ze

115



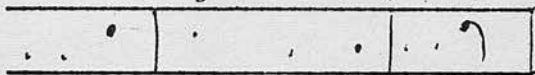
O: lo anaxnu lo na'mod ba'xuts aval ad

116



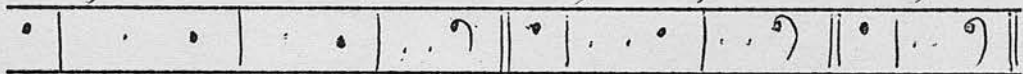
RN: avlif'nej<sup>e</sup>fʃa(r l)il'boʃmæi\lim

117



O: 'ad (ʃenu)'xal (lil)'boʃmæi\lim 'ad ʃenil'boʃmæi\lim 'ad ʃeni\re

118

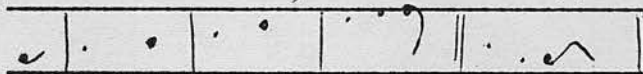


'ad ʃe<sub>λ</sub>



RN: ma ba'ja lil'boʃ mæi\lim bərtʃi<sub>λ</sub>nu.t

119



O: ta\biti ze 'lo na'im at ba'pa.m riʃo\na anaʃim 'ʃam ə:

120



R: anaʃim 'ʃam məxa\kim aval gam ele ba'im ,pa.m riʃo,na və'em

121

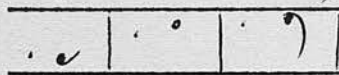


a'ju mə,ʔod nəi\mim



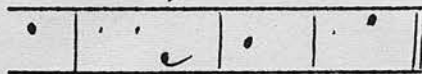
RN: ki li<sup>e</sup>n 'ma lil\boʃ

122



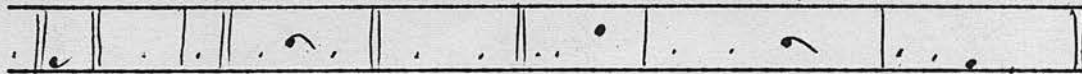
O: 'hem lo ha,ju 'ka.n et'mol

123



R: ə: lo (h)em ə<sub>λ</sub> ba,dere(x) (h)em bə,ulo'med bə'straθklajd juni,v3.siti

124




A: 'wλ(n)\moumənt

125





O: ki ta, <sup>β</sup>iti 'ad ʃə·m ja, vou 'az jik<sup>x</sup>an, su və, ze 'im em no<sub>Λ</sub>

126 A musical staff with a treble clef and a key signature of one flat. The notation consists of several measures with notes and rests, corresponding to the lyrics above.

R: ma, tsa·t et<sub>Λ</sub>

127 A musical staff with a treble clef and a key signature of one flat. The notation consists of two measures with notes and rests.

O: 'im ləfi 'luax azma<sub>Λ</sub> nim hem tsri'xim l(əh)a<sup>v</sup>gia 'kol 'rega

128 A musical staff with a treble clef and a key signature of one flat. The notation consists of several measures with notes and rests, corresponding to the lyrics above.

D: ken

129 A musical staff with a treble clef and a key signature of one flat. The notation consists of two measures with notes and rests.

RN: tov

130 A musical staff with a treble clef and a key signature of one flat. The notation consists of two measures with notes and rests.

R: ni'kax et amə,il

131 A musical staff with a treble clef and a key signature of one flat. The notation consists of two measures with notes and rests.

2. Technical Details\* and Translation

I Speakers:

- 1: Dalia R., (D), aged 23, elementary-school teacher of Hebrew, native speaker of Sabra Hebrew, whose parents speak Polish;
- 2: Rachel N., (RN), aged 24, elementary-school teacher of Hebrew, native speaker of Sabra Hebrew, whose parents speak Yiddish;
- 3: Rafaela S., (R), aged 28, university lecturer in Political Science, native speaker of Sabra Hebrew, whose parents speak Russian;
- 4: Ovadia K., (O), aged 35, university lecturer in Political Science, non-native speaker of Hebrew, whose mother-tongue is Romanian;
- 5: Alan Marbé, (A).

II Instrumentation:

The conversation was recorded in Glasgow on December 13th, 1969, on a portable, DC 9-volt battery-operated 6-transistor Sanyo MR 101 tape-recorder, at  $3\frac{3}{4}$  "/sec.

III Translation:

1. O: Wonderful! But I don't ... Well, you heard what the tape-recorder said!
2. D: Did you think it was me or your average ...
3. R: And now the tape-recorder's got it all down.  
LAUGHTER, SONG.
4. D: Ovadia, your voice in song! One can see what you di....
5. RN: You're good enough to sing on the radio.
6. O: Right!

\* For details of the transcription, see the note at the end of this section (p. 318, below).

7. D: And "Tsiona" is a song?!
- 8 LAUGHTER
8. A: I..er.. need a few samples of ordinary Hebrew, simple conversation.
9. R: It's impossible not to help a colleague doing a doctorate. Who knows, as well as we do, what it means to do...
10. D: Who is like you among the gods?
11. R: Oh dear, oh dear!
12. D: It's Hanukka now (i.e. the Jewish Feast of Lights).
13. D: Yes, that's right.
14. R: Yes.
15. RN: Yes..er.. I think one of you may have a light?
16. D: Ah, you've got a light!
17. RN: I asked for a light.
18. D: What's a cigarette? A light at one end, a dimwit at the other.
19. R: And oh..er.. Did you listen in yesterday? Who of you listened to Frost?
20. D: And with that, I've finished!
21. D: Qvadek!
22. R: It was... about the pill.
23. A: Last week, I listened -- and that was enough to last me for ever.
24. D: It was..er.. yesterday.
25. D: About Barnard..er.. about apar(t)..er.. about...
26. R: Yesterday, it was splendid.
27. A: No.
28. R: No, in..er.. not on...
29. A: No -- that is to say, yes: and then it..er.. It began so, but afterwards it was about these women.
30. R: About Barnard, it was fine.

31. D: At first, it was Frost talking, but it was very interesting.
32. RN: But yesterday it was...
33. A: It was the first time, at any rate, that... I heard women use four-letter words.
34. RN: Last week that was?
35. R: Last week?
36. A: Yes.
37. D: er.. Really..er.. we didn't listen last week..er.. On Friday we were somewhere...
38. R: Yes, quite right.
39. RN: Where were we on Friday?
40. R: Where were we on Friday?
41. A: It was about the.. about the.. about Miss World.
42. D: Ah! I saw that.
43. D: We were...
44. A: About the contest, and about feminism...
45. R: er.. Yesterday, it was really...
46. D: Ah, I saw that one!
47. D: But what's the connection with Dr. Barnard, now?
48. A: It began with him (i.e. Frost) complaining that Barnard had refused to answer him.
49. D: Barnard didn't say... He didn't want to give him any answers.
50. A: But then he got to... it... That was only..er.. an introduction.
51. RN: Ah, it was...
52. R: But yesterday it was really..er.. There was this professor sitting there, who specialised in the counteracting of metabolism...
53. D: Yes.



54. R: And he..er.. listed ten points against the pill,\* and after he...
55. D: The elephant and the Jewish problem, too?
56. RN: No.
57. D: Not the elephant and the Jewish problem.
58. RN: The question of health..ah..
59. D: The pill and the question of health.
60. R: Exactly, exactly.
61. D: That's right.
62. RN: The body-tissues.
63. D: And it was truly shocking. It was... There were some people sitting there in the audience who reacted later...
64. R: No, while they were being asked.
65. RN: They were asked!
66. R: Yes, they were...
67. D: Well, their interest was quite a different one, and.. yes.. that they should go on handing out the pill.
68. D: It doesn't matter who it was. No, you didn't see it, no...
69. D: No, he says... No, but this professor specifically didn't... but he said specifically that he was all for finding..er.. some method. Of finding some method of.. of.. er..
70. R: Of contraception.
71. D: Of contraception. But he only put forward the.. the disadvantages and the dangers of this method.
72. R: Yes, but whereas the others only.. he was searching all the time, as it were, and they attacked him, saying he wasn't a scientist...

---

\*The English citation-form was used, but with the M.I.H. pronunciation - /pil/, since there is as yet no generally accepted Hebrew word for "the pill". However, /pil/ in M.I.H. means "elephant", and one of the standard in-jokes in Israel is that people tend to bring in "the Jewish question" whatever the subject under discussion - even, say, if they are talking about elephants.

73. A: To someone standing on the outside, as it were, the whole thing sounds absurd. What were they talking about - contraceptives for elephants?
- LAUGHTER
74. R: And they were, mostly, medical men.
75. D: No, they spoke...
76. R: They were speaking of the pill -- of the dangers of the pill, and if the dangers that have been discovered up to now provide evidence enough for the pill to be withdrawn.
77. D: To balance..
78. R: And there was this very interesting discussion, because the other side was very weak and emotional, while the professor sat there, cool and collected, with his diagrams...
79. D: Oh, now he'll say the elephant was cold, now...
80. R: Ah, and now... now they told him that the...
81. D: No, no - the man doesn't care, apparently...
82. D: Yes, they told him that the thi...
83. RN: There was something very interesting: they told him - you're reading about it all the time, and... one shouldn't smoke, and the percentage of illnesses, the... the mortality from smoking... and I saw you smoking. Why aren't you afraid to...?
84. D: Then he said - I smoke only cigars and not ciga... and, by the way, this is my first cigar in three days.
85. R: Of course, before a television programme one gets nervous. He was all in favour of that sort of sexual arrangement...
86. D: Then he said, in general, that if they really did as they had said...
87. R: No, he said that if... if...

88. RN: I was saying, they were discussing risk. Then he said.. er.. he didn't.. he smoked.. he didn't smoke.. he smoked only a cigar once in a while.. because he wasn't.. he wasn't rea...
89. D: Ready!
90. RN: He didn't.. he didn't.. he didn't find.. er.. the...
91. R: And why take a risk when one can..? Why endanger oneself, when one can..? It's simply a matter of preventing...
92. A: er.. Usually, the greatest risk is just living, isn't it? Whoever lives, generally...
93. D: mm.. Yes, but what.. er.. They sai.. so one of the things the doctor.. one of the doctors who spoke said that people did was - people die here, they die there, and my wife will die, and this fellow will die, and he spoke about death, and she said - really...
94. O: er.. Excuse me, when did they...?
95. RN: It's really...
96. R: They telephoned before...
97. D: Rafaela, but it happens... They're coming from Endway(?). That's between Edinburgh and Glasgow. They telephoned to tell you that within the hour... and when they phoned, it was before eight...
98. O: One moment! So, from Cumbernauld till here, going by the motorway... that is to say, to get to Glasgow it's... It must now be about... it's 25 minutes.
99. R: But inside Glasgow...
100. O: But inside Glasgow, it's another... about half an hour, especially since they're driving by...
101. D: That's right.
102. O: Righ... then.. it's the...
103. R: And... they asked us... if we were ready to wait.



104. O: When was that? Before I spoke to them, wasn't it?
105. R: They phoned before you did.
106. D: Yes.
107. R: They told us.. mm.. if we're delayed...
108. O: I phoned at a quarter... at twenty to eight.
109. R: And they phoned about five minutes before you. Then he said - we're being held up a bit, we'll be go... It'll take us about three quarters of an hour.. er.. will that be OK? I said yes, because we were still...
110. RN: And we were still sitting in that room and talking.
111. O: Yes, so now they're on their way. I suggest something along these lines: are we ready now?
112. RN & D: Yes.
- 113.
114. O: Les's start going down to meet them.
115. R: Oh, we... I won't stand outside in this cold!
116. O: No, we shan't stand outside, but until...
117. RN: But we can put on our coats before that.
118. O: Until we can put on our coats, until we do put on our coats, until we see, until...
119. RN: What's so difficult? Putting on our coats? Really!
120. O: Look here, it isn't nice... You're coming there for the first time, the people there are...
121. R: The people are waiting there, but these others are also coming for the first time, and they were extremely nice...
122. RN: But there's nothing to put on!
123. O. They... Weren't they here yesterday?
124. R: No.. er.. They're on their way. They're.. er.. He's studying at Strathclyde University.



125. A: One moment!

126. D: But - look here: until they get here, so then they'll come in,  
and then... if they dri...

127. R: Have you found it?

128. D: According to my timetable, they should be getting here any moment  
now.

129. D: Yes.

130. RN: OK.

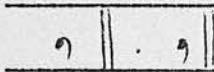
131. R: So let's take that coat!

Note: The conversations in this part of Appendix II have both been transcribed in broad (but not "unified") phonemic script, with shwa marking centralised ("weakly syllabic") vowels, and occasional idiosyncrasies of pronunciation notated (phonetically) as they occur. No breath- (or other) pauses have been marked in the first conversation, but pauses (of varying lengths) have been marked in the second one - as have phonemic changes (e.g. diphthongisation, aspiration) connected with some types of emphasis (e.g. "boosted" shwa).

b. TAPE 3, SECTION 2 (22 MINUTES)

1. Transcription


AS: \ken ba\_rur

1 

A: 'vʒjə a'tem ha\_item 'kvar bəda'var ka'ze

2 

H: \lo af 'pa·m lo

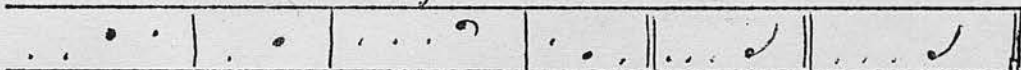
3 

(creak)

AS: ax'rej ax\_sav kʃeit'xalti ba\_kurs/aze ^'ze 'pa·m riʃo'na/

4 

ʃe·it'xalti la·'vod im·axʃi'rim ka\_ele aozni/o'ʔt vəaram/k'o'ʔl



A: \ken m·a biruʃa'laim lo h'a'ita bəma·ba'da 'jeʃ laem ax'ʃav

5 

mabada ja'fa mə\od



AS: iv\rit

6 

A: \ken

7 

AS: aval kʃea'ni kʃea'ni

8 

A: \lo ani x'ʃev ʃeze agg\lit

9 

AS: \a tsax liv\dok et<sup>h</sup>a·

10 

A: av<sup>ə</sup>l \gam bəiv,rit

11 

AS: tov aval ani <sup>→</sup> a'zavti ,be'tsem et<sup>h</sup> alingu,istika'ba.ʃi,ʃim ve.xad<sup>c</sup>

12

A: ken

13

AS: vaʒaz a "az od adva rim a,ele a a a 'lo a ju ka,ele

14

A: vɔbba't'ej 'sefer ejn od

15

(piano)

H: /'lo ad'kama ʃea'ni jo,da.t/

16

(ingressive whisper /breathy/)

AS: /ken ani x<sup>o</sup>'ʃev ʃe\lo/

17

H: ba:ba'uni'versita ix'nisu axʃav et<sup>h</sup> ama'ba'da alʃo'nit<sup>c</sup> la.ora'at

18

iv,rit la'o'li? la.stu'dentim axadaʃim

AS: ken

19

H: ɔ'm la'fi. z<sup>ə</sup>t<sup>ə</sup>mert mi'ʔain a'tekst vək<sup>o</sup>l a xomer ʒe maʃe<sup>h</sup>a'ja

20

m:ə ba. 'har tsi ʃon pa.m ata ma'kir et<sup>h</sup>a

A: at məda'beret al ivrit ʋo at məda'beret

21

H: al iv\rit iv\rit

22

A: mi 'ma ʃe'li ja dua ze a'xomer hara\gil

23



H: 'ma ze hara gil 'je) kol 'kax ar\_be  
24

A: 'zot o\_meret 'baulpa/nim mi)tam'fim ba'xomer )el aulpa\nim bæ^j\_Λ  
25

ə uni,versita mi)tam'fim ba'xomer )el ə 'har tsi\_on ləma.ba\_da

ani o'mer baulpa \nim mike'van )eets^le^j\_nu bətela^viv mi)tam'fim

'lo bæ'xomer )el 'har tsi\_\jon 'ela bæ'xomer )el aulpa\_nim

H: 'ma ze 'xomer )el aulpa/nim  
26

(falsetto)

A: /'ma )eməlam'dim bæul\pan/  
27

AS: 'rega və'har tsi'on ze'lo ul\pan  
28

H: 'aval bæul'pan lo məlam'dim ə bəma.ba'da lə)fo\_nit ztəmert gam'lo  
29

lfi o'tam kla^lim )el ma.ba'da lə)fo\_nit

A: 'zot atsa\ra ^ mi)tam'fim bama.ba\_da a'val ha^Λ  
30

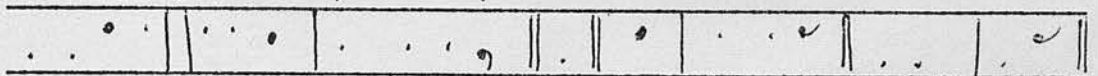
H: baul'pan 'lo mi)tam'fim bæm^ə^Λ le^h  
31

(presto, piano)

A: bæ^Λ uni'versitat tela^viv mi)tam'fim bæ.j\_Λ ha'xomer ^alimu\_di  
32



u a'xomer<sub>Λ</sub>hara'gil se<sub>l</sub> haul<sub>Λ</sub>pan ə<sup>e</sup> 'ex ze nik'ra /iv'rit ka'la



'elef mi'lim mafe<sub>Λ</sub> ə<sup>e</sup> ejh<sub>Λ</sub>eni jo'dea bədi<sub>Λ</sub>uk ə



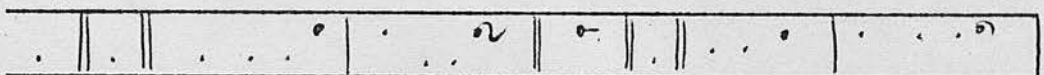
(piano)

H: /ken/



33

A: və<sub>Λ</sub><sup>j</sup> ə ha: avo'da bəma·bə<sup>v</sup>da 'lo ə mefi'ka et atfu'ka



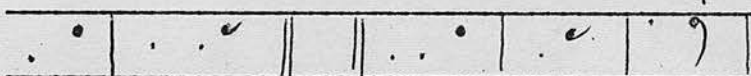
34

harətsu,ja ŋke'van se'lo ə



(A breaks in)

H: ze 'lo mətux'nat<sub>Λ</sub> al o'to<sup>u</sup> bəsis bəx'lal



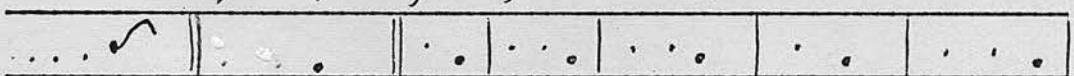
35

A: 'lo sid'ru et əxo<sub>Λ</sub>mer<sub>Λ</sub> 'lo sid'ru et a'xomer<sub>Λ</sub> ken bədi<sub>Λ</sub>juk



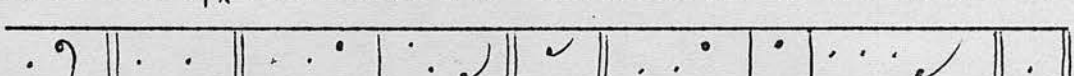
36

H: ani o'da't seze ,lo? se<sub>Λ</sub>ma seosim bəul'pan ze 'lo<sup>u</sup> al o'to

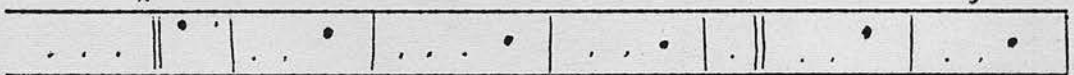


37

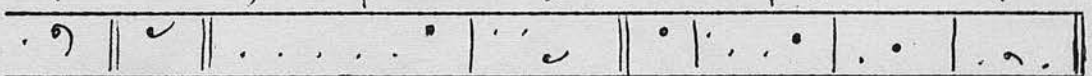
bəsis mi·b<sub>Λ</sub>x<sub>Λ</sub> mibxi'na mada'it 'ken mibxi'nat 'ma ata ro'tse ə



lə<sup>a?</sup>m:ə 'eze totsa'ot ata ro'tse ləha'fik mi<sub>Λ</sub> mida'var ləf'oni

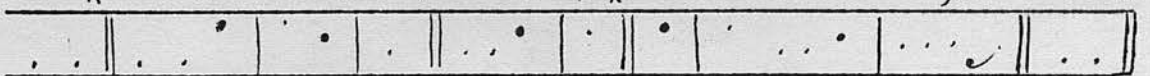


na'tun 'ken kseata mla'med bəki<sub>Λ</sub>ta. 'az ata məsig totsa. a'xeret

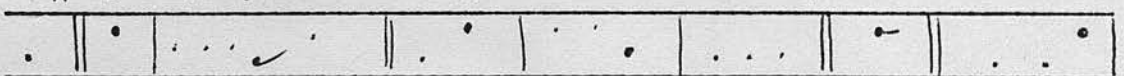


(jerky)

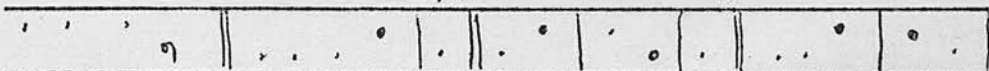
ki ze<sub>Λ</sub> ze məzod ta'luj ba<sub>Λ</sub> bamo're se<sub>Λ</sub><sup>2</sup>'ex u məna'el ətafi<sub>Λ</sub>ur vəba<sub>Λ</sub>



bəb<sub>Λ</sub> 'gam bəaso<sub>Λ</sub>tsa dət və'gam bəra<sub>Λ</sub>mat atalmi<sub>Λ</sub><sup>2</sup> 'kol<sup>2</sup> ze. ar'be

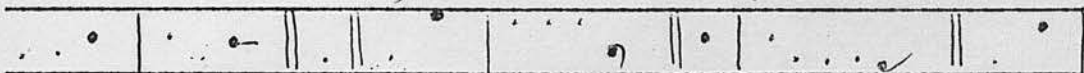


joter ga,mi] ata ja'xol m<sub>λ</sub> ja'xol mo're lə<sup>2</sup><sub>λ</sub>/ mio'to 'xomer



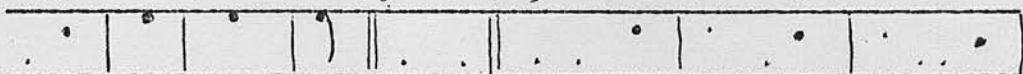
(lento, emphatic)

lə'a'fik totsa'ot ə /p'not ləxalo,tin/ 'ma seba'ma'ba,da tsa'rix



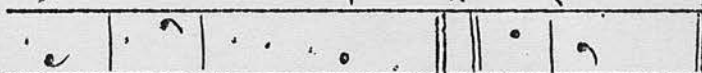
(forte & lento to counter A's speech-gesture)

li'jot "mə / "tux\nat/ se. i<sub>λ</sub> sebi'x'lal lo xa'fuv im amo're



je],no o'lo ani xo,sevet<sub>λ</sub> /'kim,at' /

(staccato)



A: ə: a'ta lo'med ka,rega bəma'ba,da lo

38



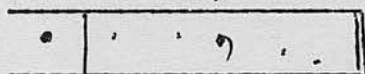
AS: \ken zə<sup>t</sup>ome<sup>t</sup> \lo ani lo \lo a,ni

39



A: 'ex ze ni,ze ləxa

40



AS: (lento, emphatic)

ani xə'fəv se'ze λ /ja. "il mə\od<sup>h</sup>/ bi\vi\li ze ja,il mə,od

41



A: \ken

42



AS: \ken

43



(creak)

A: /'ma ze no,ten/

44



AS: ə: ani a'gid lə,xa

45

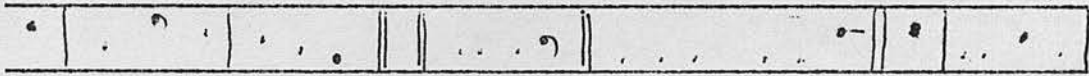


H: \ken

46



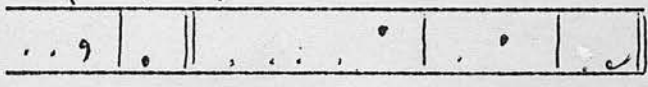
AS: 'li je) 'ko)si miju,xad <sub>Λ</sub> lafi da'ti z<sup>et</sup>met zeu t<sup>lo</sup> 'lo)eu 'ko)si

47 

miju'xad\li ju:<sub>Λ</sub> uva'daj mɔsu'taf læod ra'bim axe\rim aval'et's'li



aba'ja ,i' se'jani ja'xol lil'mod sa,fa



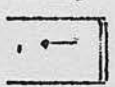
A: ken

48 

AS: bæofen pa'sivi læ'gamrej vələ'da:t likro:<sup>u</sup> və<sub>Λ</sub> vələ.'vin 'kol

49 

davār

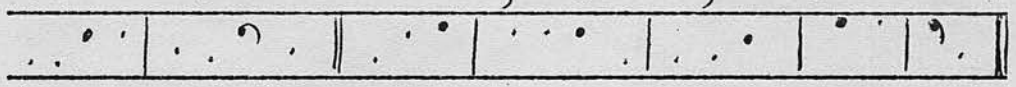


A: ken

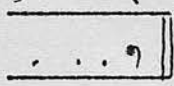
50 

(lento, emphatic)

AS: vəa'filu ni)ju'ansim mib<sup>ə</sup>'li se'ti'jeli ef)a'rut /'miniməlit/

51 


A: se)l afa'ka

52 

AS: læ<sub>Λ</sub> læ<sub>Λ</sub> læ<sub>Λ</sub> lætar'gem əd zə lætsu'ra ak'tivit

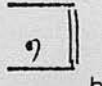
53 

A: az'ze no'ten læxa et <sup>h</sup>a-hafa'ka se)l <sup>h</sup>asa,fa

54 

(whisper)

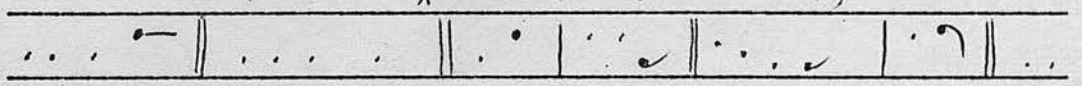
AS: /ken/

55 

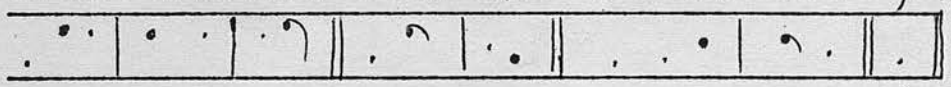
A: 'o'et<sup>h</sup> amiv,ta

56 

AS: əta ko<sup>h</sup>læl z<sup>ətə</sup>met <sup>h</sup>a:<sub>Λ</sub> in'jan amiv,ta ani pa,)ut məlo<sup>2</sup> ata

57 

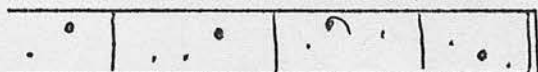
jo'dea 'ex ze bænuj a'tejp a,ze u bæ'nuj 'kaxa se<sub>Λ</sub>





A: a'tejp laru'sit ej'neni jo,dea

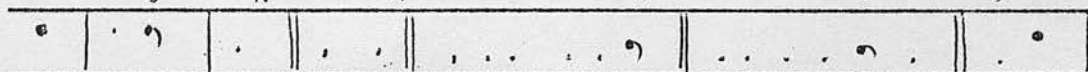
58



(forte) (presto)

AS: /'lo xa'suv a\_ / at a\_ baofen ekro\_ni ani m\_ata\_er li /se'kol

59

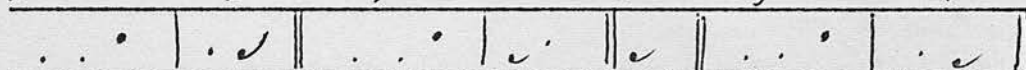


a'tejpim a,ele / ze se'jes kar\_jan o snej karja\_nim ,ken



(lento)

se\_kor'zim mis'pat / mas'zi'rim ,revax ,zman bisvil'xa lax\_zor/



A: ken

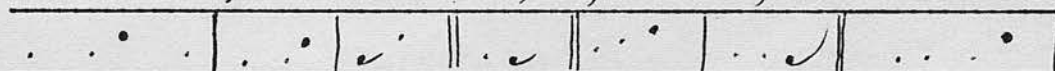
60



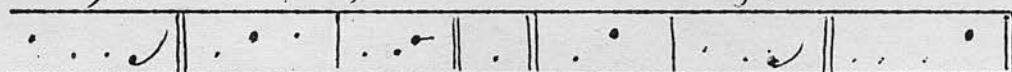
AS: v\_ako'rim od mis'pat v\_ax'rexen a se'je se'lo^t semitjaxa'so^t



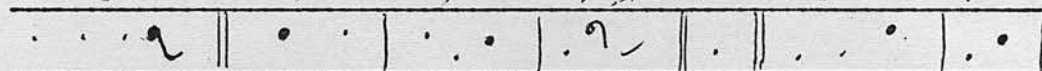
el ha'keta seka'ru ,kodem va\_suv soa'lim tase/la ata xo'zer



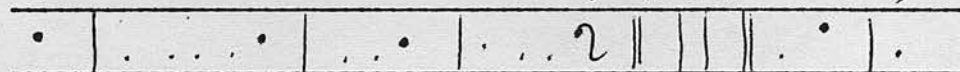
al ha'se/la ax'rexen soali? a: not'nim tatju/va ata xo'zer



al atju/va 'jes gam ef'sa'rut a\_xeret se\_ mas'zi'rim z'man



'gam im ata rotse lma'sot et koxa]xa lif'nej se:m



not'nim atatju/va ,ken va'a'ta no'ten atatju/va baatsma\_xa aval



as\_ ta^mid ata so'mea la\_xro'na et^h atsu'ra an\_xo\_na



A: a: et hatsu'ra han\_ han\_xo'na han\_etu \na mike'van se'je'

62



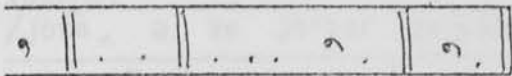
har\_bej a fsu'rot n\_xo\_not





H: \ken hamə<sub>Λ</sub> haməsu<sub>Λ</sub> jemət ze<sup>h</sup>u

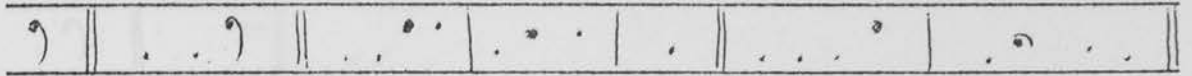
63



(creak)

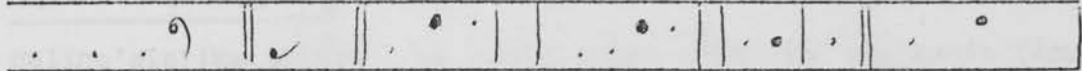
AS: \ken lo xa\ʃuv ʃea'leja ix'litu ba:<sub>Λ</sub> mətaxnə'nej / a<sub>Λ</sub>kurs aze/

64

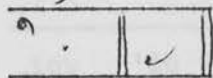


(lento, emphatic)

ze lo xa\ʃuv \ken ʃe'e<sup>j</sup>le<sub>Λ</sub> ʃeix'litu<sub>Λ</sub> ʃe'ze a<sub>Λ</sub> ha: / 'kiŋgə

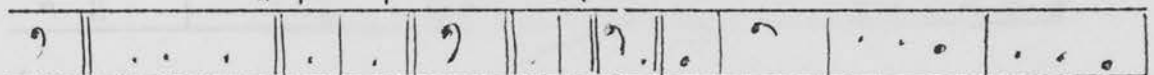


\ʃa\ʃən/ \ken

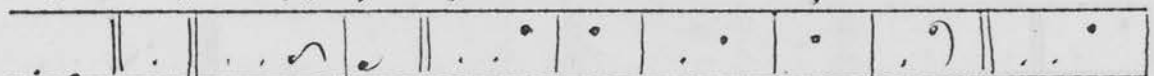


A: \ken aval ha:<sub>Λ</sub> m: m \tov ə m\kol<sup>ə</sup>kol \tejp məsu<sub>Λ</sub>dar bətsu<sub>Λ</sub>ra

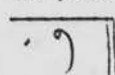
65



ka<sub>Λ</sub>zot a<sub>Λ</sub> haba<sup>Λ</sup>ja<sub>Λ</sub> hi ʃea'ta 'lo me'fik -'ʃum da\var ata 'rak

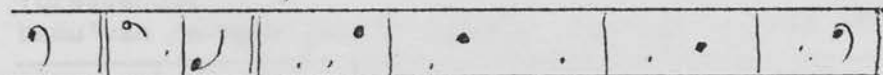


xo\zer



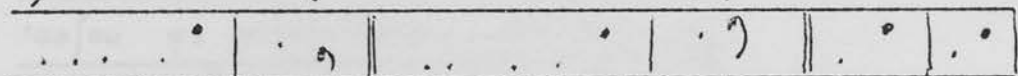
AS: \ken 'ela /ma ʃea'ta bə'xol zot mux'rax lax\ʃov

66

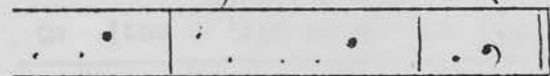


H: kʃeata o'mer me'fik ata mitka'ven jo\ʃer lə'ma<sup>Λ</sup>a'ta

67



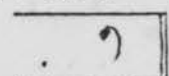
mitka'ven kʃeata o'mer me'fik



(piano)

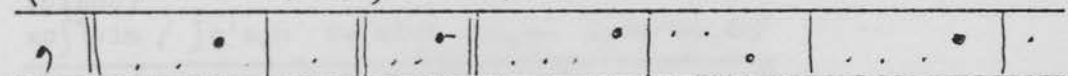
A: /pɹə\ɟju:s/

68



AS: \ken zəto'mert ʃeʔ<sub>Λ</sub> ʃeə'ta ʃeata 'lo məxə<sup>Λ</sup>ber bəʔsmə'xa et<sup>h</sup>

69



ami<sub>Λ</sub>lim və'lo mar<sup>Λ</sup>kiv bəʔsmə'xa et<sup>h</sup> akon'strukʃsia amiʃpa<sub>Λ</sub>tit



(piano)

H: /jot̩s̩ ə ze jo'ter jo't̩ser ,ken/

70



AS: jo't̩ser ze 'lo

71



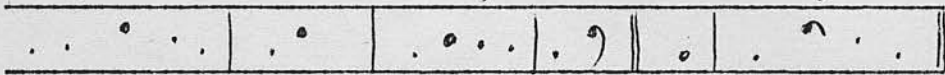
H: ze jo'ter jo't̩ser

72



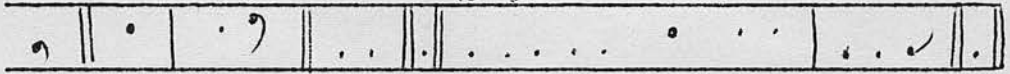
A: bəliŋg'wistika jo't̩ser ze 'maʃeu ə|xer ↓ze tɔ'dʒɛnəreit (laughs)

73



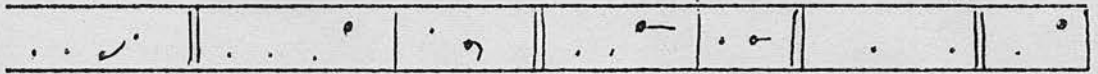
H: ʋtov 'lo xəʃʊv əval ə kʃeata mətar'gem edze ləiv,rit ə

74

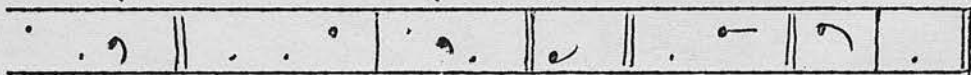


(piano)

norma,tivit az ze joter jo't̩ser /ain't̩jan a'ze / ki m̩ me'fik

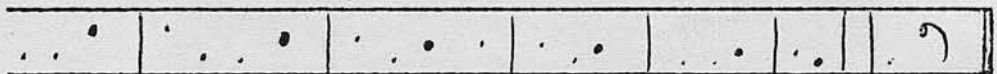


ze ra,xav ze me'fik to'ʃelet ,ken ze t̩oʊ kan bam

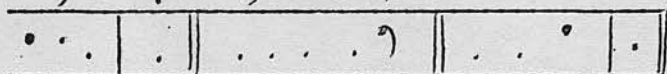


(crescendo)

bamu'van /a-m̩su'jam ʃe-rətsita ləa'gid zea'im a'ʋta jo't̩ser/

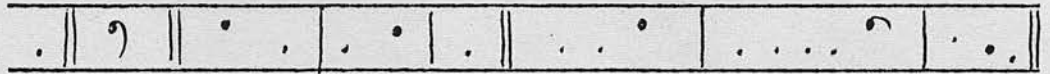


'maʃeu m̩ miʃelətsmə|xə bəki't̩sur ze

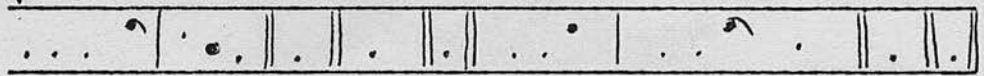


A: ə: ʋtov 'ejn od mi'lon ləjə ʋdva'rim haməsuja'mim ha,ele

75



m̩maʃe'li ja,dua əm vəʃə ə hadavar haman'jen hu ʃe ə:



(piano)

xoʃʋvim /ʃe'ejn to'elet ra,ba bəma'ba,da/



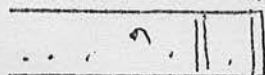
AS: və'ma matsi'im b̩mkom ze z̩tome 'ejx 'ejze,derx

76



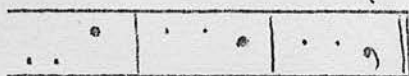
H: ata jo<sup>^</sup>dea im<sub>^</sub>

77



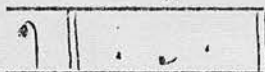
A: xaza'ra lamo're baki<sub>^</sub>ta

78



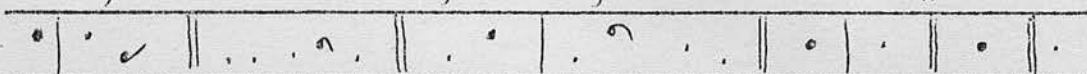
AS: \ma fron<sub>^</sub>tali

79

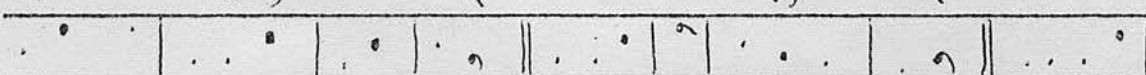


H: 'im xo<sub>^</sub>vim ata jo<sub>^</sub>dea se'zim xo<sub>^</sub>vim adze 'ze ham:<sub>^</sub> 'zeu ze

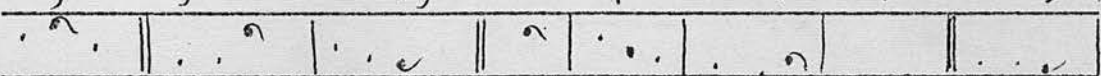
80



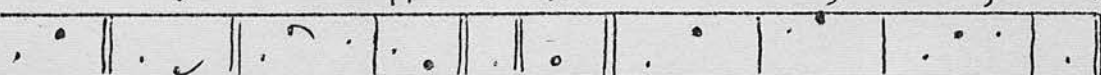
no'ten li harga'<sub>^</sub>a məod to<sub>^</sub>va ki a'ni 'lo xa,<sub>^</sub>javti al<sub>^</sub>ze aval a'ni



xə<sub>^</sub>javti se'a<sub>^</sub>n*.*i ləma<sub>^</sub>jal 'lo a<sub>^</sub>iti jəxo<sub>^</sub>la li<sup>1</sup> mod bətsu<sub>^</sub>ra



ka'zot ki<sub>^</sub>li a'marti<sub>^</sub>l<sub>^</sub>xa ə<sub>^</sub>gaʔ mə'ʔod xa<sub>^</sub>ʃuv ha'keʃer ha:<sub>^</sub>

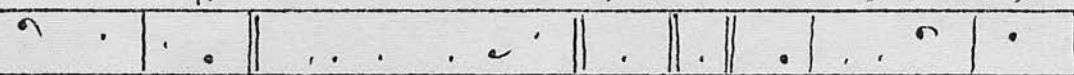


m:<sub>^</sub> ha<sub>^</sub> hakomuni'katsia "ha<sub>^</sub>eno'<sub>^</sub>ʃit hanor<sub>^</sub>malit ma seko<sup>1</sup>'kax mʔ<sub>^</sub>



(jerky)

'kol kax xa<sub>^</sub>ʃuv /ani gam xo<sub>^</sub>ʃevet seʔ<sub>^</sub> ə<sub>^</sub> ha<sub>^</sub>ʔefʃa<sub>^</sub>rut 'ʃel:



,ha: əʔ<sub>^</sub>ə<sub>^</sub> komunikatsia<sub>^</sub>a<sub>^</sub>zot hi: ʔi xa<sub>^</sub>ʃu<sub>^</sub>va latalmi<sub>^</sub>dim /



əni 'lo ma<sub>^</sub>mi<sub>^</sub>na se<sub>^</sub>-jəxo<sub>^</sub>lim be<sub>^</sub>me<sub>^</sub>t<sup>h</sup> ^ lil<sub>^</sub>mod /z<sup>t</sup>əmert



(presto)

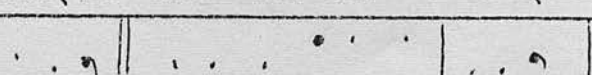
jəxo<sub>^</sub>lim ləʃa<sub>^</sub>nen dva<sub>^</sub>rim / vəj<sub>^</sub> jəxo<sub>^</sub>lim ləi<sub>^</sub>ʃa<sub>^</sub>er ba<sub>^</sub>ro<sub>^</sub> kama mi<sub>^</sub>ʃpa<sub>^</sub>ti



aval<sub>^</sub> ^ ^ ^ aʔ<sub>^</sub> aʔ<sub>^</sub> ani 'kol az<sub>^</sub>man məjuda<sub>^</sub>t lauv<sub>^</sub>da ʃel 'a:



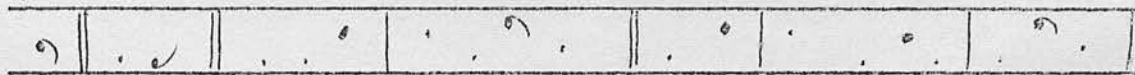
mexo<sub>^</sub>not ki ze maf<sub>^</sub>ria li ləda<sub>^</sub>ber



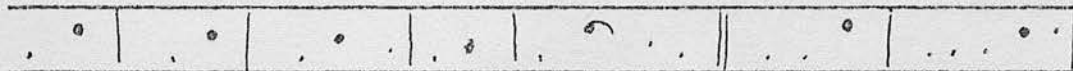


AS: lo<sup>u</sup> z<sup>o</sup> me? vðets'li ze læ'efe<sup>ə</sup>x. ets'li ze læ'gamre<sup>j</sup> læ'efe<sup>ə</sup>x.

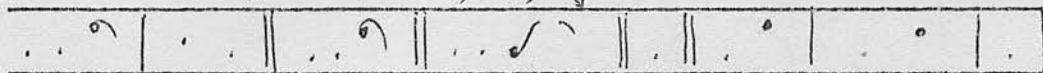
81



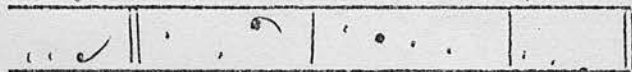
ets'li dav'ka fron'tali mə'od maf'ria li z<sup>o</sup>to'mert ani jo'dea



ʃeta'mid bækiʔ<sub>λ</sub> bæxi'ta° kʃejaʃavti. ə bæ'tox kvu'tsat əʔ<sub>λ</sub>



ana,ʃim ze ta'mid if,ria li lda,ber



(interrupts)

H: aval ata jo'dea 'annon

82

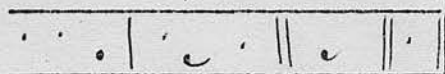


(goes on)  
AS: və·kʃeani jo'ʃev im əməxoʔna° 'ze ə ze<sub>λ</sub> ə neʃtraʔli ani o'ʃev

83



ləva<sup>v</sup>di bæ,xeder ken və<sub>λ</sub>



H: ki əʔ<sub>λ</sub> haʃi'ta ʃel haora<sup>v</sup>ʔa bæki<sup>v</sup>ta aʃi'ta afron'talit ʃel aora<sup>v</sup>ʔa

84



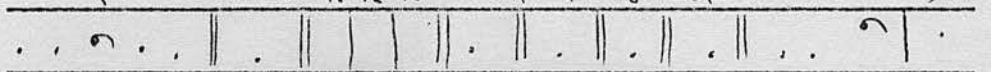
bæki<sub>ta</sub> ʃea<sub>ta</sub> a<sub>ma</sub>ʔta<sub>ba</sub> hiʔ hi'lo haʃi<sup>v</sup>ta ha<sup>v</sup>ʔai<sup>v</sup>la



bəjo<sup>v</sup>ter ləhakna<sup>v</sup>ʔat sa<sub>fa</sub> 'tʃar<sup>ə</sup>x 'kan la<sup>v</sup>sot ezeʃei



kombi<sub>natsia</sub> ʃel<sub>λ</sub> ^ ^ ^ haʃi<sub>λ</sub> mʔ əʔ mmʔ hatix<sup>v</sup>nut ʃel



haməʔ<sub>λ</sub> ʃel ha::<sub>λ</sub> ma·ba<sup>v</sup>da



(interrupts)

A: haba·<sup>v</sup>ja hi:

85

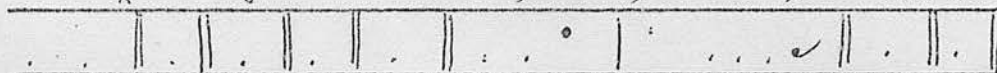




(goes on)

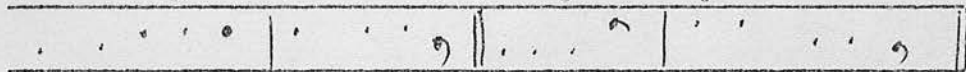
H: im ha: x? ə? ə:m ?e, ?efʃa'rut ʃel haava,ra vɔ? ə?

86



ʃel ha'ʔiʃi'jut ʃel hamo, re vahaʃi'tuf ʃela: - talmi, dim

87



A: h'aba'ja hi ʃe ʃneɣxem tʃod, kim baa'lex tʃo, dek bə/xa·x ʃe:

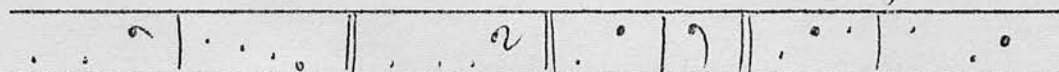
87



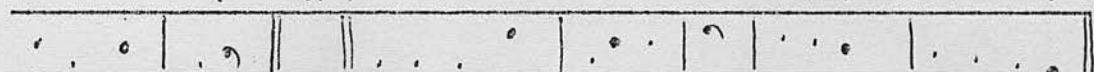
ə: mar'bit aana, ʃim bəmidā, zo 'o əxeret 'jeʃ lahem. ə:



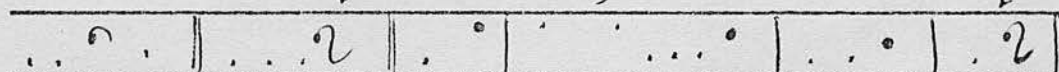
ma·tʃo'rim məsuja, mim bə.ləmi'da bə'tox xug a'filu ʃel mo're



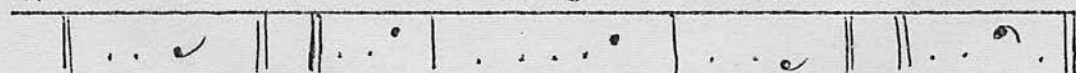
vətal'mid ə,xad hama·tʃo'rim ha'ele lo kaja, mim bəma.ba, da



ləu'mat zot hama·ba'da: ha'kol ma ʃeama·ba'da jəxo'la la.ʃot



ze la,tet laadam et aefʃa'rut lətar, gel kəmo tuki



(piano)

AS: / \*bədi'uk / vəax'rexen adva'rim niṭba'im bazika,ron

88



zoto'meret ə'ta mətar'gem kemo ʃtyki mətar'gel vəmətar/gel



vəax're ze



(interrupts)

A: zot'i aba:, ja im ze niṭba be,met

89



(goes on)

AS: em tʃeru'fim məsuja, mim (pause while A finishes) ʃke: ə ʃtov

90



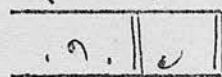
əts'li ʌ ken ʌ ets'li \ken ki ʒni' ə azika'ron

ʃeli u 'lo<sup>u</sup> ra ə vəʒni' ə pa'ʃut zo'xer ʌ dva'rim

məsujə mim tseru'fim məsujə mim vəbəi'kar ʃeze/xi'bur ʃelʌ

xazu/ti 'vəʒmia ti /mikevan ʃeax'rej bəota 'ʃa ani gam ko're

bəsefer ken



(breaks in)

A: /ken/

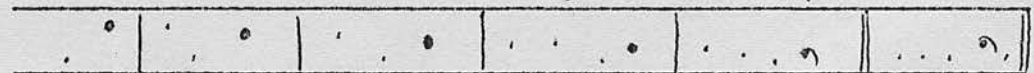
91



(goes on, rallentando)

AS: /və'az adva'rim mitxab'rim vəniʃa'rim bazika ron anijo,dea

92



kʃekvar ni a'siti mis'par/ ə ʃiu,rim /ani jo,dea 'ʃnaim ʃlo'ʃa

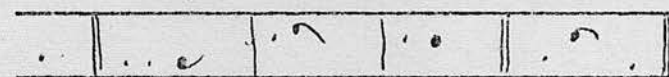


(presto & piano)

ʃiu'rim /'kvar ani jo,dea ʃeje'nam mis'par dva,rim ʃetvu'im



ə: əni lo ro'tse la'gid la'netʃax



(breaks in)

A: /ken/

93



(goes on)

AS: aval la zman rav

94

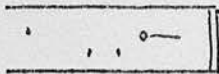


A: lətsa<sup>h</sup>ri e'neni xo'ʃev ʃeze da'var ʃel ha:<sup>h</sup> m̄ iʃi'ut

95



ʃel hamo're



H: lo

96



AS: lo ze: ne<sup>j</sup>trali ze: z<sup>o</sup>to'mert ze objek'tivi

97



(interrupts)

H: ze lə'gamri net,rali

98



(goes on, piano)

AS: obje<sup>h</sup> /objek'tivi lə'gamrəj/

99

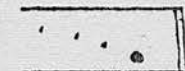


A: 'lo lo ani 'lo xo'ʃev ʃeaiʃi'ut ʃeisiu'to ʃel amo're

100

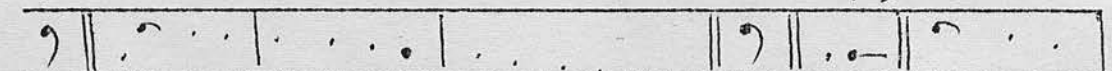


i xaʃu,va

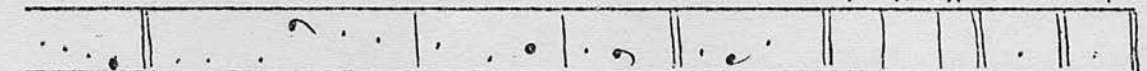


H: lo a'texnika ʃel amo're ani itka,vanti lo a<sup>ni</sup> lav davka

101



aifi,ut aval a'texnika xaʃu,va mə'od jə,xolet ə: m̄



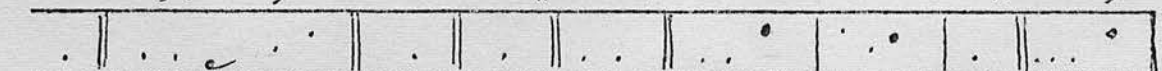
ha?<sup>h</sup> həjə'xolet ʃelo ləhaa<sup>h</sup>vir dvarim ag<sup>o</sup>mi,ʃut ʃelo<sup>u</sup> ha?<sup>h</sup>



ani,ʃsul ʃel<sup>h</sup> ə: aizdamnu,jot ʃeu mənat<sup>h</sup>sel ha?<sup>h</sup>

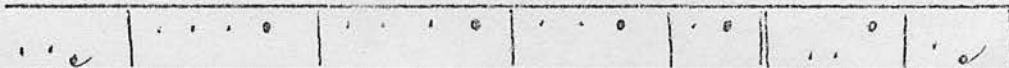


ə: eʃa<sup>h</sup>rut ʃelo<sup>u</sup> ə:m lə?<sup>h</sup> ləgu?<sup>h</sup> ləga'ven al<sup>o</sup>dej a<sup>h</sup> aana'ʃim

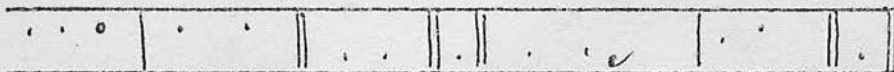




amə,ʔod məsuja'mim ʃenimʔsa'im baki'ta. ʃelo<sup>u</sup> ləa'fik mə,iʃ

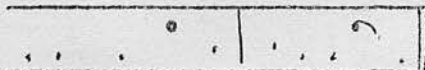


məsu'jam et maʔ<sub>Λ</sub> et aʔm<sub>Λ</sub> ə: et mej<sub>Λ</sub>rav hadu<sub>Λ</sub> ha<sub>Λ</sub>



A: aval lə'gamre intuiti'tivi

102



(together with H)

AS: \lo u ja'xol gam lətax\nen

103



(together with AS)

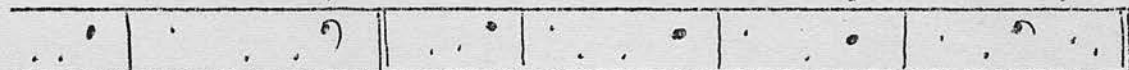
H: ə: zʔ ze: <sub>Λ</sub> <sub>Λ</sub> <sub>Λ</sub> <sub>Λ</sub> ze ʃiluv <sub>Λ</sub> <sub>Λ</sub> ze ʃiluv ʃel<sub>Λ</sub> m: dvarim

104



AS: uja'xol gam lətax\nen məa'xar ʃeu ma'kir et an'ʃej akvuʔsa ʃelo

105



(presto & piano)

H: ki<sub>Λ</sub>/ 'im ata o'mer ʃeze intuiti'tivi az<sup>z</sup> ze bə'xol zot iʃi,jut /

106

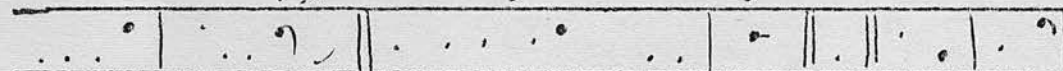


aval 'ze əʔ ze jo'ter ala: <sub>Λ</sub> la'tsad ʃel iʃi,jut

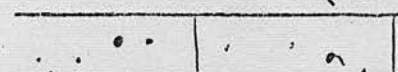


A: ani omer intuiti'tivi mik<sup>e</sup>van ʃe'ejn lanu 'ʃum ə to'rat sa'fa

107



mitka'belet al <sup>h</sup>a<sub>Λ</sub>daat



(interrupts)

H: a mibxi'na zuʔ mibxi'na ʔzot <sub>Λ</sub> uʔlaj

108



(goes on)

A: anaxnu "lo jo'dim 'ma ʃeməlam,<sup>dim</sup>

109



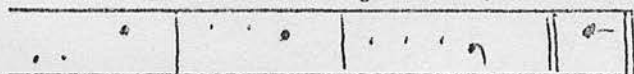
(long pause)



(together with AS)

H: aval 'jeʃ nisa'jon ʃeitsta ber 'jeʃ

110

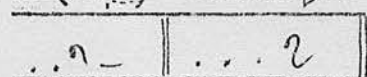


AS: ata jo,dea ʃeai'ʃa aʃzot ja'va ba'ba'it ʃa'ot raʃbot ken

111



vəxiŋna vətixnaʃna:



(together with AS)

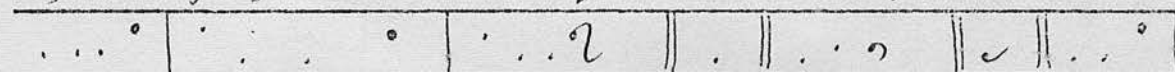
H: vətix'nanti et<sup>h</sup> a in<sub>^</sub> inti<sub>^</sub> et<sup>h</sup> aintə<sub>^</sub>

112



AS: vəʃaxə'xa ʃejeʃ la 'ba'l vəjelaʃdi:m və<sub>^</sub> vəxuʃlej ken vəaj'ta

113



ma'maʃ asu'ka ʃa'ʔot<sup>h</sup> ra'bot ba<sub>^</sub> ba<sub>^</sub>



H: im a'intiəʃ iʃ<sub>^</sub> im a<sub>^</sub>

114



A: ə 'li jeʃ 'kurs ʃel ʃna'taim ʃeba'niti ləma'ba da aləʃo'nit

115



AS: ʃken

116



A: kax ʃeani'gam jo,dea ,ma ze lətax,nen a\_val ə ani məʃux<sup>h</sup>na

117



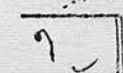
ʃeze 'lo ʃa've har,be mibxi,na mada'it



(breathy)

H: /'la ma/

118



(piano & jerky, but lento)

A: 'ki: / ʃej'neni ba'ʃtuax<sub>^</sub> im to'rat<sup>h</sup> asa'fa ʃealeja bi'sasti et<sub>^</sub>

119



avoda'ti ə hi:ˤ ə to'ra seka 'jemet bixˤlal (long pause)



im havvˤdot sel hasaˤfa ə toa'mot et haˤəm/



texniˤka sealeja baˤniti

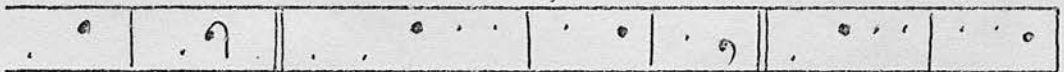


120

AS: ken 1:ˤ ze naˤxon aval bə'rega senixˤnas ele'ment sel tixˤnu:ʔ



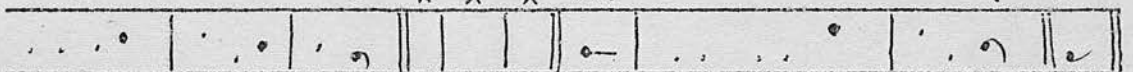
tixˤnun məˤroʊ az jaˤxolijot seʔta toʔe jaˤxoliet seʔta



bixˤlal toʔe vətixˤnun selxa ejˤnenu ʰoˤ\*lem et akonstruktʃiot



akajaˤmot bəo'ta saˤfa ken aval ele'ment hatixˤnun ken



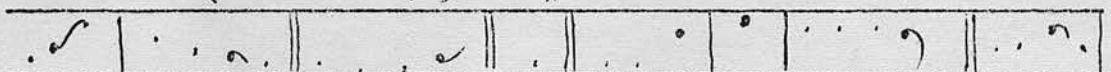
haʔˤ noˤ\*ten latalmidim txuˤsa seˤhem holˤ'xim ləˤ\*jaˤd məsuˤjam



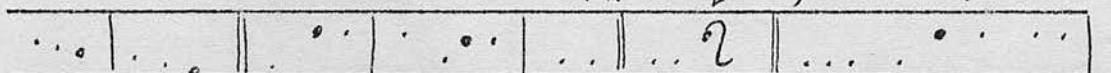
seʔta joˤ\*dea 'ma ata roʔse mehem və'zetsem haargaˤsa aʔoˤt



kʔˤvar məsaˤjaat ani xoˤsev laˤ lamo're ʰvəlatalmidim ləˤgia



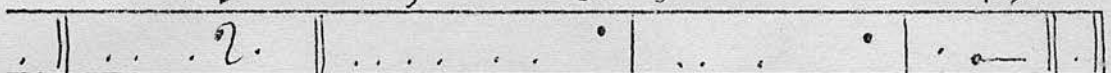
ləo'ta mata'ra aˤfilu imaˤxeen itbʔˤ itbaˤreˤr seata liˤmaḡta ˚tam



ejzeʃeu davar seʊ ʰof də wej ken liˤmaḡta ˚tam ejzeʃeu



ə: əni joʔdea:: ejzeʃeem bituˤjim seem kvar 'lo kol kax ə:

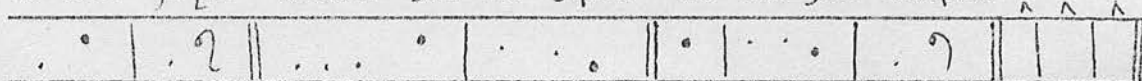


kajaˤmim aˤjom barˤxov aisraeˤli ken aˤ



A: mi'tsad se'ni anaxnu 'gam lo jo'dim 'ex ana'sim lom'dim

121



'je) lanu te'oriot so,not avəl ə mama) ex lom'dim 'lo' lo



jo,dim



(creak://presto//)

AS: /na,xon/ // ze ani jo'dea ze ka'rati // ista'kalti ktsat basefer

122



axa'da) sel xomski ə: raita et<sup>h</sup>ax



(together with AS)

A: ken

123



(together with A.; creak)

AS: ən'jan a,ze \ken m et/ ani jo'dea se,lo jo,dim / a'val ə

124



tov bə'zetsem



A: az a'naxnu 'lo jo'dim /ma a'naxnu 'lo jo,dim/e'x

125



ubə\xol zot a'naxnu poa'lim jo'ter tov miamaxo\not



(laughs)

H: ken

126



AS: \ken ze a.?

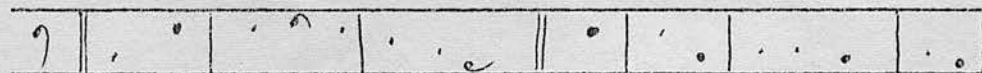
127



(together with AS.; piano)

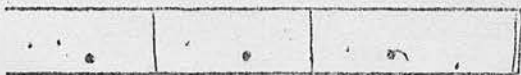
H: \ken ki 'lu ja'danu ma w,?ex 'az u' laj amxo\ not a'ju

128





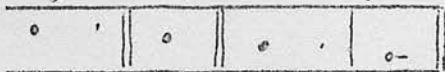
jaxo<sup>v</sup> lot /lif<sup>v</sup> ?ol jo<sup>v</sup> ter tov/



(together with H.)

AS: 'jeʃ od 'jeʃ 'jeʃ od ,ʃtej

129

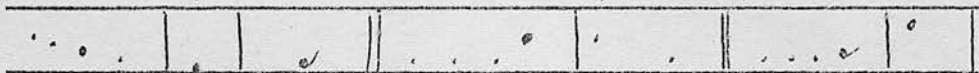


H: i|lu az ja'xol li,jot aval be,met 'kan u,laj mi 'pne

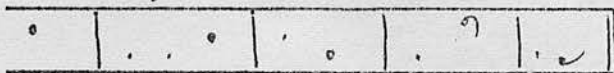
130



ʃea,naxnu ,lo jo,dim az ago'rem ʃel a:ʌ ʃelamo,re 'kan.



'ba.l maʃma'ut jo<sup>v</sup>ter gdo'la u,laj

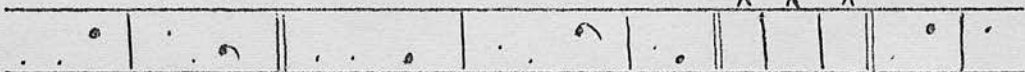


AS: 'jeʃ od 'ʃtej ʃi'tot ʃeani xo,ʃew ʃea:ʌ ʃeod 'lo ni,su ba,areʃs

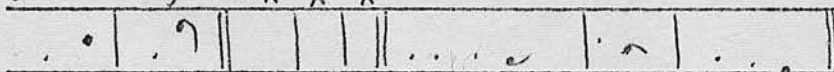
131



bəʃura jəso,dit vətʃa,rix ləna'sot oʃan a'xat ze

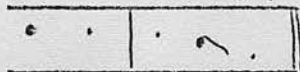


ʃi'tat aʃok ata ma,kir o,ta bəva,daj



A: 'toutal i,mə:ʃŋ

132



AS: a:ʌ ani 'lo jo,dea bədi,juk 'ma ʔani 'lo jo,dea et ,ʃma:ʌ

133



aangli. aval 'ze ʃit,ʌ



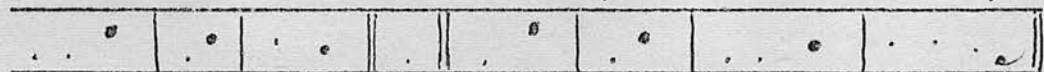
(interrupts)

A: zot o,meret ə not'nim b'miʃeu: ə: a,dam ʃemitla've e,lav

134



vəsa'mim o'to bə'tox ə: ma'kom ʃerak mədab'rim et<sup>h</sup> asa,fa



AS: \ken az ze o:ʔ'sim eeze bə'dexklal bəkvu\ʔso<sup>u</sup>t

135





A: šlo'ša xoda šim ken

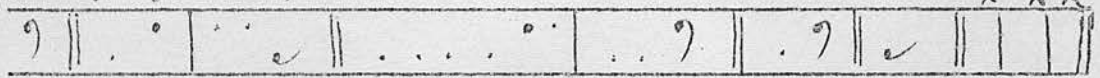
136



(staccato for emphasis)

AS: ken šlo'ša xoda šim / vāta jo'dea lāda ber ma'maš ken

137

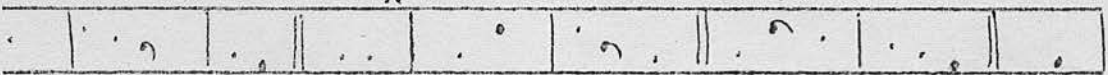


a'ni: di barti kan ə: im ə a'dam e xad / še: ə a var



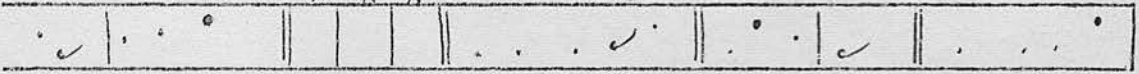
(creak)

et ain jan a ze vāu: / ma'maš a marli xod šaim ze a ja / šlo



(creak)

šlo ša xoda šim kavor xod šaim e xinu \*kurs sel ana šim



k šejad'zu: lik'ro<sup>u</sup> vā lāda ber ru sit ma'maš: ze šita



a xat vā šita a: xeret hi: ə: šita še sa'mati a leja



(forte, lento)

ə: bāa'meš šə'šegam o'ta pit'xu bəamerika: 'ze:ʔ / 'bəkri'fa



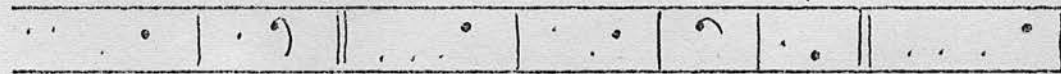
zoto meret ə: ata lo'keax sefer bəsfat xa/ kivja xol ken



vāta mōtse: baa'mud ari'šon mi'la a xat basa'fa šea'ta



ata ro'tse lil mod vā bāa'mud a še'ni 'ste milim vāze tamid

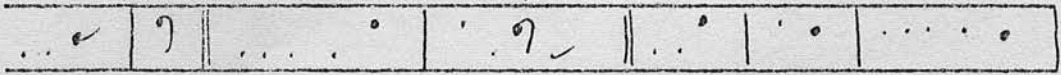


bə tox ə: konstruktšia ka'zot šeata "lo ja'xol lit'zot vā

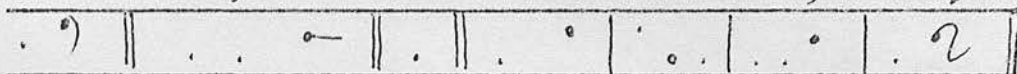


(creak, piano)

vā sof \u šeata go'mer et a sefer/ bə o'ta sa'fa šeata ro'tse



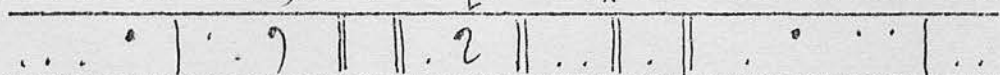
lil,mod<sup>o</sup> / vaxsav tōx ə: ka'vor nānias xami'ja: pra'kim



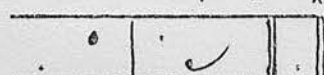
Λ 'je) əxa miv'xan ats'mi Λ mitba'rer seata bə, seder az



əta ja'xol ləam\six Λ im 'lo əta Λ ə: ne:'mar ləxa ata



t̄sa'rix lax/zor wə Λ



(interrupts)

A: 'zeu ali'myd amətux, nat

138

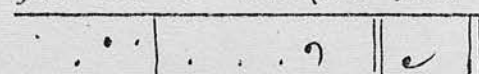


AS: \ken vəze: Λ o'se alaj zo'se alaj 'rosem \tov əm: mi 'bli

139



\sera'iti et hain, jan , ken

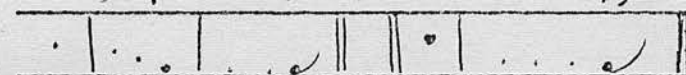


A: rak aji'ta arif'o]na məvu'seset al te'oria sel sa'fa seba'rur

140



kvar sei, lo nəxo, na Λ 'ze davar ri/]o:n



(laughs)

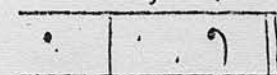
AS: və'ex ze mats'liax

141



A: 'zot<sup>n</sup> a]e: \la

142



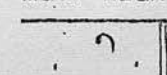
(laughs)

AS: 'im ze 'lo na'xōn (laughs) be'ofen teo'reti kol, kax 'ex ze

143

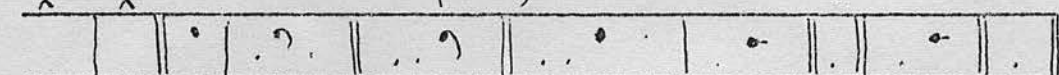


mats'liax

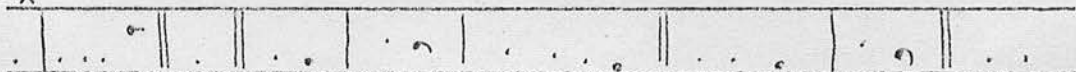


A: 'ex ənaxnu hamd'rim seli'madnu lə'fi: ə to'rot ə

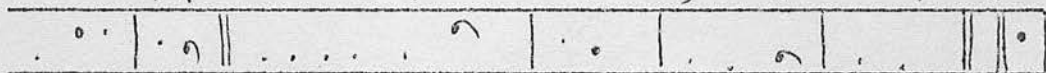
144



ʃe lma'a'se ə: gi'lu o'tan kivija,xol o pit'xu o'tan lifnej

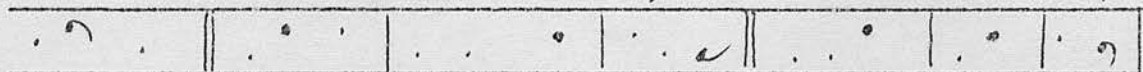


al'paim ʃaʔa vʌanaxnu bʔtu'xim ki,mat ʃehen ,lo nʌxo,not'ʌ'ex

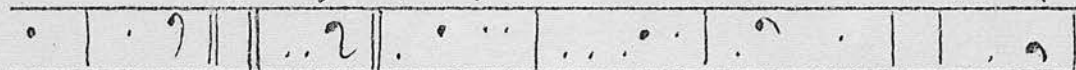


(crescendo)

bʔ'xol zot its'laxnu bmeʃex 'kol aʃa,nim / lʔla'med sa'fa za,ra



'lo<sup>u</sup> sfat\em/ kaniʃre ʃe'maʃeu intuitivi bʔxol zot ʌ ʌ jeʃ,no



AS: \_ken

145



A: vaʔo'zer lanu lə'et a,ta əm 'jeʃ ba'ja ʌxeret ə: mar'bit

146



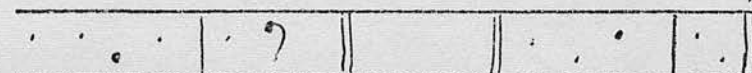
apsixo'logim ʃe ʃe: xak'ru et a:kriʃja om'rim ʃeakri'ja ze



da'var manʃjen ʌ ʌ ʌ aval 'i-efʃar lʌaz,bir oʔo mibxi'na



psixo'logit bix\lal (laughs) zə to'mert aniʌ



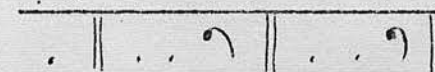
(interrupts)

AS: 'lo ,lo 'ze rak o'mer ʃepa'sut 'lo jis'mu et<sup>h</sup> aʃi'tot anʌxo'not

147



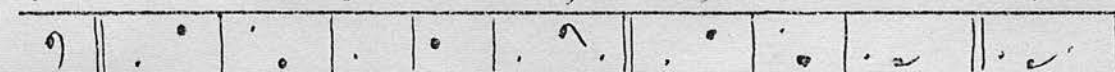
la:ʌ lamex\kar ze a\kol



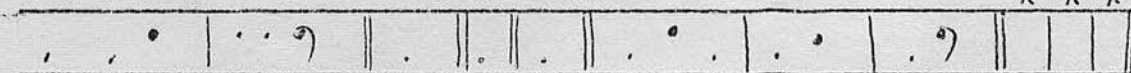
(rallentando)

A: \ken ja'xol liʃot ʃe:ʌ 'tox xodʃaim ef'ʃar<sup>h</sup> aja lil,mod/ na,niax

148



bə:j pa'xot maa\matš o:ʌ ə lə:ʌ / lə'omek jo'ter ga\dol ʌ ʌ ʌ





(accelerando)

/a,gav et aʃi'tot a'ele pit' Xu lo rak bæamerika / ela gam

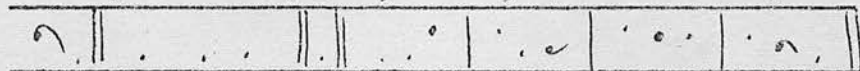


bə'anglia vɔj ə: ha:



H: \ejze ʃel hakri? ə aʃi'ta aʃni,a mi'ele aʃnaim

149



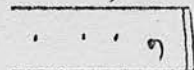
AS: ʃel əʃoʊk bæ'sasik sasəks ze ani jo,deə em os'kim

150



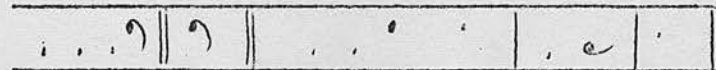
A: a:- riʃo,na

151



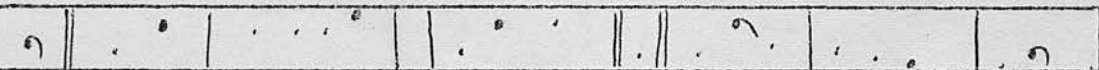
H: a-riʃo,na \ken em o'sim kan mi,jad is,

152



A: lo bæz'man amilxa''ma: lim'du kan ə jə'panit bætsu,ra ka,zot

153



kvar 'avaɪ hem lim'du ə 'ʃetax mətsum'tsam məod



ʃel asa,fa



AS: \ken ʃel oda'ot tʃvai'joʊt və:,

154



A: (piano) /'bædi\juk/

155



AS: 'ta xo\zer

156



A: \ken 'bædi,juk

157





(creak)


AS: /'ze bæ,rur/

158

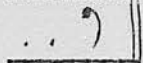




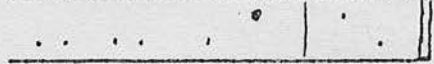
H: haʃe'la i jəxo'lim la'sot mize ə'xarkax aavara o ʔo  
 159   
 zot ɔmeret ha'ʔim: ə'ta mevin ma ani  




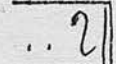
AS: \tov ləo, toʔ əm ləoʔ \ʃma:  
 160 

(interrupts)


H: jəxo'lim  
 161 

(goes on)


AS: aval ani ro'tse ləagʔ  
 162 

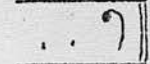
H: 'im jəxo'lim la:'sot a'xarkax aavaʃra: az a'kol  
 163   
 bə'seder az ʔta na'tata et aba'sis adikduki vəamivne ʃel  
  
 asaʃfa  


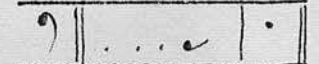
(breaks in)


AS: 'lo haava,ra haaxa\va  
 164 

(goes on)

H: və'kol ma ʃera'tsita lə'h'a sig  
 165 

AS: hərxax\va  
 166 

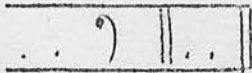
H: 'lo haava,ra lə:  
 167 

A: 'kol hamu'nax 'transfer hu məʔod məfuk\pak  
 168 

(laughter)

AS: aval \sma ani<sub>λ</sub>

169



H: 'j-ef<sub>ʃ</sub>ar ləda'ber itxa (laughs) u'laj a'naxnu nəda'ber

170

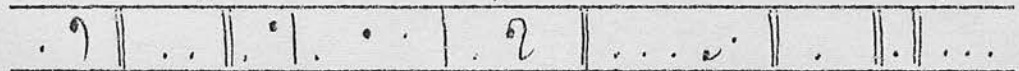


al<sub>λ</sub> (laughs) maʃeu a'xer lə'gamri

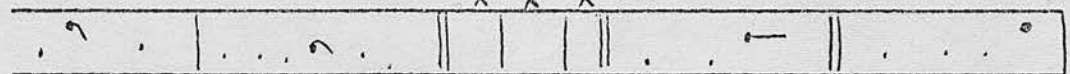


AS: tiʃ\ma aniʔ<sub>λ</sub> ani dibarti etʃmo:l ata ʃo,mēa im:<sub>λ</sub> ə məjze

171

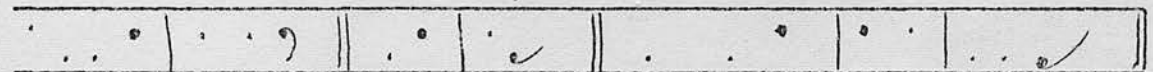


maʃtse kan bauni,versita /ʃe: maʃtse: alinja'nim



(lento //accelerando//)

eZRaxi'im baʃsa\vaʔ / və'u maʃtse: //lə: ba'tej 'sefer ləkʃi/nim//

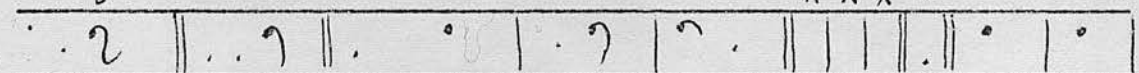


poʔ bə'an baʃsa\va a'briti vəu.<sup>w</sup> si'per li / ʃeu a'sa



(lento & /staccato/)

nisaʃjo<sup>u</sup>n m'an\jen / im 'kurs kʃi\nim 'britim ə: 'kurs 'daj



(/lento/)

mitka'dem kani<sub>re</sub> /hu na'tan laem ma:'rext mi'lim

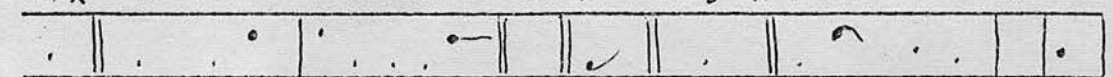


k<sup>h</sup>mo<sup>u</sup> ə 'sov.rəjnti / 'kæp<sup>2</sup>təʃ və'od mi'lim domot



(/lento/ //strong stresses//)

və:<sub>λ</sub> / hu ma'ʃsa ləafta<sup>to</sup> ken // ʃe:<sub>λ</sub> ra'bim mehem 'lo



h<sup>i</sup>ʃs,lixu: ləfa'reʃ at hami<sub>lim</sub> vəze ana'ʃim ʃehem dov'rej



an<sup>o</sup>g\lit 'zot o'meret }elo rak baava'ra mi<sub>^</sub> misa'fa



lasa\fa // mken vje:} (ta'xim matsumtsa mim ela ba'tox o'ta



sa\fa: 'je} }ta'xim }eem }gurim la'gamri vala'xe.n ^ 'en 'kol



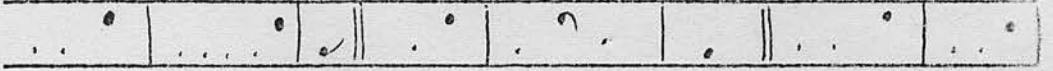
pa\gam ba,ze: }elim'du miseu 'rak et<sup>h</sup> asa'fa aja\panit an<sup>o</sup>gaat



la<sub>^</sub> ^ ^ ^ a? tau,dot a:: m ken ba:lot 'ofi tsva i



mike'van }eaana'xa i: }e'lim ax'rexen: ,u:: mis'tame} ba'ita

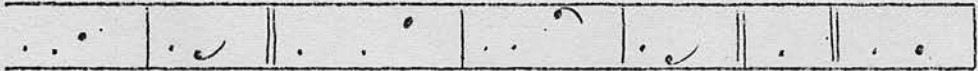


( /presto/ )

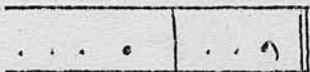
astruk'tura: la}o'nit }eu'kvar la,ma'd / uba'o'to vo'kebjuleri/



}eu'kvar la,ma'd hu ju'xal laa'vir ed,ze: la::^ }ta,xim



ulaxu,mim axe,rim



A: bejn'taim ani xo'jev }ei}ta'xa tso'deket }e? mo're:

172



alja'dej ainstinkt }elo ^ ^ ^ ja'xol b}ex'let la'daat mi'bli



la'daat ba<sub>^</sub> ba'ofen a: mo'da:



H: \ken

173




AS: ken

174

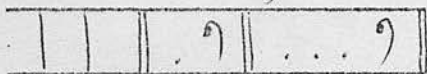




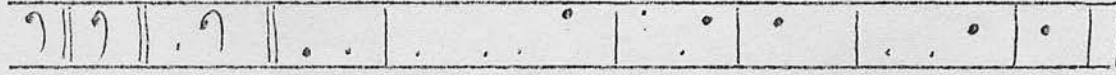
175 A: 'ex læa: vir və<sup>j</sup>ex lik<sup>l</sup>lo·t vəkə'hala ubəmiju<sup>l</sup>xa:d




^ ^ ^ mo'ra seigan \em



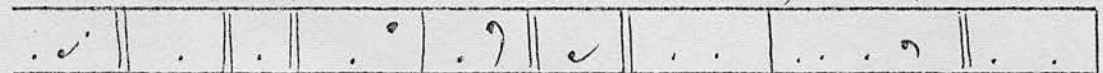
176 AS: \m: \tov mo'ra<sup>l</sup> betax gam ain'jan ami'ni 'ktsat məsa'xek 'po: ^



taf\kid zoto'meret akita gam 'ktsat mis<sup>^</sup> ə mitja'xəset e'leja




bə\_ezu bə?<sup>^</sup> bə?<sup>^</sup> bə'lo mə\da ,ken bejze?<sup>^</sup> sei tsu<sup>l</sup>ra el kə?<sup>^</sup>

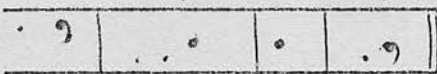


(/staccato, emphatic/)


i\sa: mi'tox eze<sup>^</sup> ^ ^ ^ ə: itjaxa'sut /'ri\so\nit ^ jo'ter



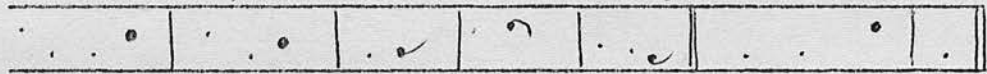
to'va maa'ser 'el mo<sup>l</sup>re/



177 H: a<sup>l</sup>ni: m<sup>l</sup> bex'let ^ 'lo jo<sup>l</sup>da·t lama<sup>l</sup>əta xo'sev se: ^ 'ješ




itjaxa'sut ri\so'nit jo<sup>l</sup>ter to'va el i\sa ma:s'er 'ješ la:<sup>^</sup>




(interrupts)

178 AS: ə? ba: -tar'but ama:ra<sup>l</sup> vit 'ješ da'var ka<sup>l</sup>ze

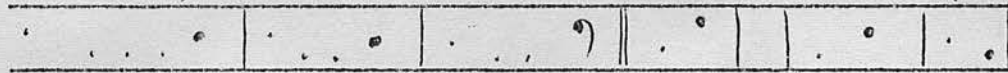


(together with AS. /presto/)

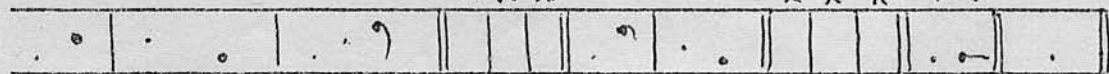
179 H: aval ani xo<sup>l</sup>ševet ^ ^ ^ aval?<sup>^</sup> aval<sup>l</sup> te'da ləxa / seani la'maḡti



gam məana'sim məatar'but amizra \xit/ və'az ^ tsə'xa? j<sup>l</sup>ta



li'jot im kax itnag\dut ^ ^ ^ və'lo aj<sup>l</sup>ta a<sup>l</sup>val ə:m:

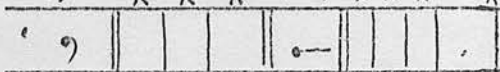




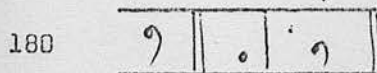
lain'jan aze sel'jem: je) hamon: ^ ^ ^ e\met bəshora'at



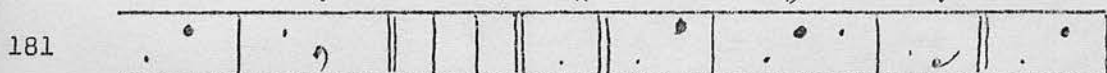
la,son ^ ^ ^ ki: ^ ^ ^ har ^



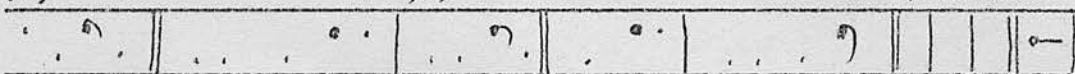
AS: \ken ze na,xon



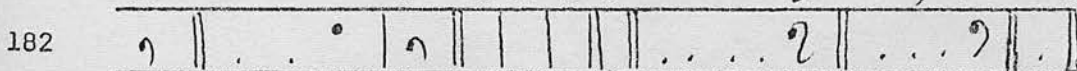
H: har'bej mə'rod^h ^ ^ ^ və: va'lo? xə'savti al,ze lif'ne



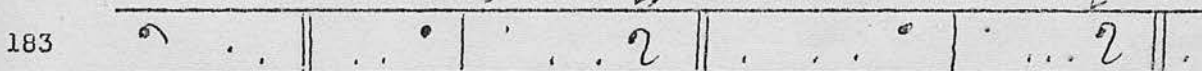
se)a'maṭi a.əl bə'rega se)amati ja'dati seze na\xon ^ ^ ^ ken



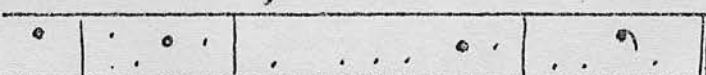
AS: \ken ze ba'rur \ken ^ ^ ^ zoti aṭsu'ra ari)ona: a ^



A: \xutṣ mize hain'jan sel hana)im gam batar'but hamaara)vit ə



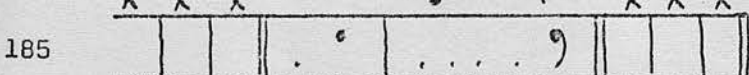
'kol aas'kola sel afemi'nizəm hamo'derni



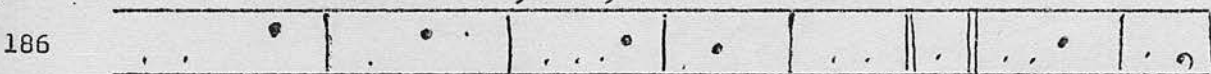
AS: \ken



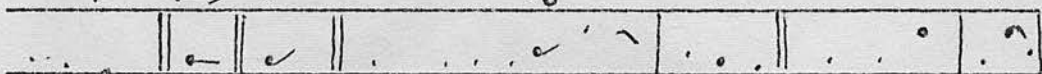
A: ^ ^ ^ to'zen mafew a\xer ^ ^ ^



AS: a::val 'zot^h as?kola seana)im ro'tsot laja? la, laja'sem o,ta



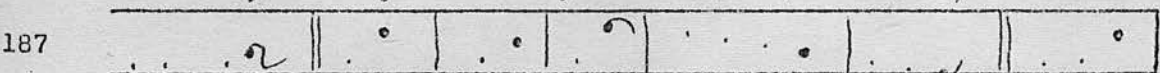
lataṛ, but ze: \ken ze asufra, gisti)ot a,ele em od'lo igiu



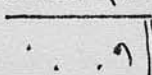
ləmatra, tan \ken (laughs) vəbena'taim a'dain bə:



H: aval la,xen ef'sar lo'mar se'lo mitjaxa,sim ləna, sim bətsu'ra



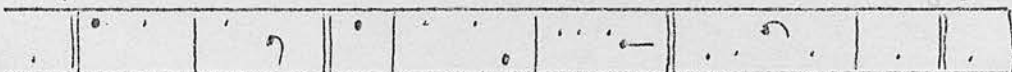
hanəxo,na



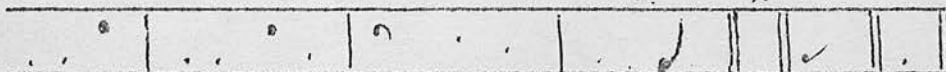
(pause)

AS: ləʔ<sub>Λ</sub> 'ma ze nik<sub>Λ</sub> ra 'lo batsura anəxonā zoto'meret se:<sub>Λ</sub> se:<sub>Λ</sub>

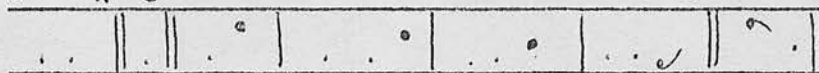
188



mani'xim ləga'bejhen 'kol minej hana/xo<sup>u</sup>t<sub>Λ</sub> ken ə:



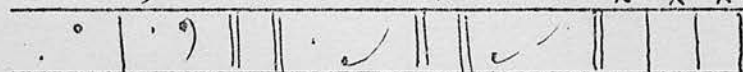
sehen<sub>Λ</sub> ə a'min aja'fe vga'min axa<sub>Λ</sub> la) 'aval



(/drawl/)

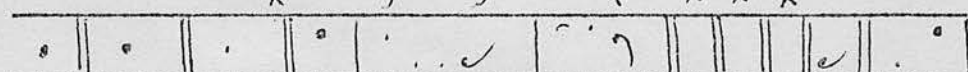
A: mitsad se'ni<sub>Λ</sub> /av/du:t<sub>Λ</sub> /o'se:k /<sub>Λ</sub> <sub>Λ</sub> <sub>Λ</sub>

189



AS: 'zeʔ 'zoʔ ze:ʔ<sub>Λ</sub> 'ma seana'jim toa'not<sub>Λ</sub> <sub>Λ</sub> <sub>Λ</sub> ken ze 'lo

190

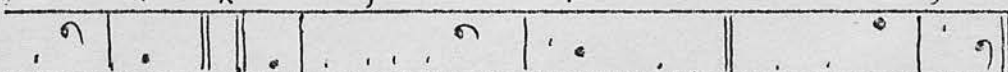


ma seagva/rim ə: be'met o'sim la<sub>Λ</sub> em<sub>Λ</sub> <sub>Λ</sub> <sub>Λ</sub> ken ze: 'o

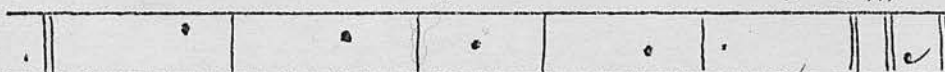


(/creak, presto/)

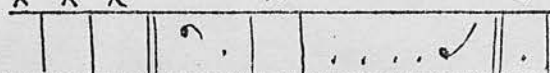
la'rov<sub>Λ</sub> loʔ /<sub>Λ</sub> lo ma seagva'rim o'sim laem ze na'xon se'en



ə məkab'lot masko'rot jo'ter nəmu'xot vəxu<sub>Λ</sub> lej/<sub>Λ</sub> ken

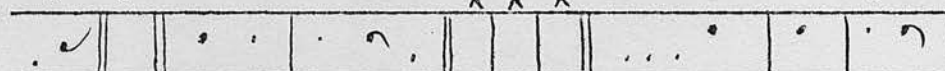


'aval<sub>Λ</sub> aitjaxa/sut ə

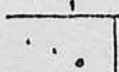


A: a'gav<sub>Λ</sub> 'ex ze ba'arets<sub>Λ</sub> <sub>Λ</sub> <sub>Λ</sub> amasko'rot 'lo jo'ter

191



nəmu'xot

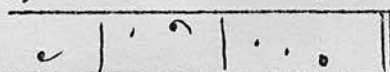


(pause)

(/whisper/)

AS: /ken jo'ter nəmu'xot/

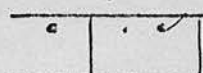
192



(together with AS)

H: 'ma pi'tom

193



H: ken

194



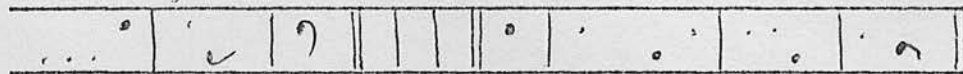
AS: lo

195



H: lavo'da sa,va: lo ^ ^ ^ 'lo ad kama sea ni jo,da:t

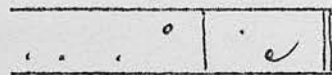
196



(/piano/)

AS: /ani xo'jev se,ken

197



H: jes 'rak in'jan e\xad se:ʔ ʔm roʃ amipa,xa se ze baderek

198



ʔklal ə ha'gever ^ u mməka,bel etʔ ma senik'ra to'sefet



ʔjoker ^ 'o: ə aʔ tosa'fot mipa'xa so,noʊt



(pause)

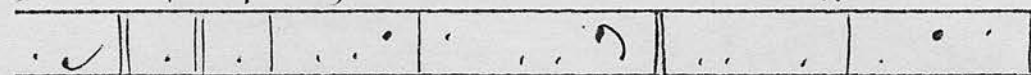
AS: ken

199



H: se,ze: ʔ: ʔ məsa'ne et maskor\to aval a: mas'koret<sup>h</sup>

200



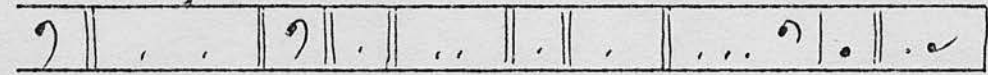
(/piano/ //diminuendo//)

ajəso,dit /ani xo'jev t/ lavo'da // sa,va: maskoret sa,va //

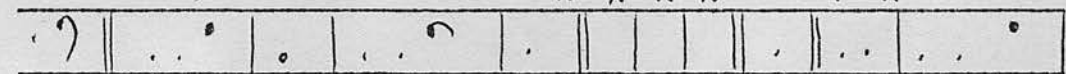


AS: ken rak se:ʔ lo a: aval ʔ se:ʔ seasi`kum ,u se,sax

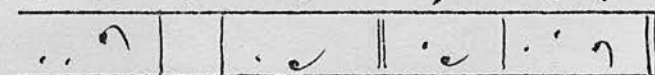
201



aʔkol ana'sim lo magiʔoʊt la: ^ ^ ^ la: ʔʔ: tafki'dim



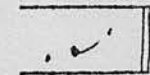
agvo<sup>h</sup> im ^ kol,kax kəmoʊ agva,rim



(/piano/)

H: /ma,dua/

202





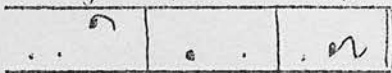
AS: (laughs) uv/da? ^ ^ /ken

203



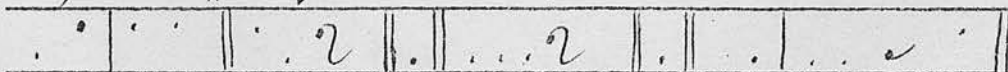
A: ləma ʃal ,golda me ʌi:r

204



AS: ra ʃej xaver ʌ xava ʃro<sup>u</sup>t ə məands ʃsi:m ə zeʔ zebə xol zot

205

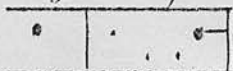


timt̃sə'i jo'ter gva<sup>v</sup>rim ma ʃer na ʃsim



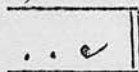
A: 'roʃ amem ʃala

206



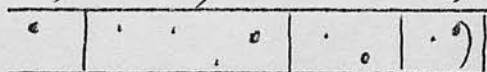
H: aʃe: la

207



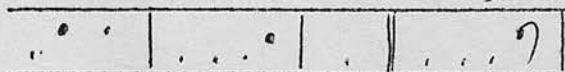
AS: 'roʃ a-mem ʃa'la i<sup>v</sup> lo i ʃa

208



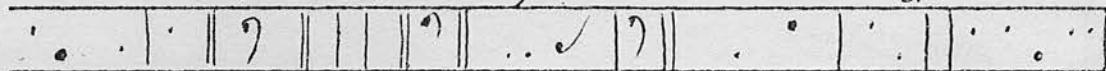
A: ha'gever<sup>h</sup> ajəxidi ba: ʌ bamem ʃa ʃla

209

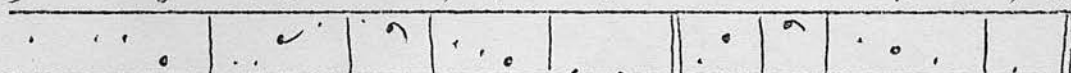


H: (/piano/) ha'gever ha ʌ \ken ^ ^ ^ to. aʃe: la \i:/ im 'jeʃ min: <sub>oʃ</sub> motivatsia

210

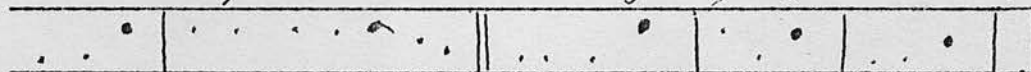


ʃel ana ʃim la'gia ləma ʃea,ta ro,t̃se a'ni 'lo xo,ʃevet ʃe: ʌ

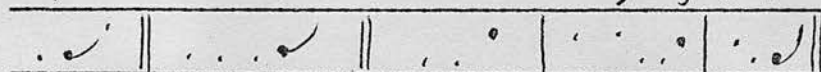


AS: to la'en en ʃum moti'vatsia ani xo'ʃev ʃepa'ʃut asu'ko<sup>u</sup>t ʌ

211

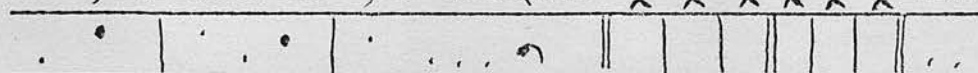


(/creak/) /ba/bait vəbamt/bax / vəbə'xol ma ʃeai'ʃa jəxo/la

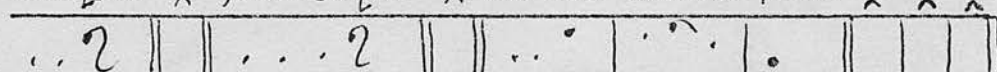


A: ze 'ʃnej at̃sda'dim ʃel aargu,ment aval

212



məan ʃjen ʌ ʃe ha: gva ʃrim ʌ toa'nim bəderex ,klal

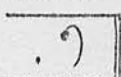






A: zi\put<sup>h</sup>

220



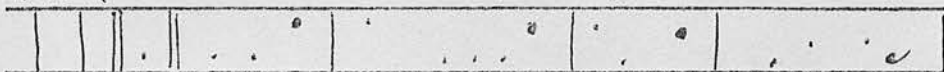
(/creak - high pitch/)

AS: dva'rim: mi-'sug / /ze: / vø::<sup>^</sup> hen<sup>^</sup> mlo məkab\lo<sup>u</sup>t<sup>h</sup>

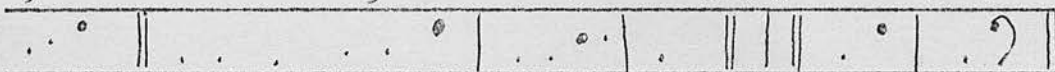
221



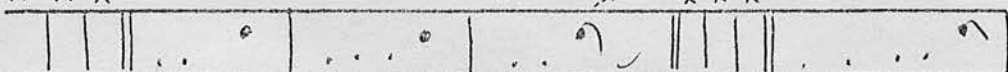
^ ^ ^ ə:: ləma:'se et<sup>h</sup> asiku'im aʃa'vim ba::miktso,ot



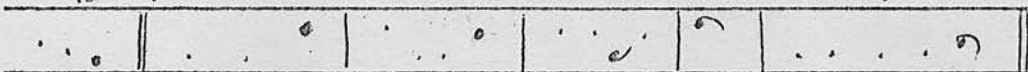
aʃo'nim vøet<sup>h</sup> a:- eʃa'rut ləa'gia lə:2<sup>^</sup> mis'tot gvo\hot<sup>h</sup>



^ ^ ^ vøal 'ze mitonə'not ʃe-bə'etsem heʔ od toa'not

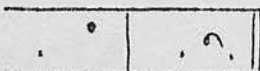


ləma,ʃal ʃeʔ-a::'xuz ageru'ʃin aʔga,voa 'hu<sup>w</sup> mipnej ʃetov,ʔim



A: ze 'lo ja'dati

222



(whispery creak & presto)

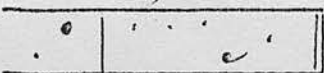
AS: ʔen axuz ga'voa mə'od ʃel geru,ʃin ʃetovʔ'iʔ

223



A: jo'ter məʃeetš,lejnu

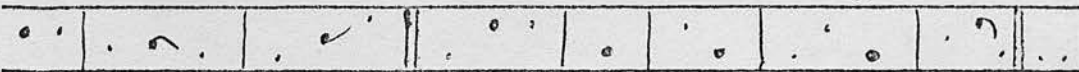
224



AS: (emphatic & rhythmic)

'efo etš,lenu ba'aretš ba'aretš en a'xuz geru,ʃin gəvoa ata

225

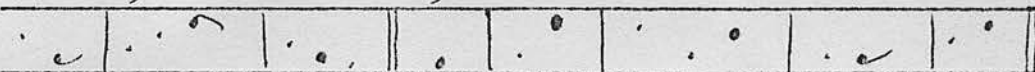


to\ʔe



H: va,daj ʃejo'ter ga,voa ʃam ar'be joter 'kal la:sot ed'ze

226



^ vø<sup>h</sup>aʔ tna,im lix\jot hem ko'kax ka\ʃim



(breaks in)

AS: ha\*ləxa'tsim ə m arbe joter<sub>Λ</sub> xamu<sub>Λ</sub>rim

227



H: {emevi'zim et<sub>Λ</sub> ha:-<sub>Λ</sub> ləxa'tsim m ko 'kax xamu<sub>Λ</sub>rim

228



(breaks in)

A: ari pa'fut lo jo\dea

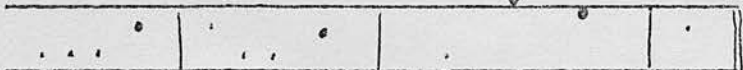
229



(rallentando/) (Together with AS)

H: {emevi'zim /ləxiku'xim kol (AS) "kax gdo/<sub>Λ</sub>

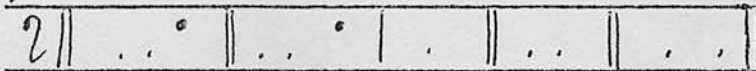
230



(together with H)

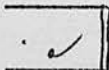
AS: ma inja'nej inja'nej a:<sub>Λ</sub> ə-ə<sub>Λ</sub> ə-ə<sub>Λ</sub>

231



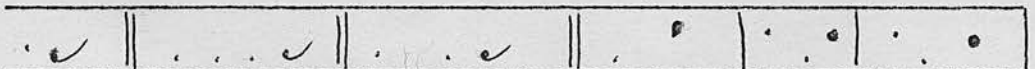
H: di<sub>Λ</sub>jur

232

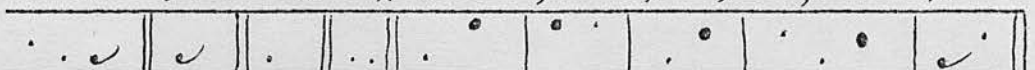


AS: di<sub>Λ</sub>ju:r em nora<sub>Λ</sub>im ba:-mos<sub>Λ</sub>kva: vətəb'xol aa'rim agdo'lo<sup>u</sup>t<sup>h</sup>

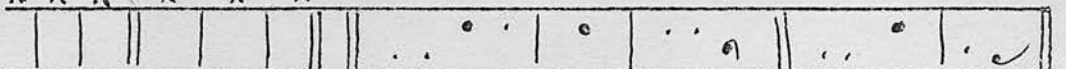
233



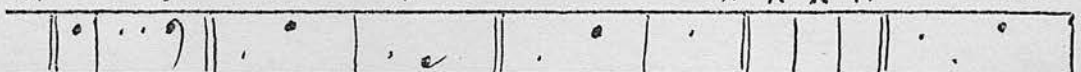
lama:se ken e:z<sub>Λ</sub> en<sub>Λ</sub> ga'rot 'staim {a'lof mi{pa'xot jaxad



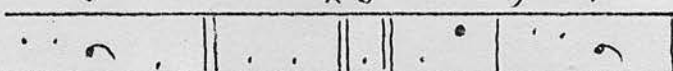
amas'koret 'lo maspi<sub>Λ</sub>ka vala'xen ha<sub>Λ</sub>zi}



Λ 'vəhai{fa tsə'xim la<sub>Λ</sub>vo<sup>u</sup>d im 'kol ha<sub>Λ</sub>ΛΛΛ<sup>h</sup> izdak'nut<sup>h</sup>

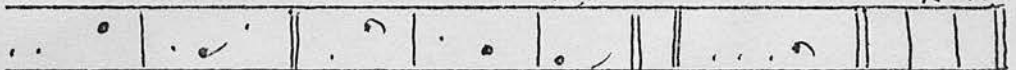


amuk\deme:t və<sup>h</sup>a::<sub>Λ</sub> ə uv'da {əha<sub>Λ</sub>ba.1?



A: ani 'lo ja<sub>Λ</sub>dati se'kal jo<sub>Λ</sub>ter {səma<sub>Λ</sub> laitga<sub>Λ</sub>re}

234

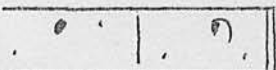


H: \ken

235

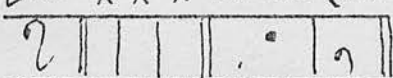


A: xa'favti lə'efex

236 

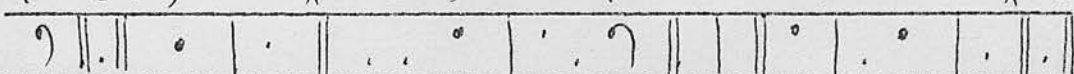
(together with AS)

H: \ken ^ ^ ^ mə'fod kal

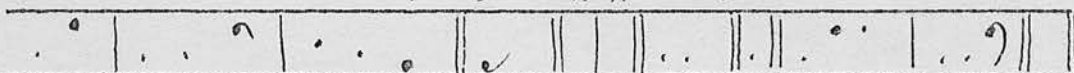
237 

(dimuendo to breathy whisper)

AS: \lo: ə /'sam: məʔ<sub>^</sub> mitgar'<sub>^</sub>im bəka\lut/ ^ ^ 'jeʃ ar'bej bə<sub>^</sub> a<sub>^</sub>

238 

ar'bej ta·mu\la neged ,ze \_ken ^ ^ aval: ə bə'ofən maa\si ^



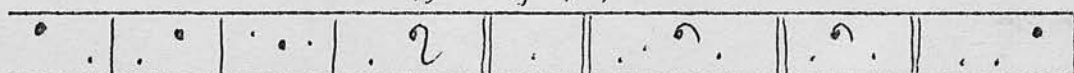
(whisper)

\texni /'kal mə\od<sup>h</sup>/

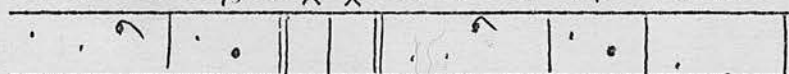


(piano)

A: 'davka ra'gil a'iti laxʃo:v seʔ<sub>^</sub> seets'lejnu bəarets /hatna'im

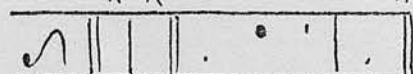
239 

em. jo'ter ka,ʃim/ ^ ^ mihar'bej məpd bxi,not<sup>h</sup>

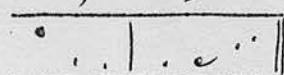


almost  
(whisper)

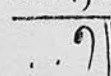
AS: /'lo/ ^ ^ ets'lejnu jeʃ<sub>^</sub>

240 

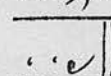
H: 'məʃer bə\_rusia

241 


A: lai\ʃa

242 

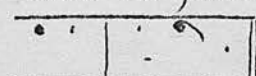
H: lai\ʃa

243 

A: \ken

244 

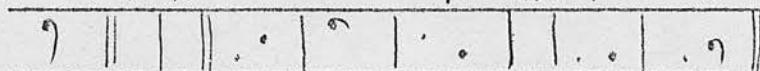
H: 'lama xa'favta

245 



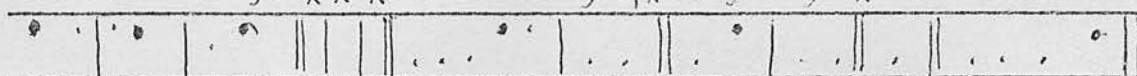
(creak - whisper)  
AS: /\loʔ/ ^ ^ ə'ni: lo xo,ʃev ^ ʃe,ze na,xon

246



H: 'lama a'ta xo ʃev ^ ^ ^ ata jo'dea ʃeʔn, na'ʃim ʃam, ə:: bəmiʔso'ʔot

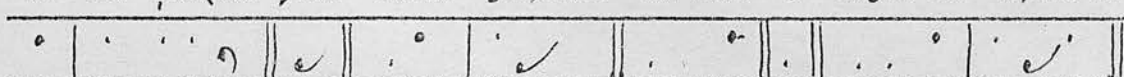
247



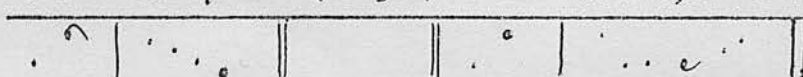
ə: ʃe'jeʃ mas,koret jəxo'lim ləx'zik o'zeret al: əʔ ^ ^ ^



'en ma lda,ber,ken ra'ma gvo/ha:: ma'mad: ə bejno'ni və/ma'la



bə'xol aara,ʔsot (laughs) ko'lel hakomu,nistiot



A: \ken

248

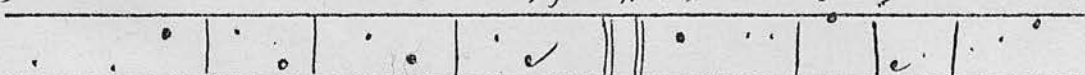


H: vəʔ,ma'ʔsav ai'ʃa,tov ^ ^ ^ vaval: ba:: ^ ʃxa'vo<sup>u</sup>t anəmu,xo<sup>u</sup>t

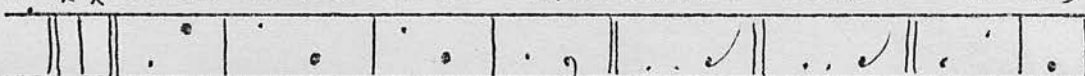
249



ʃe:m ʔsəhot bəmet lis<sup>v</sup>lol kvi,ʃim ^ 'jeʃ laem<sup>u</sup>gam bait axa'rej



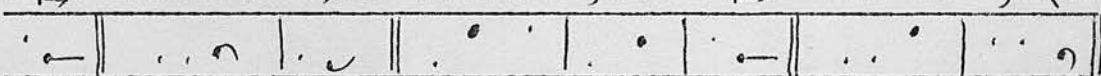
ze ^ ^ və'gam ʔsə<sup>v</sup>xot la<sup>v</sup>mol ba,tor ləxa/pes ləxa/kot v<sup>v</sup>ejfo jeʃ



miʔs,rax: ə ʃe<sup>h</sup>en ʔsə<sup>v</sup>xot lə<sup>h</sup>a'sig lə,bait və<sup>v</sup>em<sup>v</sup>dot ʃa'ʔot



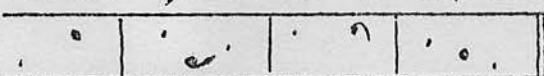
ba<sup>v</sup>tor baxa,nut<sup>h</sup> a,zot va'xarkax ʃa'ot ba<sup>v</sup>tor baxa'nut<sup>h</sup> aʃni,ja



(together with H)

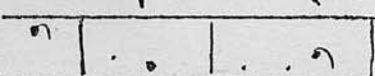
A: tku'fat a,ʔsena at lo zo,xeret

250



AS: nu ba,sof ze a,var

251



H; aval eṣ'lejn̄u ze a\var ʌ v̄aets'lam a'dain 'lo

252 [Musical notation]

AS: eṣ'lam ze xami'jim ʃa'na a'tsena (laughs) ʌ ʌ ʌ ken

253 [Musical notation]

H: <sup>hu</sup>zə ʌ ʌ ʌ v̄a'xarkax ha'jələd xa'zar ʌ a,bajta: ʌ om'nam

254 [Musical notation]

jeʃ lo ma'ʔon jom ʌ aval u b<sup>h</sup>xol zot xa'zar a'bajta:

[Musical notation]

(creek)

/v̄ə'tsax / lə'jot nex'mad el a,bai:l ʌ v̄əze ka'ʃe mə'od

[Musical notation] (pause)

AS: əta jo'dea a<sup>t</sup>h abdi'xa a,zot ʃeom'rim ʃe: ʌ ha'ru'sim məsap'rim

255 [Musical notation]

al aṣ'ma:m ʃehem om'rim ʌ aḥ eṣ'lenu hasoṣja'lizem

[Musical notation]

(creek)

/itka'dem / lə-maʃeu jo'tse mina'klal ʌ bəka'ro:u v ʌ ije

[Musical notation]

lə'xol ə'xad eli'kofter ʌ ʌ ʌ ʌ ʌ ʌ az ə ən aana'jim

[Musical notation]

ʃeam'du basvi\va: v̄ʃa'nu: ʃemiʃeu o'mer 'kax ʌ u o'mer ʃa:lu

[Musical notation]

o'to 'lama t̄sə,xim: ə ʃei'je lə'xol ə'xad eli,kofter ʌ ə'je z: ʌ

[Musical notation]

zva'a \kan ʌ ki'lo ji\je <sup>(1)</sup>o ʌ 'iefʃar ije la'tus ʌ ʌ az u

[Musical notation]

o'mer 'mazt o'mert ʌ l'kxol ə'xad ji'je eli'kofter ʌ ni'ima

[Musical notation]

ʃebə xar''kov je) \le, xem na? mi'jad na'tus laʃa:m. ^ ^ ^

niʃ'ma ʃebə'kiev je) ,lexem na'tus laʃam (laughs) ^ ^ ^

(piano)

/ ken/

(pause)

(falsetto)

A: to'da /ra''ba/ (sigh)

256

AS: to'da ra\_ba la'xa

257

A: a'ni ^ ^ ^ be'met ^ mo,de laxem mə,od

258

H: tov

259

(pause)

AS: ani mka've ʃeki balta ^ ma ʃeraʃsita ^ ^ ^

260

A: texef ni''ma

261

(pause)

AS: tov

262

Chair shifting, door creaks.



2. Technical Details and Translation.

- I Speakers: 1. Amnon S. (AS), aged 38, University researcher in military history, native speaker of Sabra Hebrew, whose parents spoke Polish and Yiddish (/r/ → [ʁ]).
2. Haya S. (H), aged 37, immigrant-school teacher of Hebrew, native speaker of Sabra Hebrew, whose parents spoke Polish and Yiddish (/r/ → [ʁ]).
3. Alan Marbe (A) (/r/ → [ʁ]).

II Instrumentation:

The conversation was recorded in the studio of the phonetic laboratory at Edinburgh University on February 2nd, 1971, on a Revox A77 tape-recorder, with a Sennheiser MD21 microphone, and on Emitape 88 -- an aphonic, low-noise recording-tape (standard play), at 7½ "sec.

III Translation

- 1 AS: Yes, that's clear.
- 2 A: And.. er... have you already been inside one of these things?
- 3 H: No, never, no.
- 4 AS: After... Now, when I began this course... It was the first time I began to work with such instruments: headphones, loudspeaker...
- 5 A: Yes, mm... In Jerusalem you were not inside a laboratory, then? They've now got a very nice one.
- 6 AS: Hebrew.
- 7 A: Yes.
- 8 AS: But when I... When I...
- 9 A: No, I think it's for English.
- 10 AS: Ah, that must be looked into ...
- 11 A: But for Hebrew, too.
- 12 AS: Right, but actually I gave up linguistics in '61.
- 13 A: Yes.



- 14 AS: And at that time, things were not yet as they are now.
- 15 A: And in schools, there aren't yet...
- 16 H: Not so far as I know.
- 17 AS: Yes, I think not.
- 18 H: At the university they've now brought in the language laboratory for the teaching of Hebrew to immig... to the new students.
- 19 AS: Yes.
- 20 H: Mm... according to ... that is to say -where... where do the texts and all the materials come from? Is it what used to be up on Mount Zion previously? Do you know the stuff?
- 21 A: Are you talking about Hebrew, or about...
- 22 H: About Hebrew, Hebrew.
- 23 A: As far as I know, it's the ordinary stuff.
- 24 H: What do you mean "ordinary"? There's such a lot of it.
- 25 A: I mean that in "ulpan-type" schools, they use "ulpan" materials, and at er.. the university, they use the Mount Zion stuff in the lab. I said in "ulpan-type" schools because at our place, at Tel Aviv (University), we don't use the Mount Zion materials, but the "ulpan" stuff.
- 26 H: What do you mean -- the ulpan stuff?
- 27 A: What they teach at an "ulpan".
- 28 AS: Just a moment -- isn't Mount Zion an ulpan (total-immersion Hebrew language school, generally for new immigrants)?
- 29 H: But at an ulpan they don't learn in labs. er.. in language laboratories -- I mean to say, not even according to the methods used in language labs.
- 30 A: That's the trouble! They use labs, but the...
- 31 H: At ulpan schools they don't use la... There aren't any (labs)!

- 32 A: At Tel Aviv University we use the study materials... the regular ulpan stuff... er... It's called "Easy Hebrew", "1,000 Words", something... I don't quite know exactly...
- 33 H: Yes?
- 34 A: And the work in the lab. doesn't er... give the desired results, because they don't er...
- 35 H: It isn't programmed... It's not at all on the same principles...
- 36 A: The material hasn't been graded; it hasn't been graded -- yes, that's it.
- 37 H: I know it isn't ... that what they do in ulpan schools isn't... based on the same principles from the scien... from the point of view of scien... Yes, from the point of view of what you want... of erm... what results you wish to obtain from specific language points... Yes? When you're teaching in class you achieve different results because it's... it depends to a great extent on the teacher who ... how he organises the lesson, and what... and on... o... also on the associations and on the standard of the stu... It's all far more flexible. You can... a teacher can er... from the same materials he can get er.. totally different results from those achieved in the lab. It must all be programmed so that... so that it doesn't matter if he's there or not, I think. Almost...
- 38 A (to AS): er.. You're attending a lab. course now, aren't you?
- 39 AS: Yes... I mean, no... I'm not... No... I...
- 40 A: How are you finding it?
- 41 AS: I think it's extremely effective. For me, it's extremely effective.
- 42 AS: Yes?
- 43 A: Yes.
- 44 A: What does it give you?

45 AS: er... I'll tell you...

46 A: Yes...

47 AS: I've got a special problem. I believe, that is... it isn't... not that it's a problem peculiar to myself. It's... It's clearly common to many others. But my problem is that I can learn a language quite passively...

48 A: Yes...

49 AS: And know how to read and... and understand everything, even shades of meaning... without having even a minimal capacity to... to... to...

50 A: To produce.

51 AS: To translate it into a form that is...

52 A: Yes...

53 AS: Active!

54 A: So that it gives you the productive side of the language?

55 AS: Yes.

56 A: Or the pronunciation?

57 AS: Then you include...I mean... As for pronunciation, I simply... You know how it's structured, this tape: it's put together in such a way that you ...

58 A: I don't know the Russian tape.

59 AS: It doesn't matter wha... the... In principle, I imagine all these tapes... There's a speaker, or two speakers, yes? They read a sentence, leave a space, or time for you to repeat...

60 A: Yes...

61 AS: Then they read another sentence, and after that there're um... questions relating to the passage previously read, and then they ask the questions again, you repeat the question, then they ask the... they give the answer, you repeat the answer! There's another way as well: they leave you time, so that if you wish



to try your strength -- before they give you the answer -- yes?

Then you give the answer by yourself. But er... you always hear the correct answer in the end.

66 A: er... The answer that's cor... correct as given, because there are many er... correct forms.

63 H: Yes, the one... the one that's given, that's it.

64 AS: Yes, it doesn't matter. The one they decided on er... the ones who planned the course -it's not important, yes? The one they decided is "The King's Russian", yes?

65 A: Yes, but the... mm... Well, erm... Every er... Every tape is organised in such a way... er... The problem is that you produce nothing: you only repeat.

66 AS: Yes, but then what? You've still got to think!

67 H: When you say "produce", you mean "create". What are you referring to when you say "produce"?

68 A: "Produce" (the English word)

69 AS: Yes, this means that... that you... that you can't put the words together yourself, and don't get together the sentence-structure by yourself.

70 H: Cre... er.. That's more "create", isn't it?

71 AS: Create: it isn't...

72 H: It's more "create".

73 A: In linguistics, "create" is something rather different; it's "To generate" (the English words) LAUGHS.

74 H: Well, it doesn't matter, but er... when you translate that into Hebrew that is er.. normative, it's really "create", this point -- for mm... "produce" is rather a broad concept: it means to produce something to one's advantage, doesn't it? It doesn't mean here... it doesn't have... in the specific meaning you



wanted to make use of it here it means "Do you create something mm... of your own?" In short...

- 75 A: Right. There isn't yet a vocabulary-list for such special points, as far as I know, mm... and... er... The interesting point here is that er... it's believed that the language lab. is not much use.
- 76 AS: And what is put forward as an alternative? I mean how... in what way...?
- 77 H: You know, if...
- 78 A: Back to the teacher in class!
- 79 AS: What? The frontal approach?
- 80 H: If you think about it... You know, if you think about it, it's the... it's... it gives me a splendid feeling! Because I didn't think of this, but I did think that I, for one, wouldn't have been able to learn in this way, since to me -- as I was saying to you before, er... -- als... the connection is very important, the ... mm... the... the ordinary human ability to communicate, which is so... mmm... so very important. I also believe that er... the possibility of er... er... communicating in this fashion is... is important to the pupils. I don't believe they can really learn -- I mean, they can't commit to memory things that... And they can retain a few sentences, but... the... the... I'm conscious all the time of the fact that this machinery here... it's making it difficult for me to speak...
- 81 H: No -- I mean... So far as I'm concerned, it's exactly the other way round. In my case, it's the frontal method I find very disturbing. I mean, I always know in cla... in class, when I used to sit there, er.. in a group of... people, this always handicapped me in speaking.

82 H: But, Anmon, you know...

83 AS: And when I am alone with the machine, it's... er... I'm er... quite uninvolved. There I am, sitting by myself in the room and, yes...

84 H: Because er... the method of teaching in class... the frontal method of teaching in class that you have touched on is... is not the most effective method for the inculcation of a language. A certain combination must be effected here of... the.... mm... er... mmm... the programming of the labo... of the... laboratory...

85 A: The question is...

86 H: With the... er... mm... er... possibility of transfer and... er... of the teacher's personality, as well as the co-operation of the pupils.

87 A: The point is that both of you are right. Your husband is right in that er... most people, in one way or another, have er... certain inhibitions connected with learning as members of a group -- even if it consists of only the teacher and one pupil. These inhibitions vanish in the lab. On the other hand, the lab. -- all that the lab. can do is to give a person the chance to practise, more or less parrot-fashion.

88 AS: Exactly. And afterwards everything is imprinted on the memory. I mean, you practise, parrot-fashion, and you practise and practise again, and then there are certain structures...

89 A: That's just the question -- whether it really becomes imprinted...

90 AS: Yes, ah... well... In my case, yes? For I er... My memory is not too bad, er... and I simply repeat certain points -- certain structures. And, more important, it's a matter of combining the visual with the aural, since at the same time I can also read what's in the book...

91 A: Yes...

92 AS: Yes? And so everything comes together and sticks in the memory.

I know that once I've been through a couple of lessons -- say, two-three lessons -- I already know then that there are a few things that are retained er... I don't mean to say for ever...

93 A: Yes.

94 AS: But for a long time.

95 A: I'm sorry to say, I don't think it's a matter of the... mm... the teacher's personality.

96 H: No?

97 AS: No. That is neither here nor there. It's... I mean, it's unimportant.

98. H: It's quite unimportant.

99 AS: Un... unimportant, quite!

100 A: No, no -- I don't think the teacher's personality ... his personality isn't important.

101 H: No, it's the teacher's technique -- I meant. No, I... It isn't really his personality, but his technique that's important, his ability ... mm... er... the... his ability to transfer, his flexibility, his er... his ability to make use of every opportunity, his... er... mm... to... to va... to vary the material by making use of the specific people in his class -- to get out of every person whatever... what... the most he...

102 A: But in a purely intuitive fashion?

103 AS: No, he can also plan.

104 H: er... it... it's... It's a mixture, it's a mixture of mm... various elements.

105 AS: He can plan, too -- since he knows the people in his group.

106 H: For, if you say it's purely intuitive, then it is a matter of his personality, but it's... er... more a matter of... personality.

107 A: I said it's intuitive, since we haven't got any acceptable theory of language.



- 108 H: Ah, from that point of view - from that viewpoint, perhaps!
- 109 A: We don't know what we're teaching...
- 110 H: There is an accumulation of experience, there is...
- 111 AS: You know, this woman here used to sit at home for hours, yes?  
She sat there preparing and planning...
- 112 H: And I planned the in... the inti... with the intu...
- 113 AS: She forgot that she had a husband and children and... and so  
on, yes? She actually used to be busy for hours on end...
- 114 H: With the inti... er... in... with the...
- 115 A: er... I've got a two-year course that I planned for the language  
lab.
- 116 AS: Yes.
- 117 A: So that I ~~also~~ know what it means to plan, but er... I'm convinced  
that it isn't a very good one, from the scientific point of view.
- 118 H: Why?
- 119 A: Because I'm not certain that the theory of language on which I  
based my work er... is er... a theory that has any reality... --  
whether the facts of the language are in agreement with the erm...  
technique upon which I based my work.
- 120 AS: Yes -- that's right, but the moment there comes into the picture an  
element of pla... of planning in advance, you may well be wrong;  
you may... be quite wrong, and your planning may not fit in with  
the structures of the language in question -- but the element  
of planning itself, yes? That's what gives the pupils the  
feeling that they are advancing towards a specific objective,  
that you know what it is you want of them. It's this very  
feeling that is already of great assistance, I think, both to...  
to the teacher and to the pupils. They'll get there even if  
afterwards it tu... it turns out that you've taught them



something that's "off the way" (the English words), yes? You've taught them something or other er... say... some expressions that are not so realistic, or have already disappeared from common use in Israel today, yes? The...

121 A: On the other hand, we also don't know how people learn. We do have various theories, but how er... people actually learn, we don't... we don't know.

122 AS: Right. I know this. I've read about it. I've had a brief glance at Chomsky's new book er... Have you seen it?

123 A: Yes.

124 AS: Yes, I know we don't know that. But, well er... actually...

125 A: So we don't know what, we don't know how -- and yet we're better at it than the machines. LAUGHS.

126 H: Yes.

127 AS: Yes, that's the...

128 H: Yes, for if we knew what and how, then perhaps the machines would be able to do a better job.

129 AS: There are still... there are a further... a further two...

130 H: If, then perhaps -- but, really here... perhaps because we don't know, so the factor of... of the teacher in this case may be of greater significance.

131 AS: There are another two methods I think are... that haven't yet been tried out at home in any thoroughgoing way, and they should be attempted. → One of them is the "shock" (English word) system, which you must know of...

132 A: Total immersion (English words)

133 AS: I... I don't exactly know what... I don't know what it's called in English, but it's a sys...

134 A: It means that er... they give the pupil someone er... a companion, and put him in a... a place where they only speak the language...

135 AS: Yes, so they generally do this in groups...

136 A: For three months, yes.

137 AS: Yes, for three months -- and then you can really speak! Yes?

I've spoken here to er... someone who er... went through this sort of thing and he actually told me that he had three months... after three months they had a course on which people could read and speak Russian... in actual fact! That's one method, and another one is er... a method I've heard about... er... in Ameri... that... that they also developed in America. It's... by means of reading; I mean er... You take a book in your own language, as it were, yes? And then you find on the first page one word in the language that... that you want to learn, and on the second page two words, and it's always within a... a structure such that you cannot go wrong, and... and the end of it all is that you finish the book in the language you want to learn. And now, within er... after, say, five chapters, you have a test you can take by yourself. If you're OK, then you can go on -- if not, you... you're told you've got to go back and...

138 A: That's programmed learning.

139 AS: Yes, and... and it makes... It makes an excellent impression on me mm... without having seen the whole thing, even, don't you know?

140 A: However, the first method is based on a language theory we already know for sure to be wrong -- that's the first point... LAUGHTER

141 AS: So how does it succeed?

142 A: That's the whole question! LAUGHS

143 AS: If it isn't correct (LAUGHS) theoretically, as a whole, then how does it succeed?

144 A: How do we teachers, who have taught according to... er... theories er... that actually er... were devised, as it were, or developed two thousand years ago -- and we're almost certain they're wrong -- how

do we nevertheless manage all these years to teach foreign languages? Not the mother-tongue! It would seem that there is something intuitive there in spite of everything...

145 AS: Yes?

146 A: That helps us, for the time being, mm... Then there's another problem -- er... Most of the psychologists that... who have conducted research into reading say that reading is something extremely interesting -- but it can't be explained at all from the psychological point of view. (LAUGHS) I mean...

147 AS: No, no: it only means that they simply haven't applied the right methods to... to this research -- that's all.

148 A: Yes, it may be that within two months it might have been possible to learn, say, with less effort, or er... in... in greater depth. By the way, these methods were not only developed in America, but also in England and... er... the....

149 H: Which one? The reading me... the second of the two?

150 AS: The "shock" method. At Sussek... Sussex, I know they do...

151 A: The first one.

152 H: The first one, yes. Here they at once ap...

153 A: No, it was during the war. They taught er... Japanese here in this way as early as that... but they covered er... only a very limited area of the language.

154 AS: Yes, war reports and...

155 A: Exactly.

156 AS: You then repeat...

157 A: Yes, that's right.

158 AS: Of course.

159 H: The question is -- can there be any transfer afterwards, or not?  
I mean -- You understand what I'm ..?



160 AS: Good. On this same mm... On this... Listen!

161 H: There can...

162 AS: But I want to sa...

163 H: Afterwards there can be transfer, and then everything's all right. Then, you've laid the grammatical foundation, and the structure of the language...

164 AS: Not transfer...

165 H: And everything you wanted to achieve...

166 AS: Extension ... an expansion.

167 H: No, transfer to...

168 A: The very notion of "transfer" (English word) is highly dubious.

LAUGHS

169 AS: But, listen -- I...

170 H: One can't really talk to you... (LAUGHS) Perhaps we'll talk of something quite different!

171 AS: Listen, I... yesterday I was talking to -- can you hear me? It was er... some lecturer here, at this university, whose field is... civilian subjects within a military framework. He usually gives talks in Officer Training Schools here in En... in the British army -- and he... told me he had made an interesting experiment with an officers' course in Britain. er...It was quite an advanced course, apparently. He gave them a set of words, such as "sovereignty", "capital" (English words) and other similar words, and he found -- to his surprise -- yes? -- that many of them couldn't manage to explain their meaning. And these are people whose mother-tongue is English! This means that it's not only in the transfer from language to language -- yes? -- that there are limitations, but even within the same language there are areas that are closed to some people -- and therefore there's nothing wrong with teaching



somebody Japanese only insofar as er... it's connected with er... military er... mm... yes?-documents of a military nature, since it may be assumed that... that if afterwards he uses the same linguistic structure he has already heard, and the vocabulary he has already learnt, he will be able to effect a transfer to other areas and fields of life.

172 A: Meanwhile, I think your wife is right -- that a teacher, by means of his instinct, can certainly be aware -- without actually knowing -- er... con... er... consciously...

173 H: Yes.

174 AS: Yes.

175 A: How to transfer, and how to take in, and so on -- and, particularly, a woman-teacher who is also a mother ...

176 AS: mm... Well, a woman-teacher -- naturally, the sexual factor also has a... a part to play here, to some extent. I mean, the class also relates to... er... reacts to her in some... in... in... unconsciously, yes? In some sort of way as... to... a woman, in a manner er... primarily in a better way than to a male teacher.

177 H: I mm... really don't see why you think that there is a better basic attitude towards a woman than there is to ...

178 AS: There is such a thing in the Western civilisation.

179 H: But I don't think -- but... but you must know that I have also been with people whose culture was Eastern -- and then there should have been in this case some opposition -- which there wasn't. But erm... to go back to this point about being a mother -- there's a great deal of... truth in it -- with regard to language-teaching. For -- the...

180 AS: Yes, that's obvious -- yes!

181 A: Apart from that, this matter of women in the Western civilisation -- er... all the ideology of modern feminism...

182 AS: Yes, er... that's true, yes. That's the first point... er...

183 A: It makes totally different claims.

184 AS: Yes.

185 A: Right. And then, there's something else.

186 AS: But that's an ideology women see fit to app... to... to apply to that civilisation, isn't it? It's these suffragettes, who haven't yet achieved their aim, yes? (LAUGHS) And, meanwhile, they still...

187 A: But therefore it can be said that women are not treated in the proper way.

188 AS: To... What do you mean "Not in the proper way"? It means that... that all sorts of assumptions are made in connection with them, doesn't it? er... That they're the fair sex, the weaker sex, er... but...

189 A: On the other hand -- slavery, exploitation...

190 AS: That... this... that's what these women claim, isn't it? It isn't what the men er.. really do to them, is it? It's either er... or mostly... No, no! What men do to them is mostly ... It's true they er... get lower wages, and so on, isn't it? But the attitude to...

191 A: By the way, how are things at home in this connection? Are women's wages not lower there? Well?

192 AS: Yes, they're lower.

193 H: Of course not!

194 A: Yes!

195 AS: No?

196 H: Not for equal types of work -- not as far as I know.

197 AS: I think they are.

198 H: There is just one point that mm... The head of the family, who is usually the man, erm... gets what is called the cost-of-living

allowance, or... er... the various social benefits and family allowances.

199 AS: Yes?

200 H: And this... mm... m... makes all the difference to the final wage he gets -- but the... basic wage, I think, is an equal one for equal work.

201 AS: Yes, but... it isn't... but, er... the... the final sum-total is that women on the whole never get to... to the... the higher jobs to the same extent as men do.

202 H: Why?

203 AS: That's a fact -- it is!

204 A: For example -- Golda Meir...

205 AS: Head of com... Company directors, er... engineers, er... it's all...  
At any rate, you'll find more men than women there.

206 A: The Prime Minister?

207 H: The question ...

208 AS: The Prime Minister isn't really a woman!

209 A: The only man in the Cabinet!

210 H: The only man ... yes! Well, the question is whether there's erm... any motivation for women to get where you'd like them to get. I don't think ...

211 AS: All right, they don't have the motivation. I think they're simply too busy at home and in the kitchen with everything a woman can ...

212 A: That's the two sides of the argument. It is interesting, however, that men claim, on the whole, that there isn't sufficient motivation on the woman's part... while women claim they haven't got the time -- and here, in our case, it was exactly the other way round. Very interesting! LAUGHTER

- 213 AS: No, they do have the motivation. By the way, this whole problem is becoming particularly acute in the Soviet Union these days, for wom... er... there, the women...
- 214 A: I thought women were equal there... at manual labour...
- 215 AS: Oh, quite the contrary: they're too equal there!
- 216 H: They're so equal...
- 217 AS: It turns out that... there they insist, don't they? -- on doing every kind of job, such as road-laying...
- 218 A: That's right!
- 219 AS: Drilling.. er... all sorts of...
- 220 A: Road surfacing with tar...
- 221 AS: Things of that type, and... they um... don't er... actually get equal opportunities in the various types of occupations -- not the chance to attain... high-ranking positions. Indeed, in this connection they actually complain... they still complain, for instance, that the rate of divorce is so high because they're asked to...
- 222 A: I didn't know that!
- 223 AS: Yes, indeed -- there's a very high divorce rate there, which they're now try...
- 224 A: Higher than at home?
- 225 AS: What do you mean?! At home? At home the divorce rate isn't high at all! You're wrong there!
- 226 H: It's obviously higher over there! It's very much easier to divorce there, and the conditions of life are so very hard!
- 227 AS: The pressures are far greater!
- 228 H: They lead to... The pressures are so great, that...
- 229 A: I don't know, really!
- 230 H: They lead to such tremendous confli...



- 231 AS: Sure! Matters of... of... er... er...
- 132 H: Housing.
- 233 AS: Housing's shocking! In Moscow, and in all the big cities, actually -- yes? They... they live together, two-three families... er... the wages are too low, and so man and wife both have to work, with all that this... the early aging, and the... the fact that the husband...
- 234 A: I didn't know it was easier to get a divorce there...
- 235 H: Yes!
- 236 A: I thought it was the other way round.
- 237 H: Yes. Very easy.
- 238 AS: No.. er... there it's... divorce is easy. There are many who... er... There's a great deal of propaganda against it, of course, but er... in actual fact, technically, that is, it's very easy.
- 239 A: Actually, I used to think that... that at home conditions were even harder um... very much so! And from several standpoints...
- 240 AS: No, there's...
- 241 H: Than in Russia?
- 242 A: For women.
- 243 H: For women?
- 244 A: Yes.
- 245 H: Why did you think so?
- 246 AS: No -- I don't think that's right.
- 247 H: Why do you think ...? You know the women there er... in jobs... er... where the wage would allow them to have household help... No, there's no room for argument even. Yes, even where the standard is high, middle class er... or above, in all countries, including the communist ones...
- 248 A: Yes?

249 H: Women's conditions are good. But er... among the lower classes, where they really have to lay roads, they also have a household to look after, and they've got to queue up, to look for... to shop, to search for the goods, er... they need for the house, and they've got to queue up for hours in this shop or that, and then to queue up for hours in another one...

250 A: Don't you remember our own austerity period?

251 AS: Well, but after all, it's over and done with!

252 H: But in our case it's over and done with, and in theirs it isn't yet.

253 AS: There it's been going on for fifty years now, this austerity, hasn't it?

254 H: That's it! And then the child comes home, and he may indeed be in a crêche all day, but he does come home at last! And then she must be nice to her husband -- which can be very difficult indeed!

255 AS: Do you know the joke -- they say... The Russians tell it against themselves. They say -- ah, with us socialism has made great progress -- it's grown to be something quite splendid! At Kharkov, every... everyone has got his own helicopter. Well, then, er... the... the people who were standing around and heard someone saying this -- when he said it, they asked him -- "Why should everyone have a helicopter? That... er... that'd be terrible -- nobody here... none of us could fly, then!" So he says -- "Well, of course, everyone needs to have a helicopter. We'll hear there's bread at Kharkov, we'll... we'll fly there straight away. We'll hear there's bread in Kiev, we'll fly there..." Yes?

LAUGHTER

256 A: Thank you!

257 AS: Thank you!

258 A: I... I'm really most grateful to you.

259 H: All right.

260 AS: I hope you got what you wanted.

261 A: We'll be hearing that straight away.

262 AS: All right.

NOISE OF CHAIRS MOVING, DOOR CREAKING.

APPENDIX III

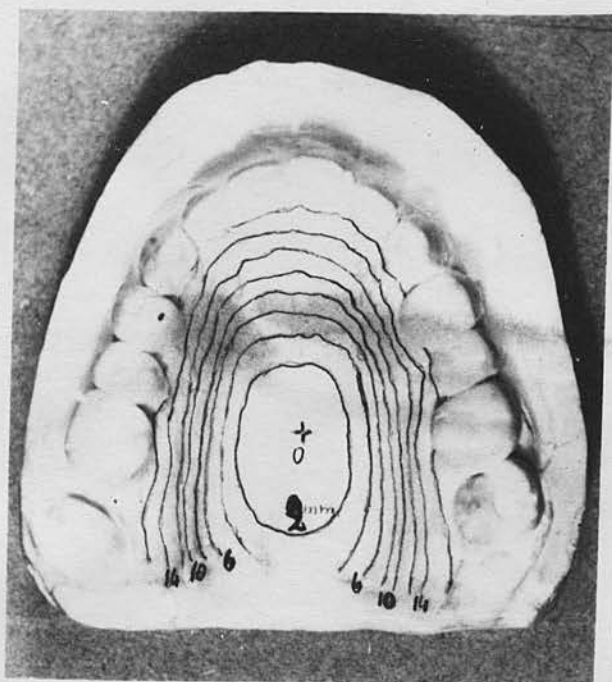
INSTRUMENTAL EVIDENCE.

A. Palatograms

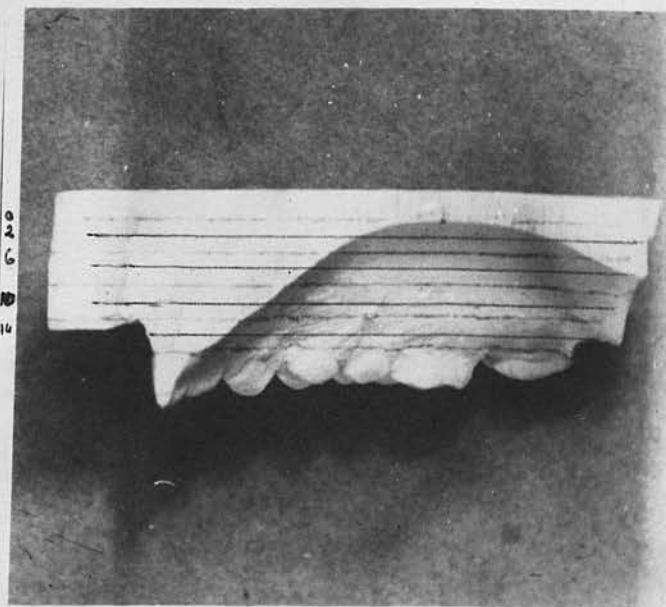
These were taken according to the method described in Ladefoged 1951. The diagrams illustrating the pronunciation of the consonants (see 5.02 above) are based on:

a) A life-size photograph of my own palate, as displayed on a plaster cast, and featuring contour lines drawn at 2 mm. intervals starting from the topmost central part of the roof of the mouth.

b) A life-size photograph of the longitudinal section of this plaster cast. This latter has been used to trace the contact-points of the tongue with the passive articulator on an otherwise impressionistic basis (shape of tongue, rest of mouth cavity) - since the method of displaying contour lines longitudinally (as advocated by Ladefoged) did not prove successful in presenting a generalised diagram based on idiosyncratic wipe-offs (e.g. more wipe-off on one side of the palate than on the other, "islands" of non-wiped-off palate area, etc).

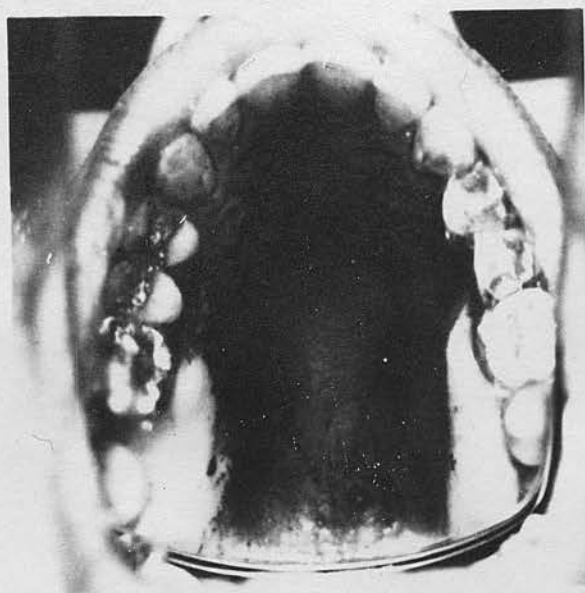


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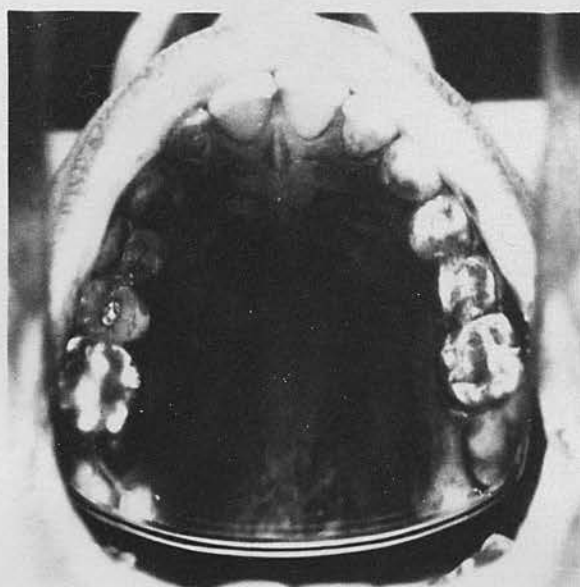


2.





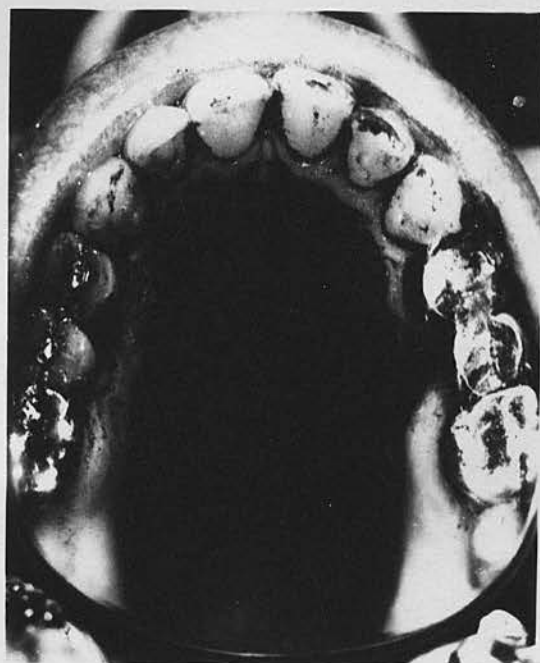
3. /e'f(s)e/ (viper)



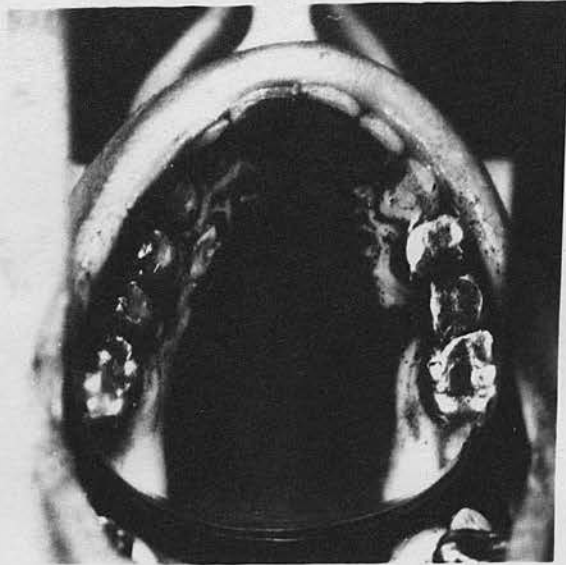
4. /a'va/ (thick)



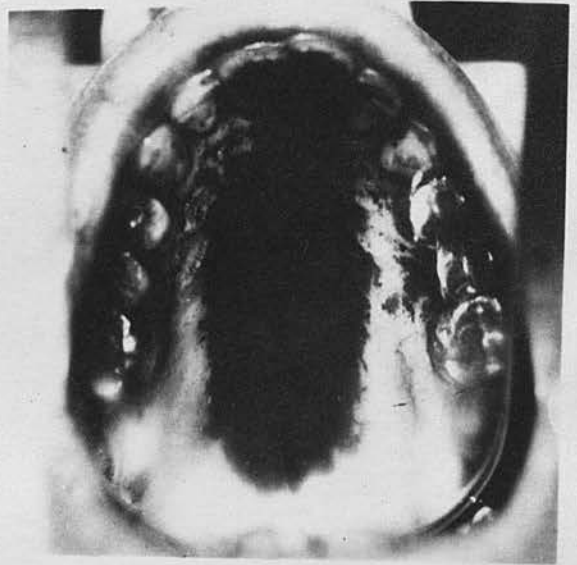
5. /o'to/ (him)



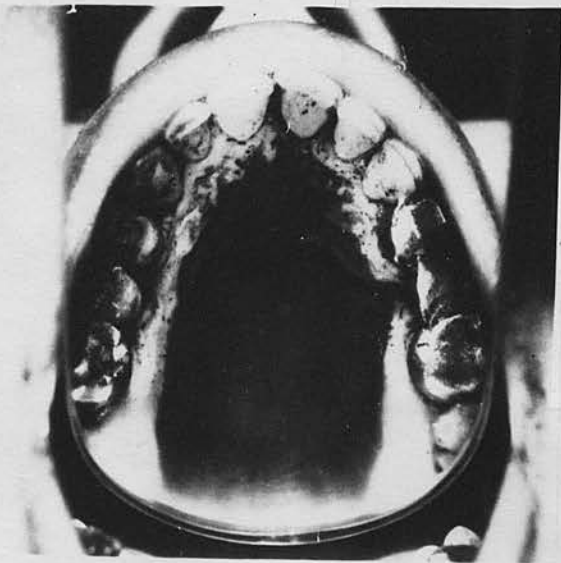
6. /('s)ed/ (witness)



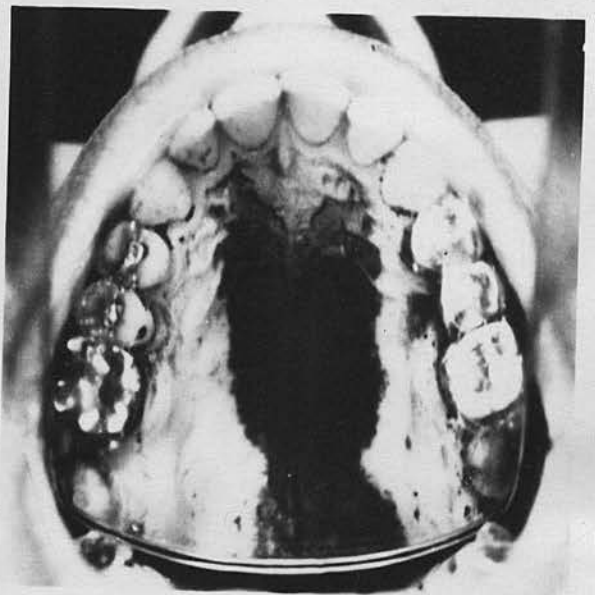
7. /'s(ɹ)u/ (travel!)



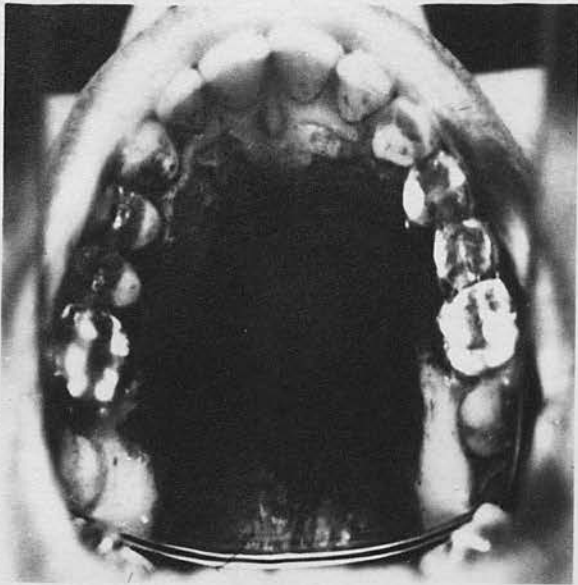
8. /ɹi'zi/ (my goat)



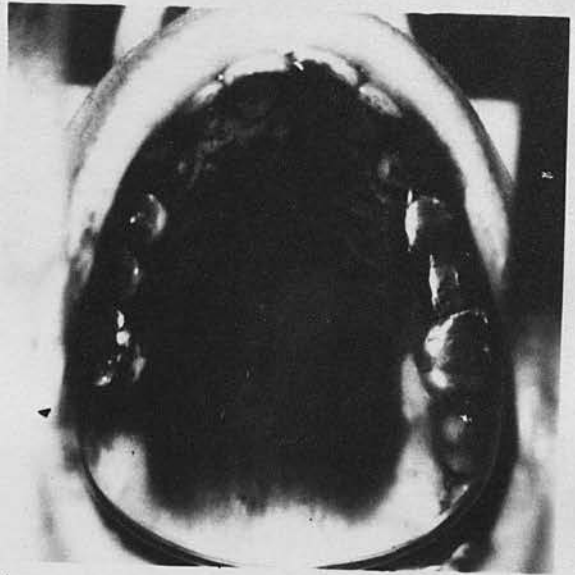
9. /'atsa/ (she hurries)



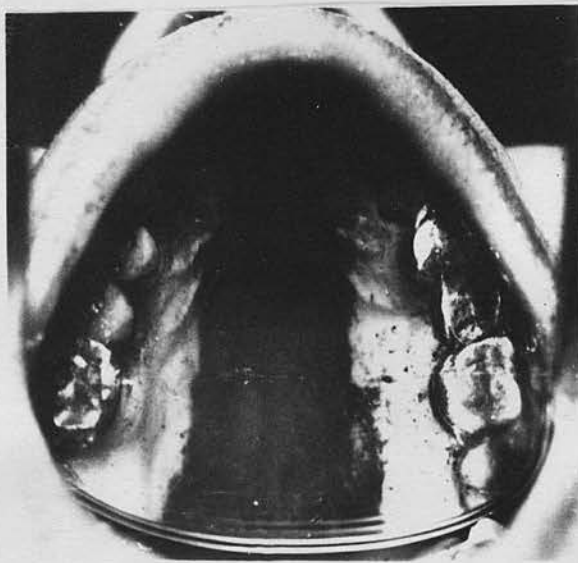
10. /ɹe'i'ni/ (my eye)



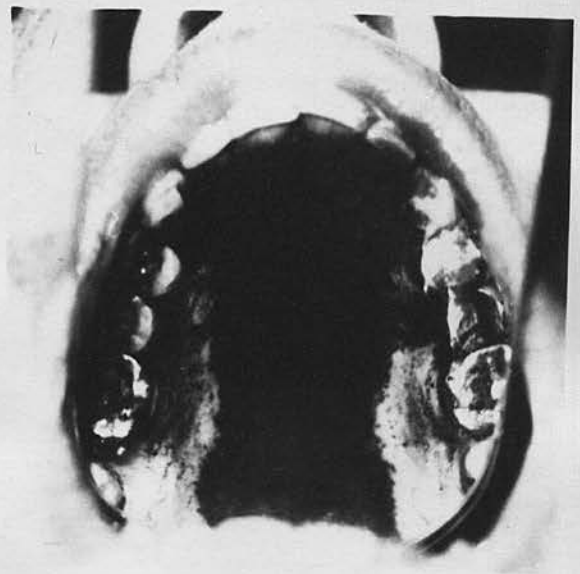
11. /*(h)a'ra(ɣ)*/ (the evil one)



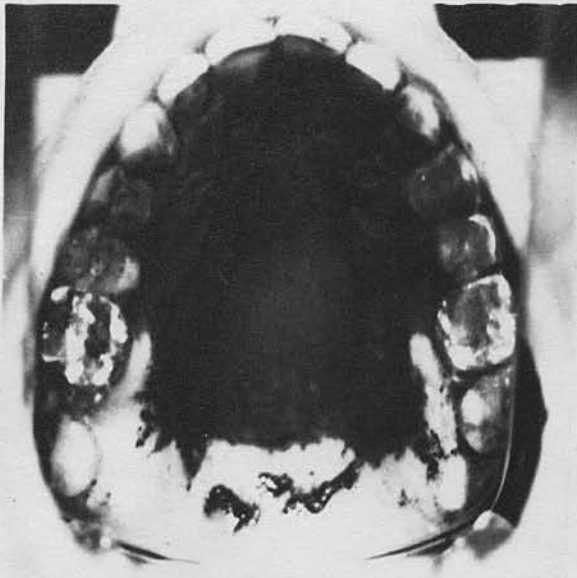
12. /*(ɣ)o'lo*/ (his yoke)



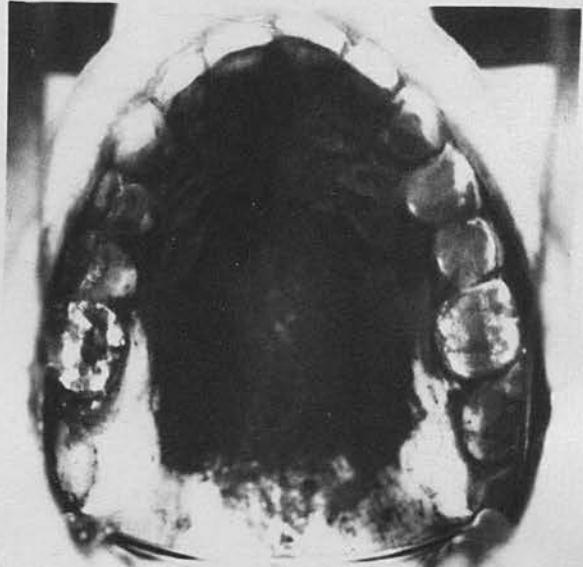
13. /*(ɣ)aʃ*/ (moth)



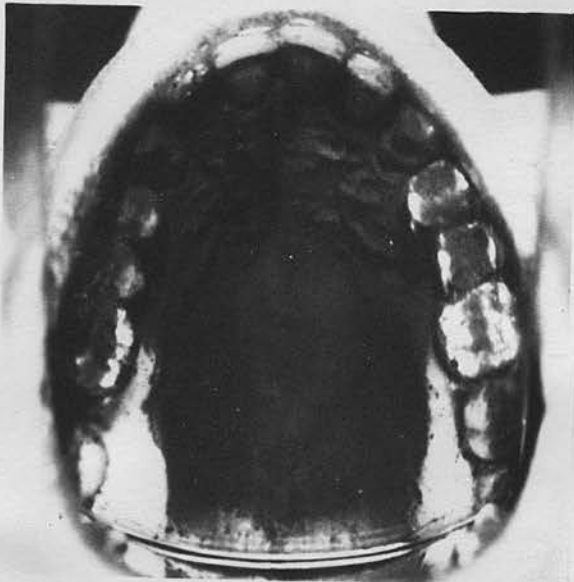
14. /*(h)a'ja*/ (it was)



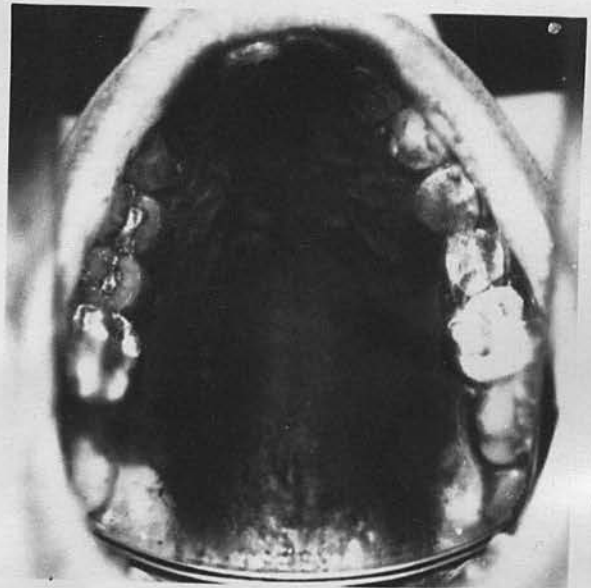
15. /'ka-/ (as, like the...)



16. /<sup>(h)</sup>a'ga/ (he conceived)



17. /'ex/ (how)



18. /<sup>(s)</sup>u/ (awake!)

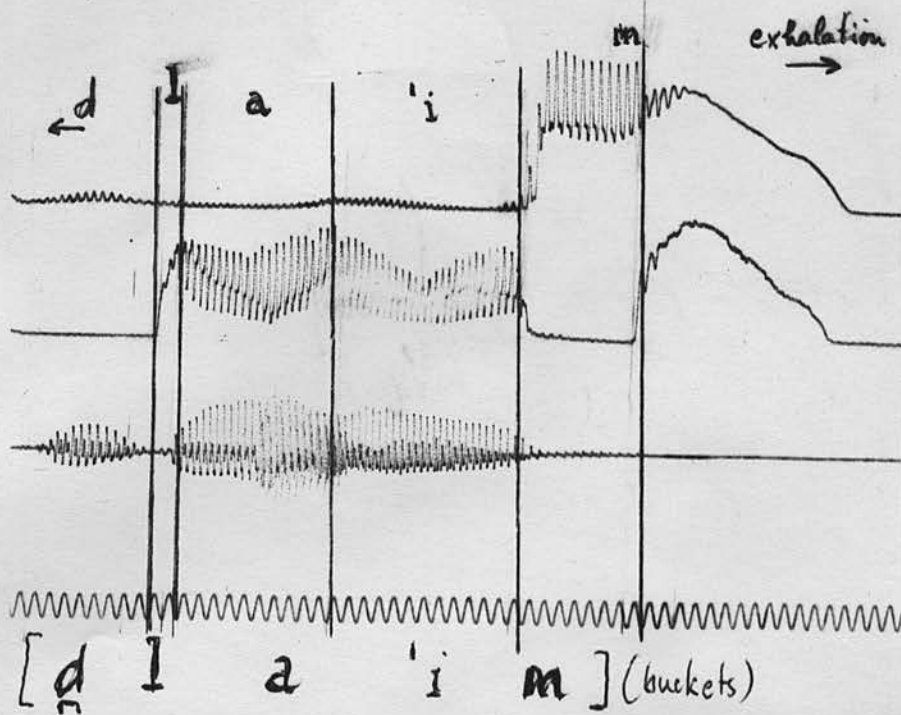
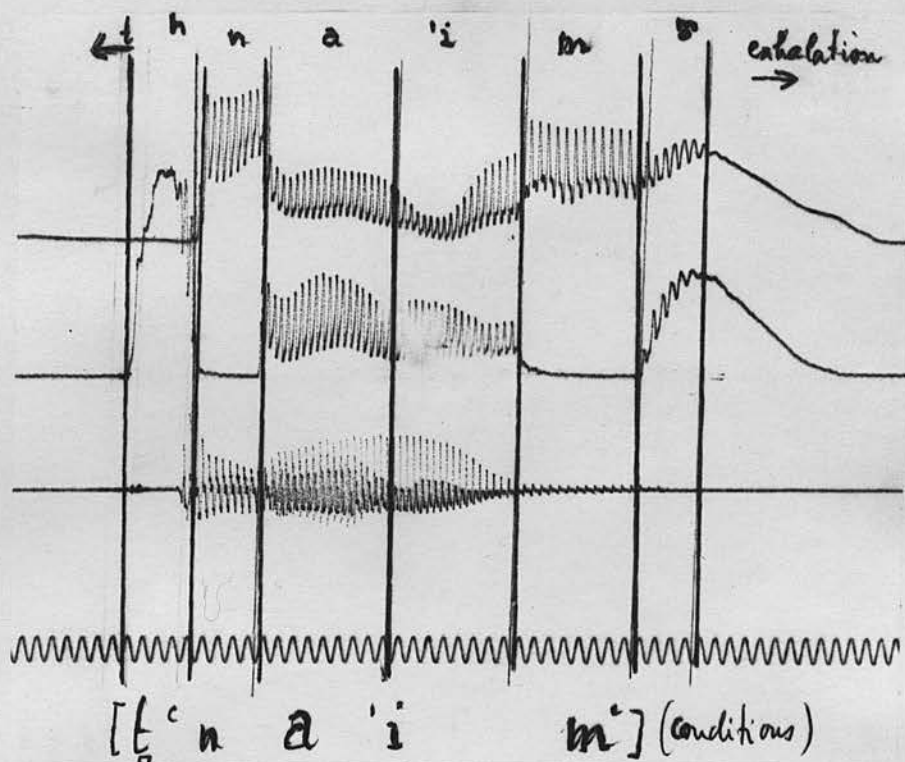


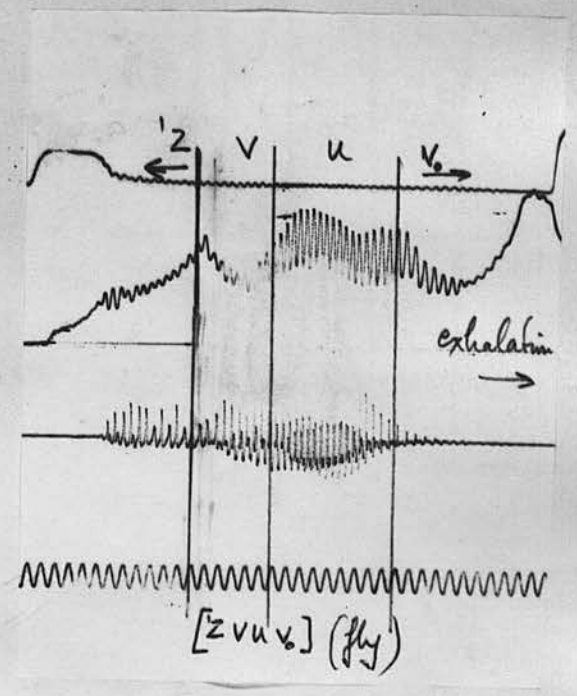
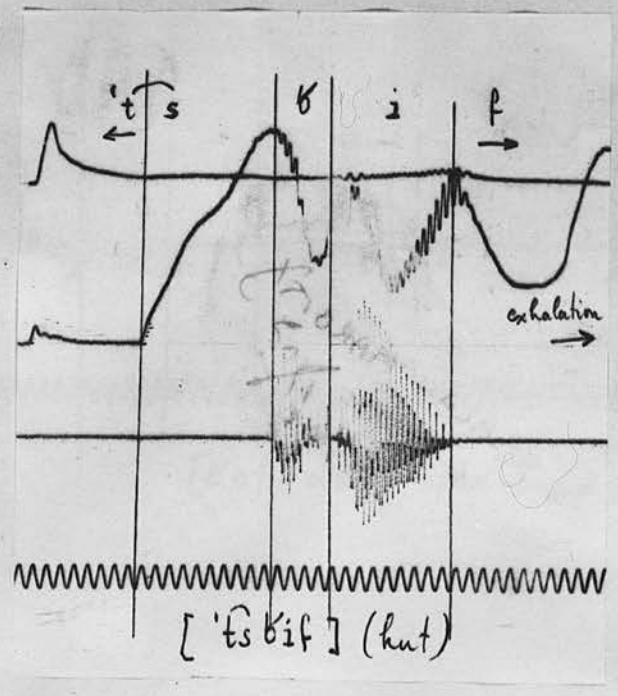
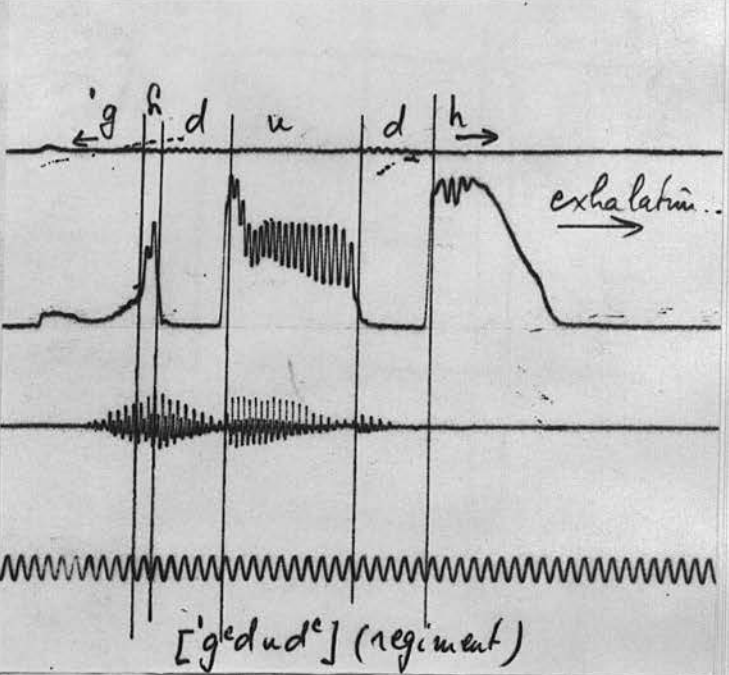
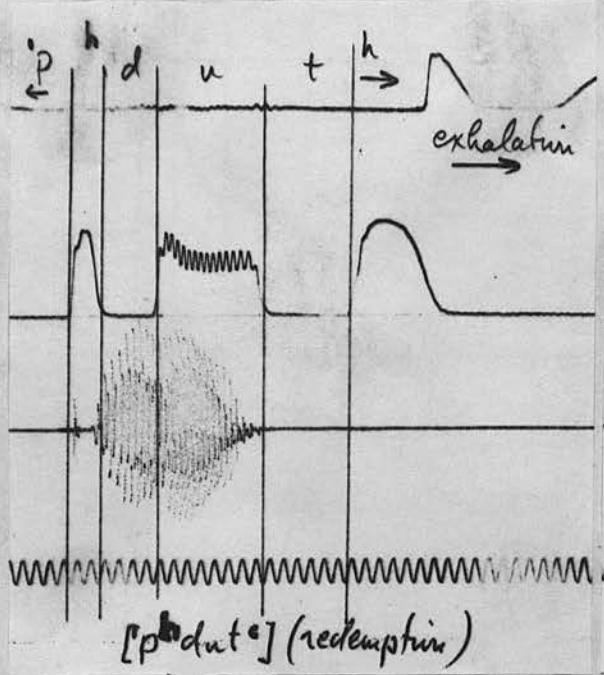


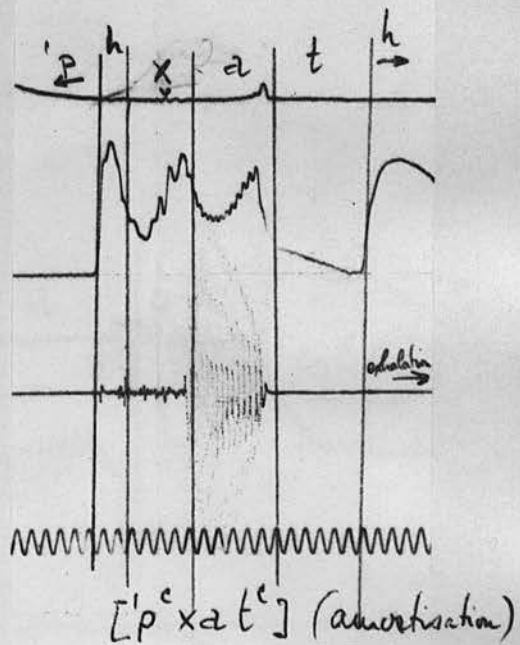
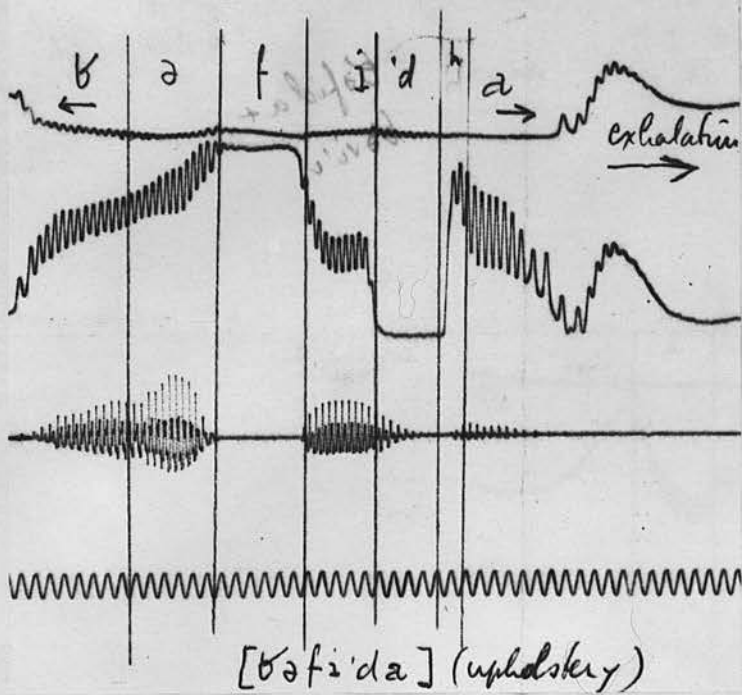
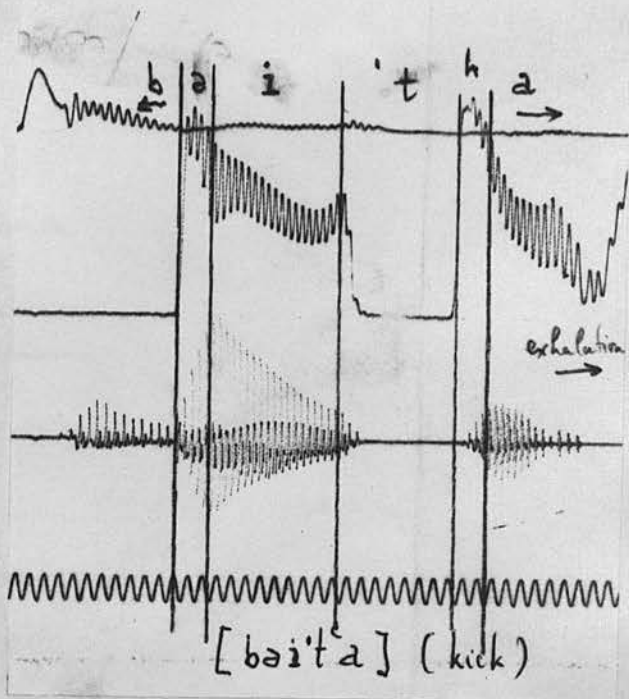
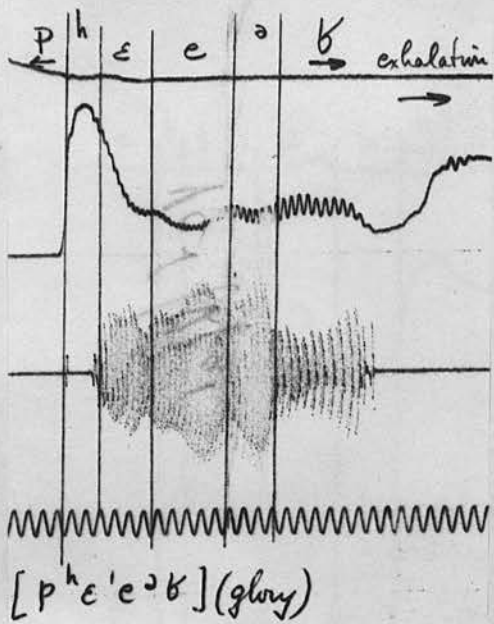
19. /'ho/

B. Kymograms

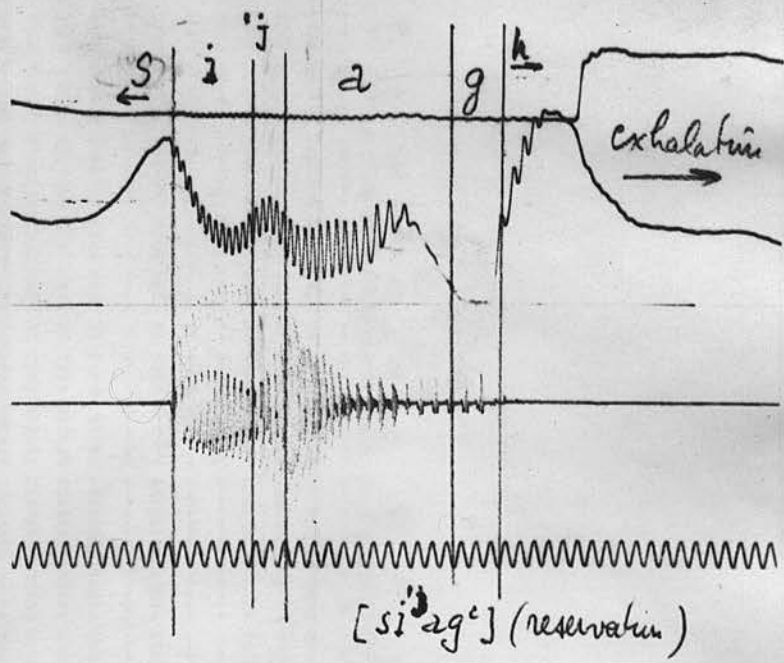
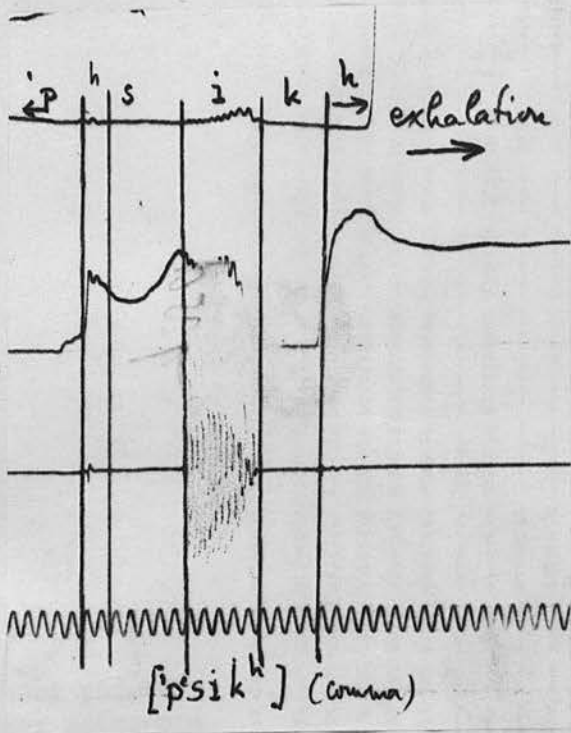
These were taken on a Frøkjær-Jensen Electro-Aerometer (Type A/M 508/4) connected to a 4-channel Siemens Oscillomink kymograph (nose air-flow out, mouth air-flow out, larynx state, and time: 50 c.p.s.) The Kymograms show quite clearly that the voiced/voiceless contrast for consonants generally holds true syllable-initially and -finally, as well as intervocalically.











C. Synthetic Speech.

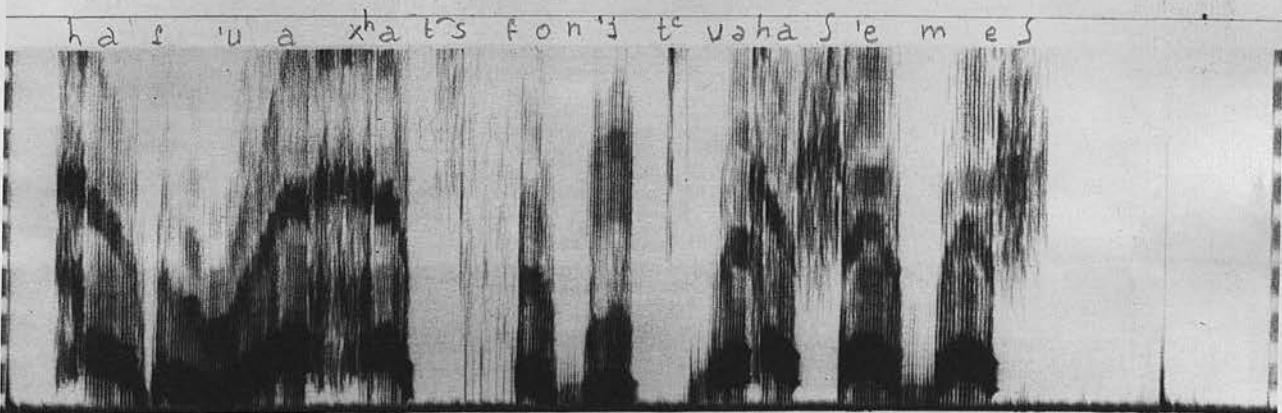
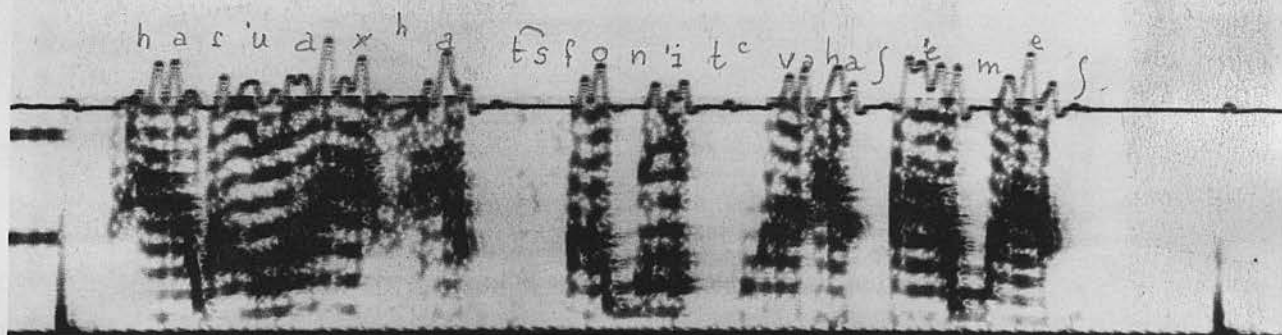
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2	10	10	10	10	10	1	1	1	1	10	15	10
3	10	10	10	10	10	1	1	1	1	10	14	10
4	10	10	10	10	10	1	1	1	1	10	14	10
5	10	10	10	10	10	1	1	1	1	10	13	10
6	10	10	10	10	10	1	1	1	1	10	12	10
7	10	10	10	10	10	1	1	1	1	10	12	10
8	10	10	10	10	10	1	1	1	1	10	11	10
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17	19	8	15	10	10	1	28	1	1	10	10	10
18	18	8	14	10	10	1	27	1	1	10	10	10
19	16	8	12	10	10	1	27	1	1	10	10	10
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33	9	5	15	10	10	1	29	1	1	10	17	10
34	11	6	15	10	10	1	29	1	1	10	17	10
35	12	6	15	10	10	1	29	1	1	10	18	10
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129	17	18	17	10	10	1	29	1	1	10	5	10
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2	10	10	10	10	10	1	1	1	1	10	14	10	0
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22	9	11	10	10	10	1	26	1	1	10	12	10	0
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25	3	13	12	10	10	1	16	1	1	24	11	10	0
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28	11	7	10	10	10	1	27	1	1	10	13	10	0
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64	16	13	17	10	10	1	29	1	1	10	12	10	0
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66	20	10	17	10	10	1	29	1	1	10	12	10	0
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75	11	5	14	10	10	1	1	1	1	25	4	14	10
76	11	2	14	10	10	1	29	1	1	10	14	10	0
77	12	4	15	10	10	1	29	1	1	10	14	10	0
78	12	6	16	10	10	1	29	1	1	10	14	10	0
79	11	9	18	10	10	1	29	1	1	10	15	10	0
80	10	11	19	10	10	1	29	1	1	10	15	10	0
81	3	10	19	10	10	1	24	1	1	10	15	10	0
82	3	10	19	10	10	1	24	1	1	10	15	10	0
83	3	10	19	10	10	1	24	1	1	10	14	10	0
84	3	10	19	10	10	1	24	1	1	10	14	10	0
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121	16	13	17	10	10	1	29	1	1	10	6	10	0
122	17	15	17	10	10	1	29	1	1	10	5	10	0
123	19	17	17	10	10	1	29	1	1	10	5	10	0
124													

D: SPECTROGRAMS.

Spectrograms 1-4 represent synthesised speech (for transcriptions and technical details see Appendix IIA, above) and spectrograms 5-6 represent the title of the diagnostic speech read by Reader 9 (for transcription, see Appendix IIB, Reader 9). Each spectrograph display features:

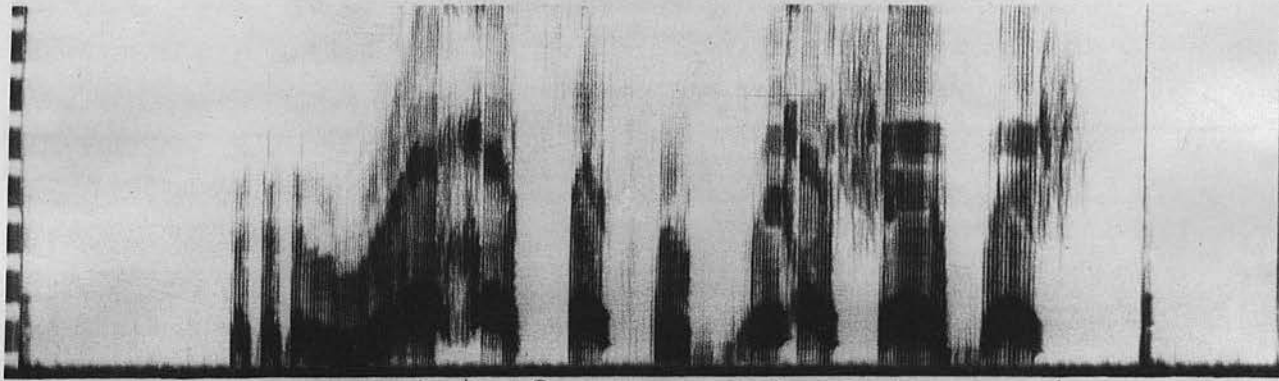
1. A 4,000 c.p.s. wide-band display to show the segment formants;
2. A narrow-band display to show the 3rd harmonic (for the intonation pattern).



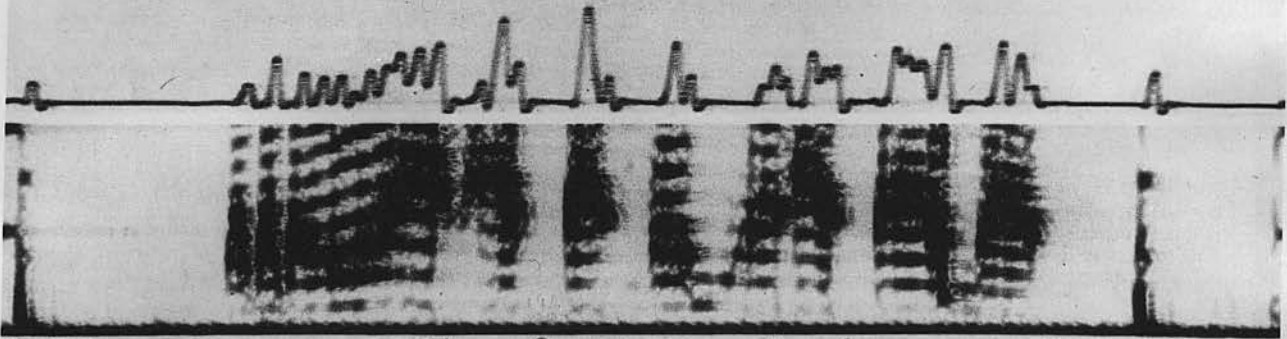
Spectrograms 1-2.

Synthetic speech - utterance 1: /ha-'ruax ha-t̂sfo'nit va-ha- /semeʃ/  
(the Northern Wind and the Sun) (see Appendix IIA).





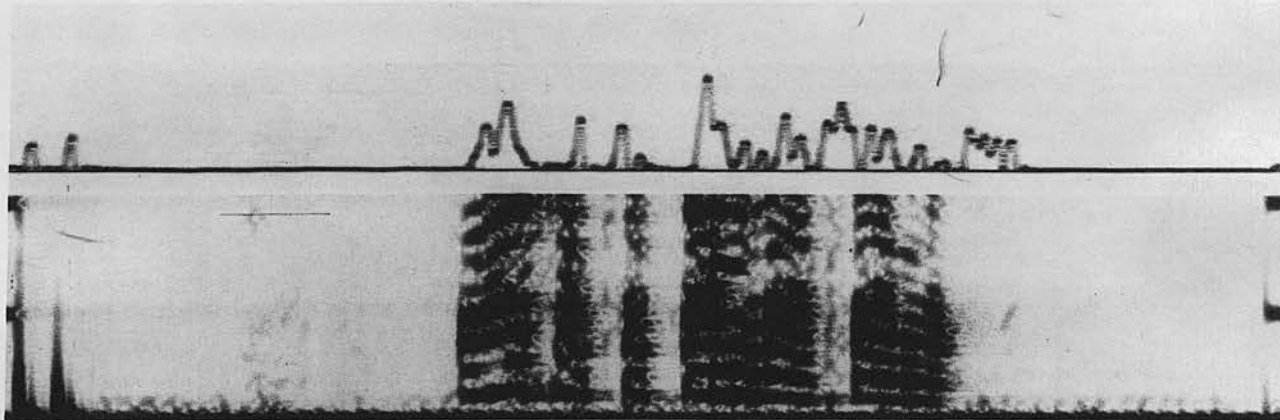
r u a x<sup>h</sup> a t s a f i o n v a<sup>h</sup> a s e m e s



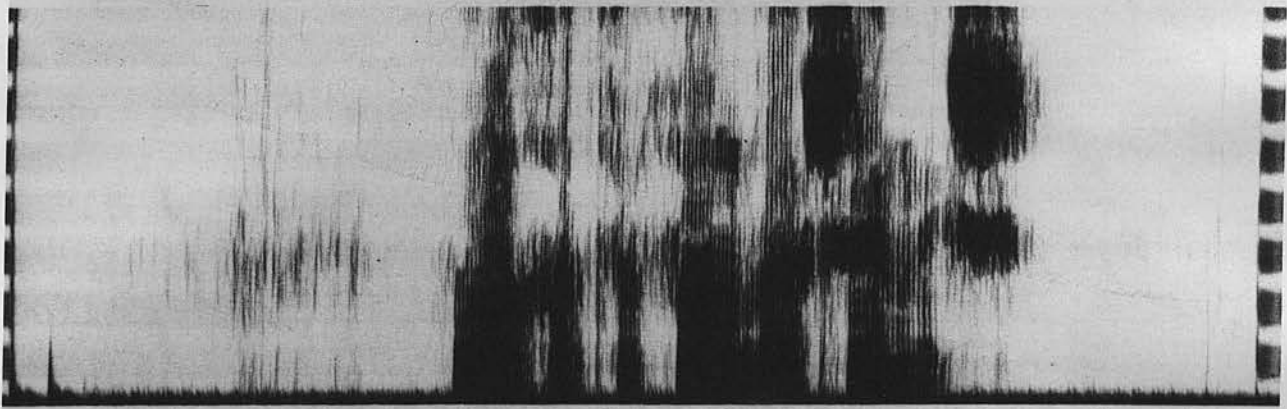
r u a x<sup>h</sup> a t s a f i o n v a<sup>h</sup> a s e m e s

Spectrograms 3-4

Synthetic speech - utterance 2: /'ruax ha-t̂sa'fon və-ha-<sub>s</sub>emeʃ/  
(The North Wind and the Sun) (see Appendix IIA).



ʔu axatʂaf'onvəaʂemeʂ



ʔu axatʂaf'onvəaʂemeʂ

Spectrograms 5-6

Title of Diagnostic Passage, Reader 9 (see Appendix IIB):

/'ruax ha-fʂa, fon və-ha-ʂemeʂ/

(see Appendix I)

E: TAPE-RECORDINGS.

These are attached separately to the present thesis, and are contained on three separate reels, with digit-counter indications (for numbers of separate sections) attached.

Tape 1 (5" reel) comprises 12 readings of "The North Wind and the Sun" in M.I.H. (for transcription and technical details see Appendix IIB) as well as 3 recordings each (at different speeds) of the 2 synthetic speech utterances (see Appendices IIA and IIIC).

This tape contains the following sections:

<u>Digit-Counter</u> <u>Reading</u>	<u>Item</u>
0 - 59	Synthetic Speech
65 - 132	Reader 1 (Alan Marbé)
137 - 178	Reader 2 (Dalia R.)
184 - 222	Reader 3 (Rachel N.)
226 - 263	Reader 4 (Rafaela S.)
267 - 309	Reader 5 (Reuven S.)
315 - 355	Reader 6 (Moshe P.)
356 - 382	Reading 6a (2nd version by Reader 6)
388 - 428	Reader 7 (Jonadav S.)
431 - 465	Reader 8 (Mira N.)
469 - 494	Reader 9 (Doron M.)
498 - 523	Reader 10 (Ahuva Ch.)
527 - 554	Reading 10a (2nd version by Reader 10)

Tape 2 (3" reel) comprises a reading of nine M.I.H. poems (for transcriptions, technical details and translation, see Appendix IIC).

This tape contains the following sections:

<u>Digit-Counter</u> <u>Reading</u>	<u>Item</u>
0 - 51	I. 1 Dalia Rabikovich - Time Caught in a Seine.
54 - 89	2 " " - Requiem after 17 years.
99 - 129	II. 1 Nathan Zach - Repentance.
134 - 150	2 " " - My Girl's a Little Woman.
155 - 186	3 " " - Fairy Tales.
190 - 229	III. 1 Nathan Alterman - The Smithy.
232 - 270	2 " " - Old House with Pigeons.
274 - 306	IV. 1 Abraham Shlonsky - Shepherd.
309 - 338	2 " " - And It Was Evening.

Tape 3 (7" reel) comprises two recorded conversations (for transcriptions, technical details and translation, see Appendix IID a and b).

This tape contains the following sections:

Digit-Counter  
Reading

Item

0 - 293  
299 - 1002

1 Glasgow conversation (6 minutes)  
2 Edinburgh conversation (22 minutes)