TURKISH LINGUISTICS TODAY

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EDITED BY

HENDRIK BOESCHOTEN AND LUDO VERHOEVEN

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PREFACE

Over the past decade Turkish linguistics has become a lively field of study, one that promises to yield new insights into the nature of the structure and use of language. In this volume an attempt is made to provide a basic understanding of current studies in the field. After a short introduction into the subject of modern Turkish, the following topics are dealt with: phonology, syntax, semantics, language acquisition and language variation. As such, the study of Turkish linguistics is not restricted to structural aspects. Attention is also given to the development and use of the linguistic code both in Turkey and in the diaspora context.

The editors wish to thank the other authors for their pleasant cooperation in the production of the present volume. They are also grateful to Pieter Nieuwint for his correction of the English text, and to Joop van Gent for his expert advice on problems of text processing.

Tilburg, October 1990,
the editors

INTRODUCTION

BY HENDRIK BOESCHOTEN AND LUDO VERHOEVEN

This book aims at offering an introduction into Turkish linguistics for advanced students with an interest in the field. We are convinced that it is of prime importance to combine the insights gained from traditional turkology with those developed in the framework of current linguistic theories. The thematic coverage should be broad enough to offer the interested reader a good and up–dated introduction to Turkish linguistics in general, and to a number of subdisciplines in particular.

Modern Turkish

The subject matter of this book is modern Turkish, which means that no diachronic or comparative depth is envisaged.[1] It is often claimed that the basis of modern written Turkish is "the Istanbul dialect", or, more precisely: "the language spoken by the educated in Istanbul". Naturally, this answer will be given by the specialists with a feeling of discomfort because it creates the illusion that Republican Turkish as a written language owes little, if anything, to the Ottoman written language and was mainly based on a specific variety of the spoken language. We think that there is a good case for arguing that Republican Turkish as a written language was introduced with the alphabet reform in 1928 as a transcribed form of 20th century Ottoman Turkish. On the various levels of language structure we can characterise the differences between the pre- and post-1928 written language as follows:

Phonology. The Latin alphabet introduced is close to phonematic on an eastern-Rumeli basis. Of course, no such thing was ever aimed at during the Ottoman period. It should be noticed that the new alphabet was designed on the basis of descriptions of spoken varieties of Ottoman Turkish currently employed by turkologists. Like most written languages with a longstanding tradition, 19th and 20th century Ottoman Turkish spelling exhibits a number of archaic features;

[1] State of the art reviews which take this dimension into account are Hazai (1978) and Hazai (ed., 1990).

most of the underlying phonological characteristics, however, are still widespread in the Anatolian dialects, like *sağır nun* /ŋ/, closed /ė/ and deviations from the strict rules of vowel harmony.

Morphosyntax and syntax. The inventory of suffixes used for nominal and verbal flexion remained unchanged, with the one notable exception of the Persian izafet-construction, which lost its productivity and remained in use only in lexicalised doublets, very few of which are still in use today. Even more remarkable is the fact that the rigid application of the canonical OV word order remained unchallenged. This rule does not reflect the situation encountered in any spoken variety of Turkish, but was well established in written Ottoman Turkish.

Lexicon and wordformation. On this level of the language, dramatic changes have taken place in the republican era. However, this development marks the evolution from Republican Turkish, as it was at the moment of the alphabet reform in 1928, to the modern language of today. Also, the changes have little, if any, connection with local Istanbul varieties of the language. Quite to the contrary, besides the large number of new forms created in the meantime, a number of provincial (Anatolian) forms were introduced in the vocabulary of the standard language as well. The word formation rules of Persian and Arabic origin in Ottoman times were used for the creation of terminology and as ingredients for poetic and flowery style varieties; as such they formed an important part of a veritable subsystem of foreign origin in the lexicon. These rules ceased to be productive after the alphabet reform and their place was taken by indigenous and newly developing ways of forming words. In fact, of all these "foreign rules" only the Persian izafet–construction can be claimed to operate freely as a syntactic rule; the rest forms part of the lexicon.

Style. Already during the second half of the 19th century intellectuals were demanding a simplification of the style. If the Ottoman society was to be modernized, clearly this could not be achieved without the spread of literacy. Of course these demands had lexical implications. Especially the more uncommon loanwords were thought to be harmful.

It is obvious that standard Turkish as a language variety has close links with Istanbul. In the first place the spelling adopted reflects a clear Eastern Rumelian bias. But Istanbul had been the political and

cultural capital of the empire for almost five centuries. Even if the government and some important institutions moved to Ankara, the city kept its place as the cultural capital of Turkey also under the Republic: it remained the center of journalism, publishing, theatre, etc. Therefore the emphasis laid on the localisation of the basis of the standard language in Istanbul gives clear proof of a feeling of continuity. Also, it seems to be somewhat conflicting with the Atatürkist principle of "populism", because no attention is paid to the characteristics of Anatolian Turkish, apart from a negligible small number of dialect words introduced in the standard language to replace loanwords.

It is fair to say that Modern Turkish started life as a transcription of Ottoman Turkish. It also inherited the reformist trends developing around the turn of the century. But if, in the meantime, the vocabulary of the written language has so much changed that in retrospect Ottoman Turkish almost seems to be a different language from today's standard language, this is caused by a development which took effect only after the alphabet reform.

The language situation in Turkey

The language situation in Turkey is often claimed to be rather homogeneous. This claim is based on the amount of regional variation exhibited by the majority language, Turkish. In reality, the ethnic pluralism which was so characteristic of the Ottoman Empire has left its traces in the Republic, although the non-Turkish element of the population has been greatly reduced by the catastrophic events connected with the World War I. Roughly estimated 15% of the total population of Turkey (50 million in 1986) does not have Turkish for a mother tongue. It is impossible to give exact numbers for most of the linguistic minorities in Turkey, because the census data are imprecise and unreliable for various reasons. A detailed survey of all the available information on the current situation is provided by Andrews (1989).

Among the minority languages[2], Kurdish is the largest with six million speakers at least (including Zaza-speakers). In the Southeast, along the border with Syria, Arabic is spoken by about 400.000 people. Laz and Georgian, two Caucasian languages, are spoken by an estimated 50.000 people each, most of them in the Northeastern Black Sea region. Istanbul (and to some extent, Izmir) still harbours size-

[2]Figures given are very rough (personal) estimates, based on the kind of data referred to in Andrews (1989).

able Greek (about 100.000), Armenian (60.000) and Sephardic-Jewish (40.000) communities; the latter group speaks Ladino (also called Judaeo-Español). These three non-moslim minorities are the only ones which are officially recognized: Their position is safeguarded by the Treaty of Lausanne (1923). Another christian minority is formed by the Syrian Christians living in the province of Mardin in the Southeast (some 50.000). They have sustained the Aramaic of biblical times as a written and ritual language; their spoken language has evolved from this and is called Turoyo.

Besides these indigenous minorities, over the centuries Turkey has received a great many refugees from the Balkans and from the Russian Empire. Because these groups were settled in villages scattered all over the country, and because they are moslims and often speak a Turkic language, they are more apt to be assimilated linguistically and culturally than the indigenous minorities. Nevertheless, an estimated 300.000 Cherkessians still speak their Caucassian language as a mother tongue. The Crimean Tatars, Turkmenians, Karakalpaks and other refugee groups often remain recognizable as special communities, but have been linguistically Turkisized. And during the last years, hundreds of thousands of Persian refugees have arrived in Turkey, many of whom will eventually stay in the country.

	Turkish	Kurdish	Turoyo	Arabic
Parents to each other	6	21	71	2
Informant to father	4	19	76	1
Informant to mother	3	9	87	1
Informant to husband	-	23	77	-
Informant to wife	-	9	89	2
Informant to brother/sister	3	14	80	3
Father to children	-	7	92	1
Mother to children	-	12	86	2

TABLE 1. Patterns of language use in Turoyo-speaking families.

Little is known about the use of minority languages in everyday life. The aftermath of the first world war has led to a Balkanisation of Turkey in matters of language policy; the use of Kurdish, by far the largest minority language, in public life is even prohibited by law. The

political climate is still decidedly discouraging for the study of minority languages and of language contact taking place inside Turkey. The only data available are those published by Sornig (1980) on the intricate multilingual situation the Syrian Christians of Midyat find themselves in. In interviews with 20 Turoyo-speaking informants he found that the use of Turoyo in family life was strongly dominant (see Table 1).

In all public schools in the Republic, Turkish is the language of instruction. As can be seen in Table 2 the level of school success is highly dependent on sex: in 1980 there were more than half as many men graduating in higher education than women.

	Male	Female
Illiterate	20	45
Literate without any diploma	18	15
Primary school graduates	44	31
Higher education graduates	18	9

TABLE 2. Population by level of formal education completed and sex.

Furthermore, the level of education is dependent on the region of residence of people. As is demonstrated in Table 3, the degree of illiteracy is much higher in urban provinces (e.g. Istanbul) than in rural sites (e.g. Kayseri), while in the eastern provinces the degree of illiteracy is still higher (e.g. Kars). There is also an interaction between the variables of region and sex: the more rural the site, the greater the differences between the two sexes in degree of illiteracy.

	Istanbul	Kayseri	Kars
Illiterate men	9	18	27
Illiterate women	25	45	61

TABLE 3. Distribution of literacy as a function of region and sex.

Turkish spoken outside Turkey

Outside Turkey's borders Turkish is primarily spoken in the Balkans and in modern industrialized countries. In the Balkans there are concentrations of Turks to be found in Bulgaria (800.000, cf. Eminov 1985), Macedonia (100.000), Bosnia, Western Thrace (30.000 according to the 1981 census) and Romania (23.000). Elsewhere, on Cyprus (150.000) and along the Syrian border and in the Kerkük-area (Irak). These populations have settled there during the past centuries for various reasons.

With respect to industrialised countries Turkey can for several decennia be characterised as a labour exporting nation helping these countries expand their industrial and economic power. Given the requirement of the labour demanding countries of educatedness, the educational status of Turkish migrant workers has always been above the average of the Turkish population. There are sizeable numbers of Turks working in Middle Eastern countries (225.000), and Australia (20.000).

	Workers	Unemployed and spouses	Children	Totals
Germany	590.623	287.377	584.400	1.462.400
Netherlands	47.326	38.137	36.249	121.712
France	38.000	20.695	34.077	92.772
Belgium	23.000	13.305	30.258	66.563
Denmark	9.327	250	6.264	15.841
Great Britain	3.000	1.000	2.000	6.000
Other EEC countr.	395	30	75	500
Austria	30.130	17.331	17.539	60.000
Switzerland	20.119	2.143	13.604	35.857
Sweden	7.000	1.024	8.181	16.205
Norway	1.370	163	719	2.251
Totals	770.290	381.446	733.366	1.885.102

TABLE 4. Distribution of Turkish migrants in Northern and Western European countries.

However, the largest concentrations of Turkish migrants can be found in Northern and Western Europe. At the beginning of the 1960's, Turkey responded to the request from countries in this part of the world for recruitment of labour for temporary employment. The wave of migration showed an increasing trend between 1961 and 1973. However, since then the migration rate of Turkish workers sharply dropped, mainly as a result of economic recession. After the economic decline new policies towards the integration of migrant workers were developed, permitting the reunion of families. As a result of this policy the migrants are no longer regarded as temporary work forces. Estimations by the Turkish Ministery of Labour indicate that in 1981 almost two million Turkish migrants were residing in Northern and Western European countries (see also Keyder & Aksu 1988). Their distribution is given in Table 4. Among the employed Turkish workers about 75 per cent were male.

Turkish linguistics[3].

Many descriptions of the language have been undertaken from the Middle Ages onwards. In the context of islamic philology Arab grammarian tradition provided the framework, while descriptions by westerners were naturally heavily influenced by Latin grammar. "Traditional Turkish grammar" therefore can be said to have double roots.

The first reference grammar was written by J. Deny (1921), a monumental work which contains extremely rich materials, but is based as much on data from centuries ago as on synchronic ones. The reference grammars most widely used outside Turkey are still those written by Kononov (1956) and Lewis (1967). Two grammars published in the United States, Swift (1963) and Underhill (1976) introduced new linguistic approaches, but are less complete as reference grammars for exactly the same reason: they are less concerned with total descriptive coverage than the former two, "traditional" ones, are. Also, during the last decades a number of standard grammars have been published in Turkey; the most important ones being Ergin (1962), Gencan (1972), Banguoğlu (1974), Ediskun (1963).

Turkish lexicography has flourished from pre-linguistic times on-

[3]For a comprehensive account of this field of research we refer the reader to Hazai (1978, p.76 ff.) This short review has been restricted to Republican Turkish proper. Other turkological works whose subject matter has bearing on our subject are not mentioned

ward: Count Meninski's *Thesaurus linguarum orientalium*, published in 1680 was one of the great achievements of 17th century European lexicography. The arrangement of that dictionary is still clearly reflected in the New Redhouse Turkish-English dictionary (first print 1968), a modernised version of Sir James Redhouse's original compilation published in 1890. Another standard dictionary is Steuerwald (1972, Turkish-German); the German-Turkish dictionary is the only really satisfactory dictionary from any language into Turkish. The first totally revised print of the Türkçe Sözlük (7° in 2 vols., 1983), the monolingual standard dictionary published by the Turkish Linguistic Society (TDK) since 1945, was the first descriptively adequate one, but has been taken out of sale for political reasons. In the meantime, a new edition has been prepared by the TDK.

For the phonetics of standard Turkish, Bergsträsser (1918) has long remained the main source of reference. During the last decades, the phonology of Turkish has been studied within various theoretical contexts. Especially the study of vowel harmony has played an important role in the development of phonological concepts (e.g., Waterson 1956, Lees 1961, Clements & Sezer 1982), but other issues such as compensatory lengthening, vowel epenthesis and stress assignment have triggered interesting debates.

Turkish syntax has been greatly neglected in turcology. The agglutinative type of the language has always enticed scholars to treat Turkish syntax as morphosyntax only. A number of problems were addressed by Andreas Tietze in the fifties and sixties, and Mundy (1955) presents quite a few interesting ideas. But that is about all. Since about 15 years, studies on Turkish syntax have mostly been pursued within the framework of generativist theory, and lately of Chomsky's government and binding theory. These studies have been developed in the United States.

The field of semantics and pragmatics comprises a broad range of topics, including the pragmatics of word order and case-marking, and tense, aspect and modality marking. These subjects have all been addressed in the traditional reference grammars. Lately, a number of monographs have appeared on various topics in a more theoretical perspective: Johanson (1971) on aspect, Nilsson (1985) on case-marking semantics, Erkü (1986) and Erguvanlı (1984) on word order, among others.

Acquisition of Turkish is a new field of research. Most of the work done has been inspired by Dan Slobin's cross-linguistic project

at Berkeley (cf. Aksu & Slobin 1985). Most issues addressed are concerned with the relation between language acquisition and cognitive development. Two monographs on early acquisition have appeared: Aksu (1978[a], revised edition in 1988) and Ekmekçi (1979). Even more recent are contributions on the acquisition of Turkish in bilingual settings in Western Europe (cf. Pfaff 1990, Verhoeven & Boeschoten 1986, Boeschoten 1990).

In the field of Turkish dialectology very few attempts have been made at a general review of the regional varieties. The first such attempt was made by Kowalski(1929/30) in a programmatic article. Though many more data on the regional variation of Turkish are available nowadays, this article remains the main attempt at formulating research methods so far. From the thirties onwards, the study of the Turkish varieties spoken outside the Republic, e.g. the Rumeli (=Balkan) dialects, has branched off from the studies concerned with Republican, e.g. essentially Anatolian dialects. Németh's famous monograph (1956) is generally accepted as containing the solution of the principal classificatory problems for Balkan Turkish. Another important step has been taken by Drimba, with his areal-linguistic research project on Turkish and Tatar in Romania (cf. Hazai 1978, 111). At the same time, due to Németh's work a lot is known about the connections of modern dialects with former stages of regional varieties.

The structural dialectology making headway in the fifties elsewhere, and new approaches in the study of language variation associated with sociolinguistics have completely passed Turkey by. The lack of data from these fields make it impossible to discuss them at all. But much energy has been spent on issues connected with the Turkish Language Reform; very little about the ongoing discussion has anything to do with linguistics at all. The synchronic study of language contact taking place in the Republic has completely been neglected. However, in a stream of articles the results of historical contact of Turkish with other languages in the form of loanword inventories have been analysed (Cf. Hazai 1978, Bibliography).

Since 1982 a forum has come into existence where the research questions from all fields of synchronic Turkish linguistics are discussed: the biannual "Conference on Turkish Linguistcs" (Türk Dilbilim Konferansı). The proceedings of the first four conferences have been published in Slobin & Zimmer (1987), Aksu-Koç & Erguvanlı-Taylan (1986), Boeschoten & Verhoeven (1987[a]) and Koç (1990).

In the present volume a state of the art review is given on the study of structure and use of Turkish. Harry van der Hulst & Jeroen van de Weijer address various topics in Turkish phonology. They present a synopsis of general facts, such as the phonemic inventory, syllabic structure, stress pattern and phonological rules. Besides, they extensively treat the phenomenon of Turkish vowel harmony. Jaklin Kornfilt discusses some current issues in Turkish syntax. She focuses on four broad topics that are of theoretical interest: binding theory, relative clauses, the configurationality hypothesis and the unaccusative hypothesis. The study on Turkish semantics is revisited by Birgit Nilsson. She goes into the subjects of tense, aspect, modality, case and word order. Ludo Verhoeven deals with the acquisition of Turkish. He gives a review of studies on Turkish language development in both a mono- and a bilingual setting. Finally, Hendrik Boeschoten discusses various aspects of language variation. He focuses on both dialectology and the language reform movement.

TOPICS IN TURKISH PHONOLOGY

BY HARRY VAN DER HULST AND JEROEN VAN DE WEIJER

INTRODUCTION

In this chapter[1] we offer a discussion of some aspects of the phonology of Turkish. Turkish phonology has played a significant role in theoretical discussions on the nature of phonological representation and rule formalism. In particular, the formal description of vowel harmony has attracted a considerable amount of attention in the phonological literature since the 1940s, and we, too, will devote a separate section to this topic.

First, we provide a synopsis of the general facts of Turkish phonology. Besides giving an overview of the phonemes of Turkish, we illustrate its syllabic structure and stress pattern. We also present a number of the phonological rules of Turkish, all of which have received earlier treatment in the literature, in particular, compensatory lengthening. In addition, Turkish vowel harmony is focussed on. We lay out the basic facts, discuss some of the earlier analyses, and then provide our own account, which departs from the earlier approaches mainly by availing itself of unary components which may extend over suprasegmental domains like the word.

THE PHONEMIC INVENTORY

Vowels

Turkish has eight vowel phonemes, which may be plotted on the familiar triangular vowel diagram as follows (cf. Lass 1984, 145; Maddieson 1984, 277):[2]

[1]ACKNOWLEDGEMENTS: We should like to thank Colin Ewen, Willebrord Sluyters, Joke Wolf and the editors of this book for their careful reading of a pre-final draft of this article, and for their assistance in preparing the final version. For remaining errors we take full responsibility.

[2]For reasons of typographical convenience we use /i ü u ı o e ö a/, and /c ç ş j y/, following the Turkish alphabet instead of the International Phonetic Alphabet.

[1]

high	i,ü			u,ı
mid			o	
lower mid		e,ö		
low			a	

Following all earlier writers (e.g. Jakobson 1942), we assume that the vowels pattern phonologically into a set of four high and four low vowels, in which /a/ is classified as back. We thus obtain the following rectangular vowel inventory.

[2]

	front		back	
	non-round	round	non-round	round
high	i	ü	ı	u
low	e	ö	a	o

There are also long vowels, which come from two sources (Underhill 1986[a], 10): Arabic and Persian loans have introduced the long vowels /a: e: i: u:/, and thus we find *sakin* [sa:kin] 'quiet' vs. *sakın*= [sakın] 'beware', etc. In native words, long vowels have also arisen through the loss of a voiced velar fricative, which is preserved as such in various dialects of Turkish and closely related languages, and appears in the current orthography as *ğ* ('yumuşak ge'). We might assume an underlying /γ/ phoneme, which disappears intervocalically, creating a bisyllabic two-vowel sequence: *ağaç* [aac] 'tree', *eğer* [eer] 'if', etc., with merger into a long vowel in fast speech. In syllable-final position, the loss of this abstract phoneme causes lengthening of the preceding vowel: *dağ* [da:] 'mountain', *tuğ* [tu:] 'banner', *iğne* [i:ne] 'needle'. We will return to this process below (p. 33).

Underlying long vowels shorten in closed syllables (cf. p. 37), although when derived they can occur in closed syllables (cf. p.29ff.). Long vowels do not occur before vowel-initial suffixes: vowels of native suffixes are deleted in that situation, and vowels that become long as a result of compensatory lengthening do not arise in this position. Morpheme-internally, however, long vowels may occur before short vowels (Sezer 1981, 380):

[3] *şa:ir* 'poet'
da:ima 'always'

This shows that there is no surface constraint against /V:/ followed by /V/ as such.

The best known process with respect to vowels is vowel harmony, which is extensively discussed in the second part of this chapter.

Consonants

The consonantal system is as follows (again we use orthographic symbols):

[4]

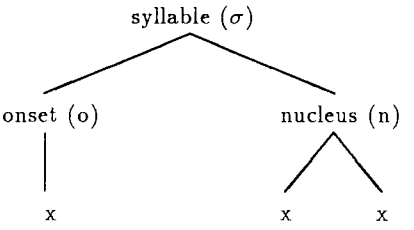
	labial	labio-dental	dental	palato-alveolar	palatal	velar	glottal
voiceless stop	p		t	ç		k	
voiced stop	b		d	c		g	
voiceless fric.		f	s	ş			
voiced fric.		v	z	j			
nasal	m		n				
liquid			l,r				
approximant					y		h

Some consonants, notably /k g l/, have two allophones, one palatal (given as /k'/, etc. in our transcriptions) and one non-palatal. The distribution of these is determined by the frontness or backness of neighbouring vowels; we will discuss this below (p. 57). The evidence for recognizing phonemically distinct palatal and non-palatal consonants is slight. In loans from Arabic, the original velar stop is consistently replaced by a front /k/ in Turkish, and the uvular Arabic /q/ by a back velar. As a result, front velars may appear with back vowels, as in /k'ar/ 'profit', which contrasts with the native word /kar/ 'snow'. The same goes for palatal /l/, as in *hal* /hal'/ 'condition', which is a near-minimal pair with the native word /bal/ 'honey'. Underhill (1986[a]) recognizes /k' g' l'/ as phonemes of the language.

Syllable structure

The canonical structure of Turkish syllables is (C)V(C). We will adopt the following view of internal syllabic structure:

[5]



In careful speech, Turkish may have more complex consonant clusters word-initially and word-finally. Word-initial clusters, usually in borrowings, may especially in more casual speech styles be made to conform to the phonotactics of the language by breaking up the clusters by vowel insertion. In [6] we give some examples, taken from Clements & Sezer (1982):

[6]	*grup*	→	*gurup*	'group'
	kral	→	*kıral*	'king'
	prens	→	*pirens*	'prince'
	smok'in	→	*sımok'in* ~ *simok'in*	'dinner jacket'
	kreş	→	*kıreş*	'creche'

The epenthetic vowel usually harmonizes in frontness with the following root vowel after labial- and dental-initial clusters, but is typically back after velar-initial clusters.

Another way of treating word-initial clusters appears to consist of the prothesis of a (usually harmonic) /i/ or /ı/ before the onset (typically /sp-, st-, sk-/), shifting the syllable boundary. Thus Steuerwald (1972) lists:

[7]	*ıspanak*	'spinach'
	ıstatistik	'statistics'
	iskelet	'skeleton'
	istaka	'billiards cue'

Syllables can be closed or open. Word-finally the following consonant clusters are allowed (cf. Clements & Sezer 1982, 245):

[8]	(i)	sonorant+obstruent	*k'ent*	'city'	*harf*	'letter'
	(ii)	voiceless fricative+stop	*çift*	'couple'	*şevk'*	'fervour'
	(iii)	*k + s*	*raks*	'dance'	*boks*	'boxing'

Other final clusters are simplified in various ways; cf. p.25.

Kaye (1989) offers an analysis of syllable structure in which *empty* syllabic *nuclei* are postulated in such words as *meraklar* 'curiosities', deriving the shortening of long vowels from the presence of such empty positions, rather than as a result of syllable closure. We will not participate in this discussion, and return to the effect of syllabic structure on stress in the next section.

In the recent phonological literature many cases have been discussed in which morphological operations are sensitive to prosodic (usually syllabic) conditioning such that the input or output has to be of a particular syllabic shape. Itô & Hankamer (1989) explain certain facts about Turkish by assuming that there is a constraint ruling out monosyllabic derived words. Even though monosyllabic words like *yen=* 'conquer' and *kon!* 'alight! (like a bird)' are present in the language, derived passive imperative forms like **ye-n=* 'be eaten' or **ko-n=* 'be put' are reported to be ill-formed. Similarly, 1sg POSS forms of CV words (such as the names of the musical notes), are bad, e.g. **do-m* 'my do'. In addition, they suggest that the distribution of the allomorphs of the aorist suffix (which varies between /-Ir/ and /-Er/) can be explained if this word-size constraint is adopted. We refer to their paper for further discussion.

Stress

In this section we offer a discussion of stress in Turkish, which according to Underhill (1976) and Lewis (1967) is most accurately described as having a pitch accent system, with a high tone on the accented syllable. We will continue, however, to use the term stress.

Regular word stress and suffixation

Stress falls on the final syllable of a word, whether simplex or derived.[3]

[9]		
	tanı́=	'know'
	tanı-dı́k	'acquaintance'
	tanı-dık-lár	'acquaintances'
	tanı-dık-lar-ím	'my acquaintances'
	tanı-dık-lar-ım-íz	'our acquaintances'

[3]Irregular word stress, and its relation to the regular stress rules, is discussed in the next section.

The examples in [9] (taken from Sezer 1983) nicely illustrate this point. The last item here is generally considered to have two suffixes, together expressing the first person plural possessive morpheme. The crucial question to be asked is whether the rule for assigning stress applies once, at word level; that is, after all affixes have been attached. This would require a word stress assignment rule along the lines of [10]:

[10] Word-level
Stress the rightmost syllable

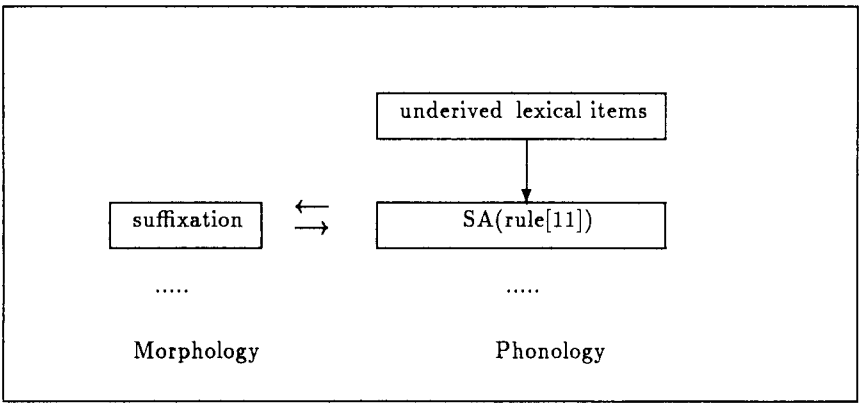
While this immediately derives correct stressing for all the forms in [9], there is another option. This is to assume a CYCLIC stress rule, that is, a rule which applies every time when attachment of a suffix has taken place. Barker (1989) shows convincingly that the latter approach has advantages in accounting for exceptional suffixes (which may give rise to non-final stress or secondary stress) and exceptional word stress. In the remainder of this section we sketch Barker's approach to the Turkish stress system, and point out some matters that further investigation might focus on. We shall emphasize how the different rules fit into a model of LEXICAL PHONOLOGY (Kiparsky 1982, ref. cit., and subsequent work), in which morphological operations such as suffixation and compounding are interspersed with phonological rules.

Barker (1989) deals with the patterns in [9] by assuming that the following stress rule applies both to underived lexical items when they enter the morphophonological part of the lexicon, and after every instance of suffixation:

[11] Stress Assignment (SA)
Stress the rightmost syllable

Note that stressing is independent of the WEIGHT of the syllable: it does not matter whether the final syllable is 'light' (ending in a short vowel, like /tanı/) or 'heavy' (ending in a long vowel or consonant, like the nominalizing suffix /-dık/). This part of the lexical phonology of Turkish may therefore be represented as in [12] (cf. Kiparsky 1982, fig.1). Thus, the form /tanı=/ in [9] will enter as an underived lexical item, undergo the stress rule SA [11] and, when unsuffixed, exit the lexicon as /taní=/.

[12] LEXICON (PARTIAL)



To derive /tanıdík/, Barker assumes that the morpheme /-dık/ is attached to the stressed form /taní=/, and that the whole form then again receives stress as a result of rule [11]. This will result in /tanıdík/, with the last two syllables stressed. As is well-known, sequences of stressed syllables form a 'stress clash', which is an undesirable situation cross-linguistically. Prince (1983), among many others, argues that such a situation can be resolved by STRESS CLASH RESOLUTION (SCR). We do not examine the manifold devices that have been suggested to represent SCR, but adopt Barker's formalization for SCR in Turkish, which is given in [13]:

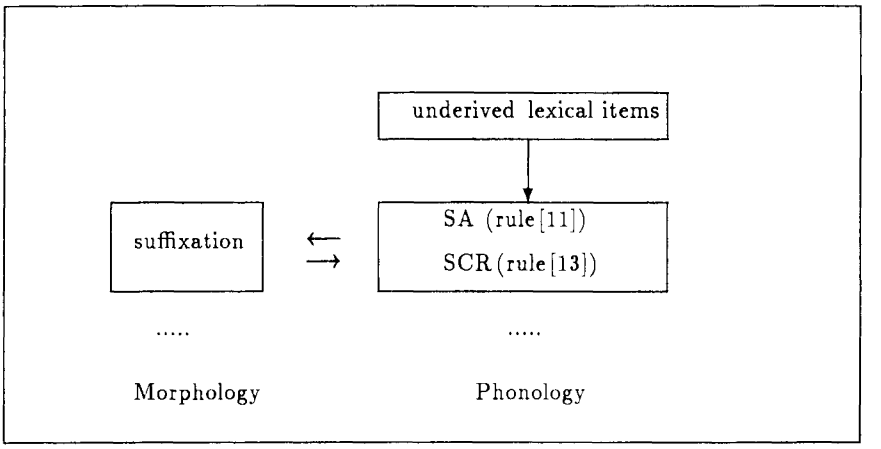
[13] Stress Clash Resolution (SCR)

$$\begin{array}{cccccc} x & x & & & & x \\ & & & \rightarrow & & \\ \sigma & \sigma & & & \sigma & \sigma \end{array}$$

The x's in [13] indicate the stress or 'grid' marks that a rule like SA [11] assigns to individual syllables. Stress rules may delete or add grids on syllables, while the more grid marks a syllable receives in the course of the derivation, the more prominent it will be when words are given phonetic interpretation. What rule [13] does is remove the leftmost of two grid marks on immediately adjacent syllables. The result is that every time a suffix is added to a stem, SA [11] creates a stress clash like /tanıdık/, which is then immediately resolved by SCR [13], which is therefore ordered after SA [11] at the same level in the lexicon. This

accounts for the facts in [9], while advantages will be considered below. We incorporate SCR [13] in the model of Turkish lexical phonology:

[14] LEXICON (PARTIAL)



The characterization of stress up to now, and in particular the close cooperation between SA [11] and SCR [13], has an immediate and desirable result. All polysyllabic suffixes in Turkish are reported to be exceptional (e.g. Lewis 1967, 23). Main stress falls either on the syllable preceding the suffix, as in:

[15] *akşám-leyin* 'at evening'

or on the first syllable of the suffix itself, as in:

[16] *yap-árak* 'by doing'

For the former case, the derivation goes precisely the same as before: /akşam/ is stressed on the final syllable when it enters the interactive component of the lexicon. When /-leyin/ is attached, SA [11] applies anew, creating /akşámleyín/. Because the structural description of SCR [13] is not satisfied (recall that this rule only applies to *immediately adjacent* syllables), formally there is no stress clash. A word-stress rule decides which of the two equally prominent stresses that have been assigned is going to be most prominent. This rule, given in [17], and its place in the lexicon, will be further discussed below:

[17] Word Stress (WS)

Of two equally prominent stresses, select the leftmost as the most prominent.

WS [17] will result in /akşámleyin/. No secondary stress is reported on the final syllable in this word. This may be due to the fact that there would be only one syllable in between the potential stresses, which would almost be a clash situation, so that some sort of clash resolution would be expected. However, we are hesitant to resort to such a solution, as the whole situation with regard to secondary stresses in Turkish requires a more thorough, instrumental investigation (cf. also below).

For the second case of polysyllabic suffixes triggering an exceptional stress pattern, such as /yap–árak/, Barker assumes EXTRAMETRICALITY of the final syllable of the suffix. This means that a stress rule (in this case SA [11]) will not 'see' this syllable when dealing out grid marks to a form. The extrametrical syllable will be skipped, and the one-but-rightmost syllable receives the mark. All rules apply as normal, and extrametricality is lifted on the next cycle (see Barker 1989 for an extensive discussion of the relevance of the case of Turkish for the theory of extrametricality). Thus, /yap=/ is assigned stress by SA [11] on entering the lexicon, giving /yáp=/, after which the suffix /-arak/, which is marked for final syllable extrametricality, is added. The second time that SA [11] comes round, it creates /yápárak/, resulting in a stress clash, which is regularly resolved by SCR [13] to give the correct output form /yapárak/. Below, we will see that final syllable extrametricality also plays a role in the irregular part of the underived vocabulary. Given the fact that there are polysyllabic suffixes that have final syllable extrametricality, it is not surprising that there are also a number of exceptional suffixes that have only one syllable (see Barker 1989, 15 for a tentative list). As expected, primary stress appears on the syllable immediately preceding the exceptional suffix, while a secondary stress may occur on the final syllable.

[18] a.	*tanı́–[ma]–dık–lar–ım–ìz*	'those we do not know'
b.	*tanı–dık–lar–ım–íz–[mı]*	'our acquaintances?'
c.	*koalisyón–[la]*	'with coalition'

In [18], we give some examples (taken from Barker), where the exceptional suffix is bracketed. Main stress precedes these 'unstressable suffixes', while the final syllable (e.g. [18a]) bears a secondary stress

when the relevant suffix is inside the word. Barker accounts for these forms in the same way as for the polysyllabic suffixes, namely by assuming that the suffix as a whole is extrametrical at the cycle at which the suffix is attached. The other suffixes trigger SA and SCR as before. Because of the medial extrametrical syllable, the absence of stress clash results in two stresses being assigned in [18a], of which the leftmost will be most prominent according to the word stress rule [17] given above. We shall not further investigate forms in which exceptional and regular suffixes occur side by side, as in particular the secondary stressing in these (often elaborately construed) words needs further phonetic and psycholinguistic investigation.

Sezer (1983) points out that adverbs in *-en* are irregular:

[19]	*nákt–en*	'in cash'
	iktısád–en	'economically'
	esá:s–en	'basically'
	tekéffül–en	'by surety'
	hakí:kat–en	'in truth'
	nísbet–en	'proportionally'
	münhásır–an	'specially'
	müştérek–en	'mutually'
	ayríyet–en	'separately'

The adverbial suffix is never stressed (hence marked extrametrical) and the stem requires a stress rule which assigns stress to a final heavy stem syllable and to the antepenultimate otherwise. Barker (1989, 9) asserts that the *-en* suffix is far from productive. This stress pattern may be typical of adverbs, which according to Lewis (1967, 22) are usually stressed on the first syllable; his examples are also compatible with the generalization made on the basis of [19], however:

[20]	*şímdi*	'now'
	sónra	'after'
	évvela:	'firstly'
	ánsız or *ánsızın*	'suddenly'

The diminutive suffix *-cIk* shows a similar exceptionality (cf. Lewis 1967, 23). Attachment of such exceptional suffixes could presumably take place at Level I, but we have not investigated this matter.

Exceptional word stress

Sezer (1983) presents a thorough overview of Turkish words that do not conform to the regular Turkish stress pattern of final stress. These words are mainly though not exclusively native and foreign place and personal names, and recent borrowings. Although these borrowings may conform to segmental aspects of Turkish phonology, their stress pattern is deviant. This class of items has also been drawn attention to and analysed by Kaisse (1985). In [21] we list some of the examples, taken from Sezer (1983) and Barker (1989), arranged according to the weight of the final syllables (cf. above). The lowered dots represent syllable boundaries. Note that /vr-/ [21c] is not a permissible syllable onset, so that *şevrole* must be syllabified as it stands.

[21] a. antepenult light, penult light, final heavy or light

O.dí.pus	'Oedipus'
Gö.ré.me	'Göreme'
Ke.né.di	'Kennedy'
Pi.to.lé.mi	'Ptolemy'
İn.di.ya.na.pó.lis	'Indianapolis'

b. antepenult light, penult heavy, final heavy or light

Sa.mu.él.son	'Samuelson'
Va.şíng.ton	'Washington'
lo.kán.ta	'restaurant'
Ha.li.kár.nas	'Halicarnassus'

c. antepenult heavy, penult light, final heavy or light

Án.ka.ra	'Ankara'
şa.mán.dı.ra	'buoy'
pén.ce.re	'window'
şév.ro.le	'Chevrolet'

d. antepenult heavy, penult heavy, final heavy or light

Men.dél.son	'Mendelssohn'
Kam.çát.ka	'Kamchatka'
Ay.zın.hó:.ver	'Eisenhower'

The generalization here is clear, as both Sezer and Barker note:

[22] In this set of words, stress *never* falls on the final syllable. If the antepenult is heavy and the penult is light, stress falls on the antepenult; otherwise it falls on the penult.

The formal expression of this generalization has triggered a debate in which, amongst others, Kaisse (1985), Hammond (1986), Barker (1989) have participated. There is widespread agreement that the stress rule for this irregular class operates on words whose final syllable is marked extrametrical. It constructs quantity-sensitive iambic (i.e. right-dominant) binary feet, scanning from right to left. Let us refer to this as 'Iambic Footing'. Thus, stress assignment is weight-sensitive for this class of words, in contrast to the regular vocabulary. A quantity-sensitive foot is defined as a foot which will not tolerate a heavy syllable for its weaker half. The extrametricality requirement and foot building operation will result in the following derivations for examples from [21], where we use 'bracketed grids' to represent the foot constituents:

[23] a. *o.dí.[pus]* : final syllable extrametrical
(. x) : /o/ is not heavy: iambic foot is built

b. *sa.mu.él.[son]* : final syllable extrametrical
(. x) : /mu/ is not heavy: iambic foot is built

c. *án.ka.[ra]* : final syllable extrametrical
(x) (.) : /an/ cannot be weaker half of an iamb, so that /ka/ is skipped, and a foot is built on /an/.

d. *men.dél.[son]* : final syllable extrametrical
(x) : /men/ cannot be weaker half of an iamb, nor can /del/: only /del/ is incorporated

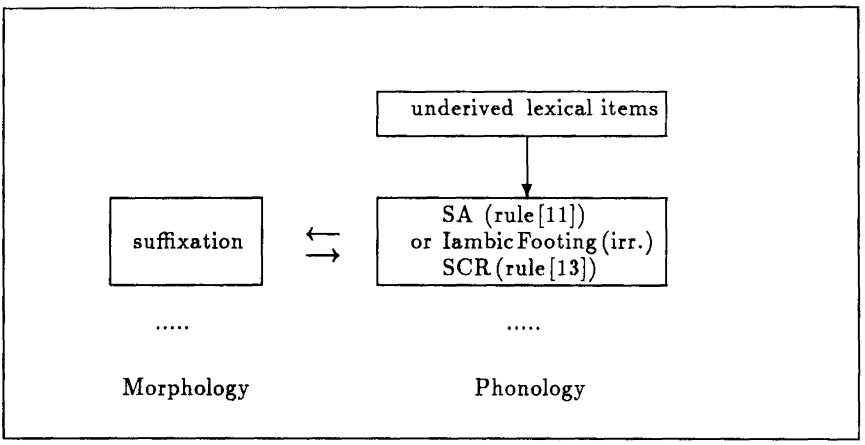
We do not go into the conventions that play a role when foot building cannot proceed unobstructed as a result of the weight considerations

exemplified in [23]: like Barker, we refer to Hayes (1987) for discussion. It is interesting to note that the regular portion of the vocabulary differs from the place and personal names and recent borrowings in at least two respects: first, the irregular items have final syllable extrametricality, and, second, the irregular items show (quantity-sensitive) foot building. Further theorizing must establish whether these two differences can be reduced to the setting of one parameter. We now turn to the question of the interaction of the stress rule for the irregular portion of the Turkish vocabulary, Iambic Footing, with the other stress rules (cf. SA [11] and Word Stress [17] above). It turns out to be the case that the irregular stress rule affects its applicants at the same point of the derivation that SA [11] affects the regular items. Consider a suffixed form like

[24] *ánkara-lı-dàn* 'from the Ankaranian'

A secondary accent appears on the final syllable. To account for this pattern, we assume (with Barker, p.13) that the place name *Ankara* is first stressed according to the iambic foot construction conventions outlined above, which results in a grid mark on the first syllable /an/ (cf. [23c]). Then the (regular) suffixes /lI/ and /dAn/ are attached, being successively subject to SA [11].

[25] LEXICON (PARTIAL)



SCR [13] removes the leftmost of the grid marks on the final two syllables, and Word Stress [17] says that the leftmost of the two remaining grid marks will be stepped up one, i.e. be most prominent in phonetic representation. We can therefore incorporate Iambic Footing into the lexical model in [25].

The remaining rule to be incorporated in the lexical model is that of word stress, repeated in [26] for convenience:

[26] Word Stress (WS)

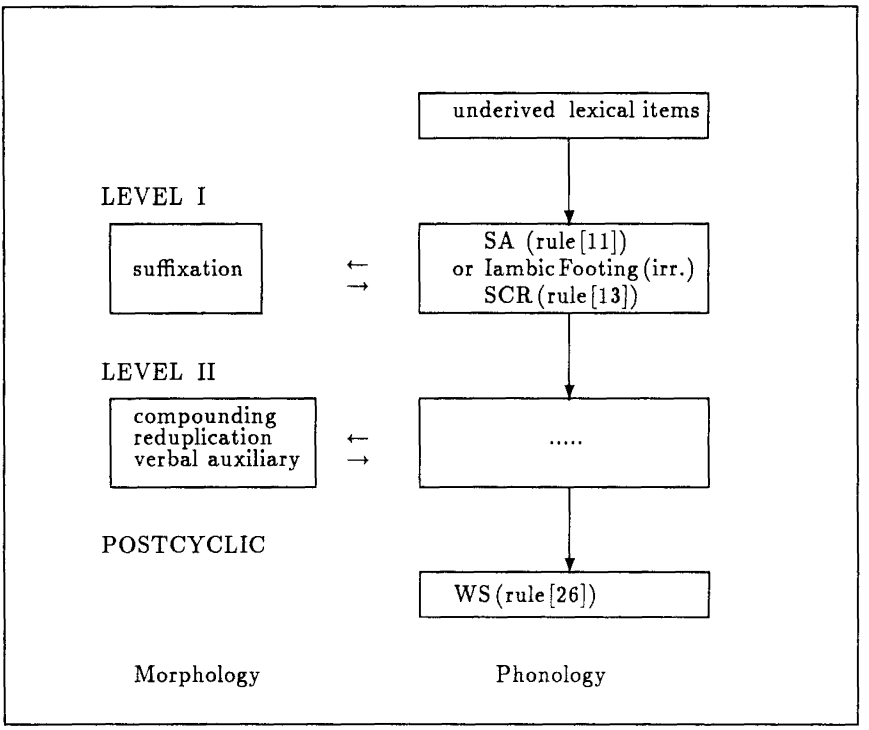
Of two equally prominent stresses, select the leftmost as the most prominent.

There is evidence that WS [26] operates after compounding, which is generally assumed to happen at a later level of the lexical component than suffixation, thus minimally at level II in the Turkish case. Consider compounds like the following:

[27] *báş* 'head' + *bakán* 'minister' → *básbakan* 'prime minister'
çırıl 'stark' + *çıplák* 'naked' → *çırılçıplak* 'stark naked'

We assume that both words are stressed individually, as given in [27], and that after compounding the word stress rule singles out the leftmost stress as the most prominent. The same appears to go for reduplicated forms (e.g. kápkarà 'jet black', from kará 'black'; see Barker 1989, 12 and Sezer 1983, 63, who does not mark secondary accent) and the verbal auxiliary suffix *et=* (e.g. *dikkát – et=* 'pay attention'), though the latter might also be considered an irregular suffix like /-leyin/ (cf. [15] above). Again we point out that the situation with respect to secondary stress needs further exploration. However, we cannot assign Word Stress [26] to Level II in the lexical phonology, because morphologically complex items that are formed at Level I like /ánkaralıdàn/ 'from the Ankaranian' [24] must also undergo the rule. This is not allowed if no morphological operations have taken place at Level II. Hence, WS [26] must be assigned to a post-cyclic level of the lexical component, or to the post-lexical level. We arrive at the following overall picture of the Turkish lexicon in [28]:

[28] LEXICON



Phonological Processes

In this section we discuss a number of the more interesting rules of Turkish phonology. All of these have figured more or less prominently in recent theoretical debate. We reserve the discussion of vowel harmony to the next section.

Vowel epenthesis

Vowel epenthesis in word-initial clusters was already briefly discussed above. Here we are concerned with word-final clusters. Loanwords that do not conform to the permissible syllable templates (cf. p.14-15) lose their final consonant, or, again, the syllable boundary is shifted by attachment of a vowel (examples from Clements & Sezer 1982):

[29] a. *direk'* 'direct'
b. *purotesto* 'protest'

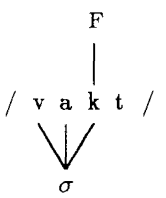
There are also a number of forms which show a vowel in the nominative singular alternating with zero in the third person possessive. For forms like these, Clements & Sezer also suggest an epenthesis rule. Consider the following forms (from Clements & Sezer 1982, 243):

[30]

NOM SG	POSS3	ABL SG	
vakit	*vakti*	*vakitten*	'time'
hajim	*hajmi*	*hajimden*	'volume'
kabir	*kabri*	*kabirden*	'tomb'
kavim	*kavmi*	*kavimden*	'tribe'

Notice that the suffix vowel is always front here. To account for the alternation, Clements & Sezer (1982) posit final opaque consonants, that is, consonants pre-associated to a feature which participates in the harmony process. In the framework to be developed below, this would be identical to a consonant pre-associated to a Front component. Thus, the underlying representation of *vakit* 'time' would be:

[31]



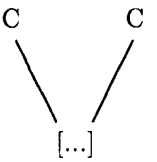
The final cluster does not conform to the possible Turkish codas (cf. p.14-15 above), as none of the clusters postulated in [30] would. The final /t/ cannot be syllabified in the case of the nominative singular. One means of making the segment pronounceable is breaking up the cluster by insertion of a 'vocalic position', to which the F-prosody associates, producing in effect an /i/ (cf. the next section). In the third person possessive, the consonant is made pronounceable because it can be syllabified as an onset consonant of the syllable headed by the suffix /i/. It therefore seems that a wider range of coda consonant combinations is allowed underlyingly than on the surface. This assumption helps us to account for the following data (from Clements & Keyser 1983, 59):

[32]

ABS	ACC SG	ABL SG	
his	*hissi*	*histen*	'feeling'
hak	*hakkı*	*haktan*	'right'
zam	*zammı*	*zamdan*	'increase'

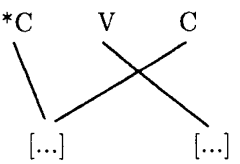
With Clements & Keyser, we assume that the underlying form in these cases ends in a geminate (/-ss/, etc.). The geminate is subject to degemination in syllable-final position, while it shows up when it is heterosyllabic. One can also attempt to explain why epenthesis (which would produce */hisis/, etc., for the nominative) is not an option here, as it was in the case of final clusters with two different consonants. The structure of a geminate is as in [33]:

[33]



That is, two consonantal positions (abbreviated as C) are associated to a single segmental feature structure. Epenthesis of a vowel would result in crossing association lines (Schein & Steriade 1986):

[34]



It is in order to note that the explanation for GEMINATE INTEGRITY (as this phenomenon is generally called) is considerably weakened by the fact that Turkish allows bare V–positions, that is, vowel positions *not* linked to a feature structure, which are phonetically /ı/ (cf. the section on vowel harmony). This problem, however, goes well beyond the case at hand, and we will not dwell on it here.[4]

[4]Kaye (1989) offers an analysis of such alternations in a different framework. See also Itô (1989, 234, fn.[21])

Final devoicing

Final devoicing in Turkish is similar but not quite identical to the rule of Auslautverhärtung in languages like German, Dutch, or Russian. Consider the following alternations:

[35]

NOM SG	3 POSS	ABL SG	NOM PL	
at	*atı*	*attan*	*atlar*	'horse'
tat	*tadı*	*tattan*	*tatlar*	'taste'
top	*topu*	*toptan*	*toplar*	'ball'
kap	*kabı*	*kaptan*	*kaplar*	'container'

For words which show the voiceless stop – voiced stop alternation, the underlying forms have a voiced stop. Final devoicing does not operate on voiced fricatives or sonorants (e.g. *kız* 'girl', *köy* 'village') and may therefore be formalized as follows (cf. for example Sezer 1981):

[36]
$$\begin{bmatrix} -\text{son} \\ -\text{cont} \end{bmatrix} \rightarrow [-\text{vce}] \; / \; \underline{\quad} \;]\sigma$$

If a vowel-initial suffix is added, resyllabification of the voiced stop bleeds the application of [36]. The rule also applies to affricates.

Interestingly, various exceptions seem to exist to rule [36], and the whole voicing situation in Turkish is therefore more complex than suggested here. Sezer (1981, fn. 2) gives the following cases:

[37]

ad	*ad-ı*	*ad-dan*	'name'
hab	*ha:b-ı*	*hab-dan*	'sleep' (obsolete)

There also appears to be some dialectal variation with respect to rule [36]. This may, moreover, be related to the fact that in some place names final stops are not devoiced, so that suffixes with initial obstruents show up voiced, as Kaisse (1985, fn. 4) observes. We leave this issue for further investigation.

Now consider the ablative suffixes in [35] above. The first consonant of this suffix alternates between [t] and [d], with [d] appearing after voiced sounds, as in *kızdan* 'girl-ABL', *köyden* 'village-ABL', and [t] after voiceless ones, including final underlying voiced sounds. To account for this, we assume a voice assimilation rule which has the effect that a

sequence of two stops must agree in voicing, with the leftmost stop determining the specification.

Compensatory lengthening

Well–known from the diachronic or synchronic phonology of many languages is the phenomenon that the disappearance of one segment appears to result in the lengthening of a neighbouring segment. Recent AUTOSEGMENTAL approaches to phonology (see e.g. Goldsmith 1990, Ewen & Van der Hulst forthc.) have been credited for providing an explanatory account of this phenomenon and in this section we will discuss some literature on the topic which bears on Turkish.

Sezer (1986) offers an extensive discussion of various processes in the synchronic phonology of Turkish which result in COMPENSATORY LENGTHENING (henceforth CL). In a number of cases, consonants are deleted in non-formal styles of speech. We will not be concerned here with the sociolinguistic variables determining these deletion processes, nor can we be more detailed than Sezer is with respect to the phonological conditions. The consonants affected are /h/, /y/ and /v/.

/h/-deletion occurs syllable-finally if a continuant or nasal follows this consonant, (cf. [38a]) and syllable-initially after a vowel or a voiceless consonant ([38b]):

[38]	a.	*kahya*	~ *ka:ya*	'stewart'
		mahsus	~ *ma:sus*	'special to'
		Mehmet	~ *Me:met*	(man's name)
	b.	*tohum*	~ *toum*	'seed'
		ishal	~ *isal*	'diarrhoea'

/y/-deletion occurs after a front vowel and a following sonorant consonant or /i/. In the latter case ([39b]) the /y/ is in the onset position of the syllable:

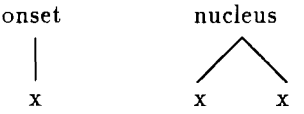
[39]	a.	*öyle*	~ *ö:le*	'thus'
		seyret=	~ *se:ret=*	'watch'
	b.	*iyi*	~ *ii*	'good'

/v/-deletion seems to occur after a labial vowel and before either a labial consonant ([40a]) or a vowel ([40b]):

[40] a. *övmek* ~ *ö:mek* 'praise (INF)'
b. *över* ~ *öer* 'praise' (AOR)

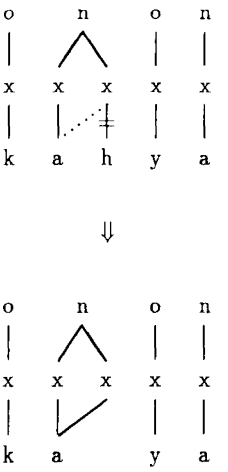
In all three cases, we see that deletion in syllable-final position leads to lengthening of the vowel, while loss from onset position has no such effect. The number of syllables in both cases remains the same; *öer*, for example, is a bisyllabic word. To explain this difference, we might make a distinction between two types of syllabic positions, which we will refer to as STABLE and UNSTABLE. A stable position is the nucleus position together with a following tautosyllabic position, while the unstable position is that which is traditionally called the onset position:

[41]

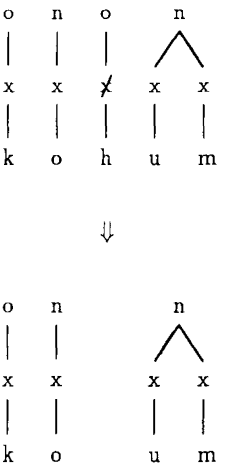


[42]

a. Deletion from the nucleus



b. Deletion from the onset

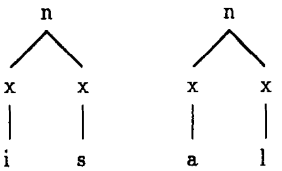


The rationale behind this terminology is the following. When a segment is deleted which occurs in the onset, the whole position is lost, but when a segment is deleted from the nucleus the position remains and can be filled by the other segment in the nucleus. This gives the effect of CL. We illustrate the difference with two examples from [42] above.

Another way of capturing the same insight would be to assume that CL can only occur if there is another segment within the same syllabic constituent. We cannot test this variant for Turkish, but cross-linguistic evidence suggests that within onsets we *never* find CL. This suggests that there is a fundamental difference between onset position and nucleus position.

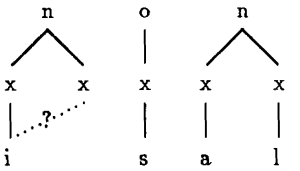
A special word must be said about the case *ishal*~*isal* ([38b]). One might expect CL to take place here. Consider the representation after /h/-deletion has taken place:

[43]



After /h/-deletion, the second syllable lacks an onset, which on the surface is presumably filled by /s/, according to the universal principle that a sequence ...vcv... is syllabically parsed as ...v][cv..., with the syllable break after the first vowel. This results in the representation in [44]:

[44]



We would now expect CL to take place, but it does not, according to the data in Sezer's article. Hayes (1989) considers a case in Ancient Greek, comparable to the Turkish situation, in which CL takes place when a consonant has moved from a stable to an unstable position. It would be interesting to look into this subtle difference. The question as

to whether or not CL is an automatic result of creating empty positions is one that we cannot explore in this article. Nonetheless we want to offer two further considerations which are relevant here.

First, as Sezer points out, some cases of deletion fail to trigger CL. When in syllable-final position, the progressive suffix *-Iyor* may lose its /r/ in informal speech. No CL occurs:

[45]	*gülüyor*	~ *gülüyo*	'laugh (PROG3sg)'
	gülüyorsun	~ *gülüyosun*	'laugh (PROG2sg)'
	gülüyorum	**gülüyoum*	'laugh (PROG1sg)'

Similar /r/-dropping is found in the word *bir* 'one'. These examples are unique and we might simply deal with them as lexicalized forms. As Sezer points out, in certain dialects /r/'s are dropped regularly, and in these cases we do find CL.

A second point of interest concerns the claim that CL occurs just in case a language has phonemic vowel length (De Chene & Anderson 1979). Turkish presents an interesting case, since the vowel length opposition is marginal.

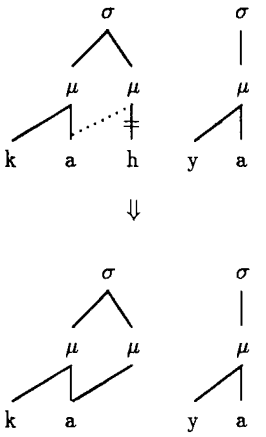
In both traditional and recent literature, stable positions are referred to as MORAE or WEIGHT UNITS. The distinction between both kinds of position plays an important role when stress placement is sensitive to syllable structure. Typically we find in such cases that the 'weight' of a syllable is determined by the number of segments occurring in the nucleus. Whether the onset contains zero, one or more consonants does not seem to matter. Turkish shows limited evidence of this kind of sensitivity, as stress placement depends on syllable structure only in special cases (cf. p.15 ff.).

In some approaches, it is argued that the mora is actually a CONSTITUENT of the syllable. In this view a syllable can consist of either one or two morae. Universally, the first mora consists of the vowel preceded by 'onset consonants' and the second mora consists of a following segment which does not form part of a following syllable (morae are indicated by μ).[5]

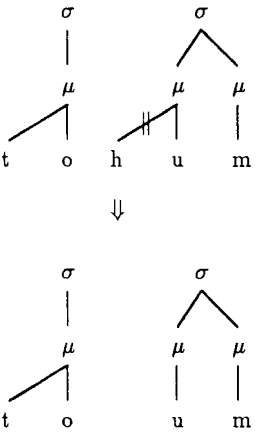
[5]We do not address the issue here whether sequences of prevocalic consonants

[46]

a. Deletion from the nucleus



b. Deletion from the onset



An appealing aspect of this proposal is that we now explain why the deletion of onset material does not cause CL, because such a deletion does not lead to a 'vacant' mora. If, on the other hand, we delete a segment which constitutes a mora, we leave behind an empty syllabic position. In this paper, we will of course not attempt to settle the issue as to whether onset-nucleus theory or mora theory should be preferred. We merely wish to point out how the CL data from Turkish fit into this theoretical debate.

Certain words, which Sezer calls 'the *dağ*-type words' behave *as if* they end in a consonant, although they end in a (long) vowel. Consider the following examples, taken from Sezer's article:

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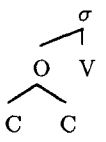
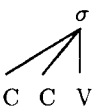
form a constituent (i) or are directly linked to the syllable node (ii):

(i)



(ii)



[47]

ABS	DAT	GEN	POSS1SG	
at	*ata*	*atın*	*atım*	'horse'
oda	*odaya*	*odanın*	*odam*	'room'

These examples illustrate cases of suffix allomorphy: *A/yA* (dative), *In/nIn* (genitive), *Im/m* (possessive 1sg). The first two lose their initial consonant when the stem ends in a consonant, and the third loses its vowel when the stem ends in a vowel. As Sezer points out, C-deletion does not apply blindly to all consonant-initial suffixes, and the consonants which are deleted do not form a natural class either. For example, the locative suffix *-DA* never loses its /d/. Whether or not the consonant drops is therefore a lexical property of the suffix. V-deletion only affects native suffixes and therefore cannot be seen as purely phonological. Nonetheless, in all these cases the environment for the deletion can be clearly related to whether the last segment of the stem is a vowel or a consonant.

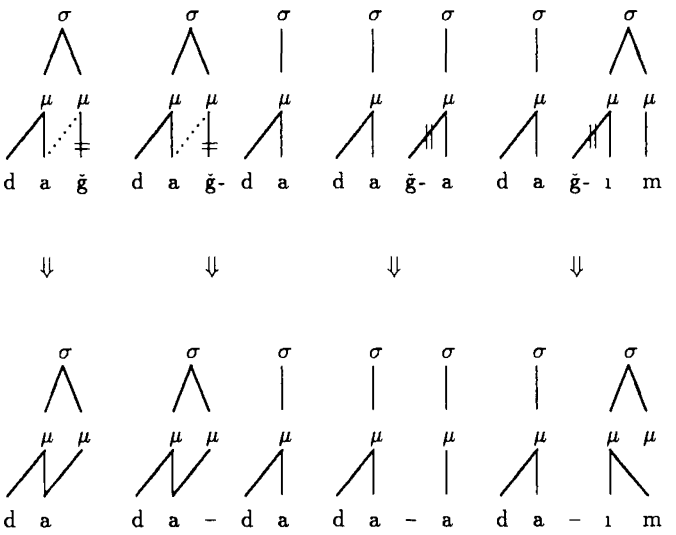
Now consider how *dağ*-type words behave:

[48]

ABS	LOC	DAT	POSS1SG	
mevzu:	*mevzu:da*	*mevzua*	*mevzuum*	'topic'
da:	*da:da*	*daa*	*daım*	'mountain'

As can be seen from these examples, in the dative the suffix consonant is deleted while the suffix vowel is preserved in the possessive (although the stem vowel is now short). This is precisely the opposite of what one expects after examination of the data in [47]. The historical explanation is that these words originally ended in a consonant /ğ/, which was lost. On the basis of what we have learned about CL above, we can understand that /ğ/-loss triggered CL, unless it occurred in onset position. This is borne out, since no CL has taken place in the dative and 1st possessive forms. We will use a moraic representation to make this clear, as in [49]. Assuming that the /ğ/ syllabifies as an onset with the vowel-initial suffix, no vacant mora arises if /ğ/ is deleted in the dative and the 1st possessive.

[49]



The examples in [49] represent a historical change. In the synchronic analysis there is no reason to assume that a fully specified segment /ğ/ is present underlyingly. One possible analysis would be that the long vowel is underlying, assuming a shortening rule in case a vowel-initial suffix is added. Of course, the C-deletion and V-deletion rule needed to deal with the alternation in [47] would then have to be reformulated: C-deletion takes place after a consonant or a long vowel, while V-deletion only applies after short vowels.

Both rules are followed by the shortening rule just mentioned. Apart from the fact that introducing arbitrary complexities in both deletion rules is unsatisfactory, we point out that such an analysis cannot be correct. Turkish has words ending in a long vowel which do not behave like the *dağ*-words:

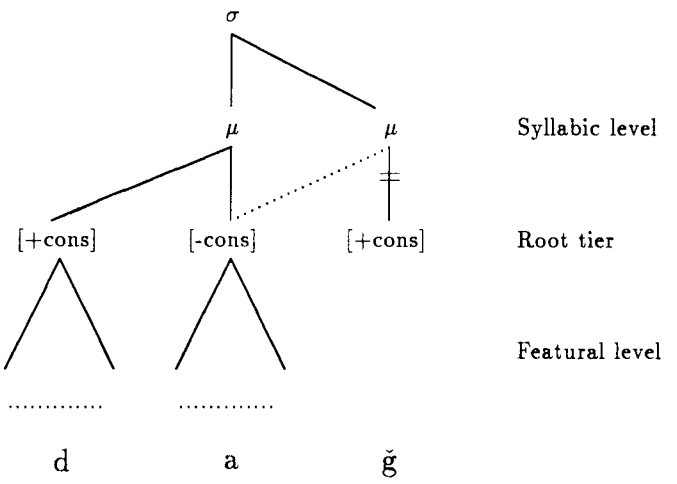
[50]

ABS	LOC	DAT	POSS1SG	
bina:	*bina:da*	*bina:ya*	*bina:m*	'building'

How then do we represent the *dağ*-words in the synchronic grammar of Turkish? The simplest answer seems to be that we provide such words with a final empty consonantal position. One can think of such an empty unit as a segment merely containing the feature [+consonantal]. The fact that we need such heavily underspecified segments has been used to argue in favour of a phonological model in which major class

features such as [±consonantal] define an independent LEVEL or TIER of representation, mediating between the syllabic constituents, and the other phonological features, which all associate to this major class tier. We shall call the tier made up by the major class features the ROOT TIER (cf. Clements 1985; Sagey 1986; McCarthy 1988). CL in the *dağ*–type words will then be represented as follows:

[51]



Whether we view this root tier as associated to morae or onsets and nuclei does not affect the issue.

To guarantee the appropriate application of C-deletion and V-deletion, we need not assign any other features to the final 'segment', because these rules only make reference to the feature [±consonantal].

Kornfilt (1986[a]) discusses a further set of cases in which empty consonants are postulated:

[52]

	ABS	LOC	ACC	
a.	*çɯr*	*çɯrda*	*çɪ:rɪ*	'path'
	uur	*uurda*	*u:ru*	'good omen'
	baır	*baırda*	*ba:rɪ*	'rump'
	böür	*böürde*	*bö:rü*	'flank'
	oul	*oulda*	*o:lu*	'son'
b.	*göüs*	*göüste*	*gö:sü*	'breast'
	aız	*aızda*	*a:zɪ*	'mouth'

At issue is how we can account for the vocalic alternations. Kornfilt proposes to represent these roots with an 'empty' segment in prefinal position and to derive the high vowel through an epenthesis rule which is independently necessary for items like /vakt/ 'time' (cf. above).

Sezer (1986) offers another analysis. He assumes that stems showing the alternation at hand contain an underlying high vowel in the second syllable which undergoes regular vowel harmony, and two additional optional processes: height assimilation and syllabic merger.

Kornfilt (1986[a]) suggests that although Sezer's analysis can be generalized over all cases, her analysis is still valid for some speakers. We refer to her article for further discussion.

Vowel shortening.

In the preceding section we have seen that long vowels in Turkish are either underlying or derived by CL or vowel assimilation. Now consider the following alternations (cf. Lees 1961):

[53]

ABS	POSS3	ABL	
saman	*sama:nı*	*samandan*	'straw'
hayat	*haya:tı*	*hayattan*	'life'
merak	*mera:kı*	*meraktan*	'curiosity'
seva:p	*seva:bı*	*sevaptan*	'pious deed'
usul'	*usu:l'ü*	*usul'den*	'method'

We can conclude on the basis of these data that underlying long vowels in open syllables alternate with short vowels in closed syllables (cf. also Kaye 1989). Note that there is no lengthening in open syllales, as /e/ in *merak* is and stays short.

The k/ø-alternation

Sezer (1981) offers a comprehensive discussion of /k/-deletion. Morpheme-final /k/'s delete before native vowel-initial suffixes, provided the stem is polysyllabic[6] and the preceding vowel is short:

[54]

monosyllabic			
ABS	ABL	POSS3	
ek	*ek–ten*	*ek–i*	'affix'

[6] In a few exceptional cases, /k/ deletes in monosyllabic stems: *çok* 'many', *gök* 'sky', *yok* 'there is not' which do undergo the rule; cf. Sezer fn. 4.

[55] a. polysyllabic

ABS	ABL	POSS3	
ayak	*ayak-tan*	*aya-ı*	'foot'

b. preceding long vowel

ABS	ABL	POSS3	
merak	*merak-tan*	*mera:k-ı*	'curiosity'
infilak	*infilak-tan*	*infila:k-ı*	'explosion'

The failure to undergo /k/-deletion cannot be directly attributed to the loan status of the words containing a preceding long vowel. Arabic loans which have lost vowel length do undergo the rule. As Sezer points out in dialects of Turkish which have lost length in certain words, these words regularly undergo /k/-deletion. Only few Arabic loans without length fail to undergo the rule (cf. Sezer 1981, 362).

Non-native vowel initial suffixes fail to trigger the rule:

[56] *la:yık* 'worthy'
la:yı-ım 'I am worthy'
la:yık-i: 'deservedly' (here the suffix is non-native)

A second category of suffixes, the auxiliary suffixes *-et=* and *-ol=* fail to trigger /k/-deletion:

[57]	ABS	ABL	POSS3	VERB	
	la:yık	*la:yık-tan*	*la:yı-ı*	*la:yık-ol=*	'deserving'
	yasak	*yasak-tan*	*yasa-ı*	*yasak-et=*	'prohibition'

Observe that both categories of suffixes are also exceptional with respect to vowel harmony, and that their presence bleeds such rules as final devoicing:

[58] *adet* 'number'
aded-i: 'numerical' (and not **adet-i:*)

Sezer discusses a further class of words failing to undergo /k/- deletion. Verbal stems ending in /k/ fail to undergo the rule:

[59]

STEM	PROG	FUT	
bırık=	*bırık–ıyor*	*bırık–ecek*	'accumulate'
gözük=	*gözük–üyor*	*gözük–ecek*	'be visible'
bırak=	*bırak–ıyor*	*bırak–acak*	'leave'

Most stems, but not for example *bırak=*, can be synchronically derived from nouns or other categories (e.g. *bir* 'one', *göz* 'eye'). The mere fact of being derived would not explain exceptionality with respect to /k/-deletion anyway, since derived nouns do undergo the rule:

[60]

STEM	NOUN	ACC	
aç=	*aç–ık*	*açı–ı*	'open'
pek	*pek–lik*	*pekli–i*	'firm'

The failure to undergo /k/-deletion in verbs also occurs before inflectional suffixes, while in non-verbal categories /k/-deletion occurs before both derivational and inflectional suffixes. Hence, as Sezer concludes, the lack of /k/-deletion is a property of verbs, and not of any type of morphology. Consider the minimal pair which makes this point clear:

[61] *gerek=* 'be necessary' *gerek–ir* 'it is necesarry'
gerek 'necessity' *gere–i* 'its necessity'

Of further importance is the fact that a /k/ of a verbal inflectional suffix *does* delete:

[62]

STEM	I (FUT3SG)	II (FUT1SG)	
gözük=	*gözük–ecek*	*gözük–ece–im*	'appear'

Hence, /k/'s of uninflected verbal stems (whether derived or not) fail to undergo the rule.

The analysis of /k/-deletion has triggered an interesting theoretical debate. Lees (1961) proposed to represent deleting /k/'s as /g/ underlyingly. These were weakened to ğ and then deleted by a deletion rule we need anyway. When not weakened, /g/ undergoes final devoicing. Zimmer (1975) and Zimmer & Abbott (1978) already argued against this analysis on theoretical and psycholinguistic grounds and Sezer (1981) convincingly shows that it simply does not work. For example: underlyingly /k/ would have to devoice before the auxiliary suffixes, but in this context other voiced stops do not become voiceless:

[63]	ABS	ABL	ACC	VERB	
	harap	*harap-tan*	*hara:b-ı*	*hara:b-ol=*	'ruined'

This commits us to having an underlying /k/. Sezer's final analysis is that the deletion of /k/ is triggered by a subset of mainly denominal affixes, and the personal suffixes *-Im* and *-Iz* (cf. [62]), which are formally identical to the copula suffixes which also trigger /k/-deletion.

VOWEL HARMONY

Vowel harmony processes have played an important role in the development of theoretical phonological models. The analysis of Turkish vowel harmony forms no exception. The most recent extensive treatment is offered in Clements & Sezer (1982), from which this section takes much of its examples and analysis.[7] The formal description that we offer, however, assumes a rather different conception of the nature of phonological primitives.

In the most general terms, vowel harmony involves the requirement that all vowels within some domain, usually the non-compounded word, agree with respect to some property or properties. In Turkish the vowel properties involved in the harmony system are 'round' and 'front' (cf. Underhill 1986[a]).

Turkish vowel harmony: the basic facts

It is not difficult to formulate the general vowel harmony requirements that hold for Turkish. The statement appears again and again in elementary textbooks. Any one of the eight Turkish short vowels may appear in the first syllable of a word. Any following vowel agrees with the preceding vowel in frontness. As a result, all vowels in a regular stem agree in front- or backness. We shall refer to this as PALATAL HARMONY. For example:

[64]	*hüviyet*	'identity'	*kımıltı*	'movement'
	küsülü	'annoyed'	*oyuncak*	'play-thing'
	netice	'result'	*soğukça*	'coldish'

[7] Other examples are taken from Harris (1987 UCL class notes), Kardeştuncer (1982), Lewis (1967) and Steuerwald (1972).

Usually, statements regarding vowel harmony reflect a directional interpretation (i.e. left to right, in the case of Turkish. We will follow that view and return to this aspect of the phenomenon when we present our own analysis.

In addition, a following high vowel assimilates to the preceding vowel in roundness, regardless, of whether this is itself high or non-high. We refer to this as LABIAL HARMONY This is apparent in the form *oyuncak* 'play–thing': the high /u/ is rounded just like the initial /o/, and the /a/ need not be rounded as it is low.

Because roundness is only distinctive for initial vowels and because the roundness of initial vowels does not extend to low vowels in the second syllable, the vowels /o/ and /ö/ do not occur in any syllable except the first. We shall refer to this last constraint as the "non-initial /o–ö/ prohibition".

We summarize the three harmony requirements of Turkish in [65]:

[65] a. All vowels in a regular stem agree in frontness.
b. Any high vowel agrees with the immediately preceding vowel in roundness.
c. The vowels /o/ and /ö/ do not occur in non-initial syllables.

We would like to offer an explanation as to why constraint [65c] should be part of the grammar of Turkish. Suppose for a moment that Turkish only had [65a]. In that case in non-initial syllables a four-way contrast would exist:

[66]

	[-round]	[+round]
[+high]	I (i/ı)	U (ü/u)
[-high]	A (e/a)	O (ö/o)

If we now add constraint [65c] to the grammar, we reduce this set to that of I, U and A, which can be identified as the typical vowel system. In languages like Russian and Greek we see that in unstressed syllables only the vowels /a/, /i/ and /u/ occur, whereas in stressed syllables a richer set occurs. It would seem, then, that both vowel harmony as well as stress-related phenomena like those in Russian and Greek limit the position in which vowels are maximally contrastive to one: the stressed position in Russian and Greek, the initial position in Turkish.

In other positions the universally unmarked three-vowel set appears (Haiman 1972). The difference is that in harmony systems, unlike in stress systems, spreading of features takes place.

Rounding harmony can now be seen as an extension of [65c]. This constraint neutralizes the rounding contrast for low vowels, while rounding harmony neutralizes rounding for high vowels as well. Of course, once rounding harmony is added to the grammar, the contrast in non-initial syllables is reduced to A and I, so that the presence of [65c] is no longer transparent. Still [65c] continues to have an effect which is independent of vowel harmony, in that rounding harmony cannot produce /o/ and /ö/. We conclude that the presence of [65c] can be understood if this condition became part of the Turkish grammar before rounding harmony. It would be interesting to investigate the history of palatal and rounding harmony and the non-initial /o-ö/ constraint from this perspective.

Previous analyses

The case of Turkish played a role in the development of a distinctive feature framework out of the distinctive oppositions framework advanced by the Prague school (Trubetzkoy 1939). In a series of lectures (*On Sound and Meaning*, Jakobson 1942) delivered at the École Libre des Hautes Études in New York, Jakobson pointed out that in a vowel system like that of Turkish *sets* of vowels are in opposition, like front vowels opposed to back vowels, and not individual vowel phonemes. In this way a phoneme like Turkish /i/ is a complex entity composed of three differential elements: closed, front, unrounded. The vowels of a Turkish word, then, must be taken from either the set of front vowels or the set of back vowels. This reasoning ultimately led to the characterization of phonemes as bundles of distinctive features, which can be manipulated by rule. Vowel harmony is analysed in terms of rules operating on these features, all couched in a framework presented in Chomsky & Halle (1968).

Kardeştuncer (1982) is an exponent of this late generative approach. In [67] we give his rules for Turkish vowel harmony in a somewhat simplified version:

[67]

palatal harmony:

$$V \rightarrow [+back] \; / \; \begin{bmatrix} V \\ +back \end{bmatrix} \quad C_o \_\_\_\_$$

labial harmony:

$$\begin{bmatrix} V \\ +high \end{bmatrix} \rightarrow [+round] \; / \; \begin{bmatrix} V \\ +round \end{bmatrix} \quad C_o \_\_\_\_$$

In the meantime, the school of Prosodic Analysis had developed under J.R. Firth in London, in which properties like 'front' or 'back' were not necessarily regarded as properties of single segments, but might also extend over larger domains like the syllable or the word. Such properties were called 'prosodies' (Firth 1948). A representative exponent here is Waterson (1956), who analyses Turkish vowel harmony by means of four prosodies, viz. a front and a back prosody, and a rounded and a non-rounded prosody. The prosodies can either extend over the word or the syllable.

The most recent approach to vowel harmony is the study of Clements & Sezer (1982), cast in the framework of autosegmental phonology. They represent, much in the spirit of prosodic phonology, distinctive features on independent tiers, i.e. there is a [±back] tier, a [±round] tier, etc. Vowel harmony is then described as the association of a feature specification, for example [+back], to different vowels in a root or root plus affixes. Feature specifications may be positive or negative, while individual vowels (of harmonic stems and suffixes) are left unspecified for that feature.

Our own approach, to be developed below, most closely resembles Clements & Sezer's, although it is more 'reductionist' in that it essentially recognizes only one value for each feature, that is, we make use of unary components in our analysis. We might note that current UNDERSPECIFICATION theory (Archangeli 1984 and subsequent work) also takes the idea that at most one specification of a given feature is present in underlying representations.

A New Perspective on Vowel Harmony

Exceptionless harmony systems can be described in a number of ways, and it is difficult to choose between different descriptions if one is not predisposed toward a particular framework. It is often the case that the exceptions to a particular harmonic pattern shed more light on its nature. We shall show how it is possible to integrate the disharmonic stems into an analysis of synchronic harmony in Turkish. To achieve this goal, we first review which stem vowel combinations are regular, which are disharmonic but do occur, and which are disharmonic and categorically ruled out, i.e. are not attested. Then we shall go on to state the framework in which the present analysis is cast. We shall recognize intrinsic properties of vowels, such as lowness, and properties like frontness and roundness, which are not lodged in individual vowels, but rather seem to be word properties. These are mapped onto vowels in a predictable fashion, and we will therefore represent them on a separate tier. We then examine in what ways the intrinsic and harmony-governed properties can combine. The statement as to which vowels can occur in disharmonic roots and which cannot will be reduced to a rather simple formula.

Root disharmony

As Clements & Sezer (1982) (henceforth: CS) point out in great detail, within stems many exceptional patterns to vowel harmony arise. In particular, vowels from the set /i e a o u/ may combine quite freely. However, patterns which include the vowels /ü ö ı/ are absent except for the occurrence of a number of stems combining /i/ and /ü/ (in violation of labial harmony). CS do not offer an explanation for the difference between the two vowel sets, but decide on the basis of the exceptions that harmony is no longer active in roots. We shall argue against this below, and suggest that the disjunction in the vowel set can be understood if we assume that vowel harmony is governed by unary components that either regularly extend over the word domain, or, irregularly, are linked to specific vowel positions.

Goldsmith (1990, 304ff.) also argues for an analysis in which the fact that the vowels /i e a o u/ combine freely is not an arbitrary stipulation. He points out that this is a favoured five-vowel system. His analysis of the five vowels does not make use of the feature 'front'. Hence, stems containing these vowels do not violate a rule governing

palatal harmony. Whenever stems contain /ü ö ı/, specification of this feature is required (i.e. [+front] for /ü ö/, and [-front] for /ı/). This is a clever solution, cast in a binary-feature approach. Note that a similar reasoning does not apply to exceptionality with regard to labial harmony: it is not possible to specify /a o/ without reference to the feature [round].

First, let us summarize the cooccurrence patterns of vowels. In table [68] below, an empty box indicates that the pattern /... V_1 ... V_2 .../ is regular (and attested). A mark in a box indicates that the pattern is disharmonic with respect to palatal (P) and/or labial (L) harmony. However, as was pointed out above, disharmonic roots with the vowels /i e a o u/ may still occur. If a pattern is *not attested* on account of its violating either palatal or labial harmony, or on account of its violating the /o–ö/ prohibition, we indicate this by means of an asterisk.

[68]

$V_1 \backslash V_2$	/i/	/e/	/ü/	/ö/	/ı/	/a/	/u/	/o/
/i/			L	*R	*P	P	P,L	P,R
/e/			*L	*R	*P	P	P,L	P,R
/ü/	L			*R	*P,L	*P	*P	*P,R
/ö/	*L			*R	*P,L	*P	*P	*P,R
/ı/	*P	*P	*P,L	*P,R			*L	*R
/a/	P	P	*P,L	*P,R			L	R
/u/	P,L	P	*P	*P,R				*R
/o/	P,L	P	*P	*P,R				*R

Legend:
L = disharmonic due to labial harmony
P = disharmonic due to palatal harmony
R = violates the "non-initial /o–ö/ prohibition"
* = not attested as an exception

On the basis of the exceptions, CS conclude that within stems neither palatal nor labial harmony holds in Turkish. We fail to see that we should draw this conclusion. Synchronic harmony on suffix vowels is independently needed. The stems which conform to the harmonic pattern can therefore simply get a 'free ride' on the harmony rules. This simplifies their underlying representation considerably. Furthermore, within stems epenthetic vowels also harmonize (cf. p.14), which suggests that vowel harmony is still a productive rule of Turkish phonology.

Formal Preliminaries

In our analysis of the vowel system and the harmony process we will make use of unary primitives, or 'components', instead of the perhaps more familiar binary features [±back], [±round], [±low] (or [±high]). If present, an element contributes to the phonetic interpretation of a segment. The absence of an element, however, also requires a phonetic interpretation: either the gesture corresponding to its presence is not activated, or some opposite gesture is activated. In traditional terms (see e.g. Trubetzkoy 1939) we might say that all vowel primitives are regarded as privative. Under this approach the vowel inventory of Turkish is represented as follows:[8]

[69]

	/i/	/e/	/ü/	/ö/	/ɪ/	/a/	/u/	/o/
LOW		L		L		L		L
FRONT	F	F	F	F				
ROUND			R	R			R	R

We also recognize *vowel position* (as opposed to consonant position) as a primitive in its own right, and represent it as V. Observe that the phoneme /ɪ/ is represented as a bare V-position. With these four primitives (F, L, R, and V) we now tackle the harmony system.

Harmony and disharmony

In harmonic stems, i.e. stems with show the harmony generalizations, prosodic properties are not associated to V-positions. The property 'low' is unpredictable in stems, and therefore must be intrinsic, i.e. associated to specific positions.

If we take bisyllabic stems as representative, we obtain four combinations of vowel position and lowness, i.e. the intrinsic properties:

[70] V – L L – V L – L V – V

'L' stands for V-position associated to an L component. Consequently, bare V is interpreted as high. We can cross-classify these stem types with the four possible combinations of components:

[8] In other work (e.g. Van der Hulst 1988, 1989) the prosodies 'low', 'front' and 'round' are represented by symbols like A, I and U, respectively.

[71] (i) No component
(ii) Front component only
(iii) Round component only
(iv) Front and Round components

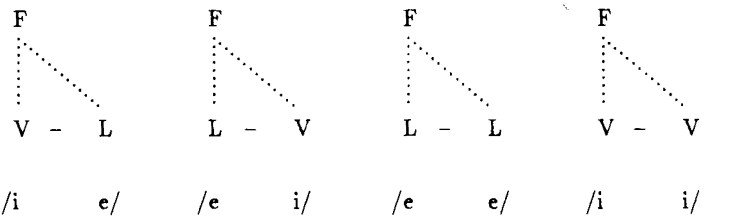
We shall discuss the combinations of intrinsic properties and prosodic properties in turn.

(i). If no component is present the regular patterns surface as follows:

[72]	V – L	L – V	L – L	V – V
	/ɪ a/	/a ɪ/	/a a/	/ɪ ɪ/
Exx.:	*gırtlak* 'throat'	*altı* 'six'	*kara* 'black'	*kısım* 'part'
	kıta 'continent'	*yalı* 'villa'	*tavşan* 'rabbit'	*sınır* 'border'
	kıyak 'excellent'	*kadı* 'judge'	*hasta* 'sick'	*sığır* 'bovine'

(ii). We now move to the stems which contain one component. First, let us consider regular cases with the F–component. This component associates to all vowels in the stem. The dotted line indicates that the association is not present in the underlying representation of a stem.

[73]

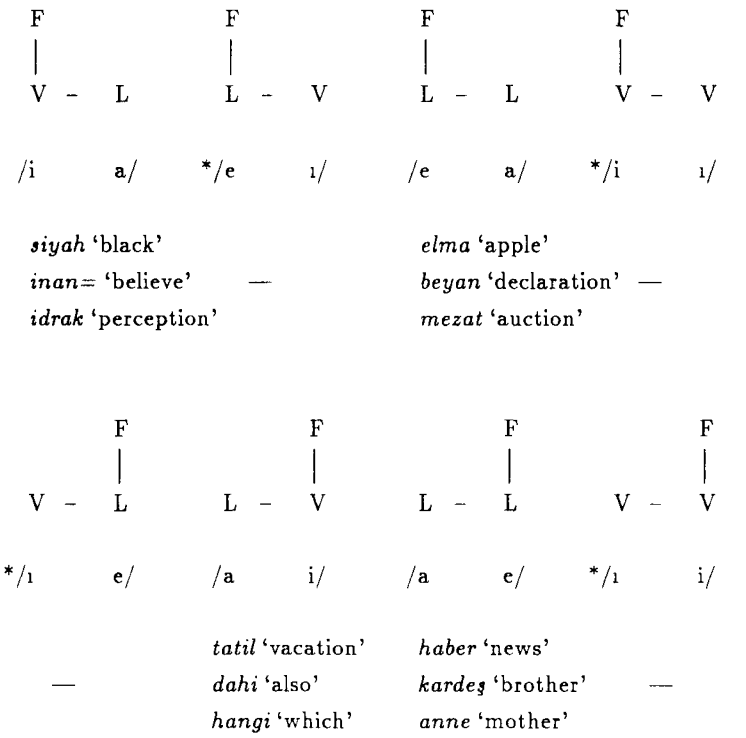


ince 'thin'	*değiş=* 'change'	*kere* 'time'	*kişi* 'person'
iğne 'needle'	*yedi* 'seven'	*gebe* 'pregnant'	*gibi* 'like'
diğer 'other'	*eski* 'old'	*tepe* 'hill'	*inci* 'pearl'

Stems with the F–component can be disharmonic in two ways. F can be pre–associated (or lexically associated) to either the first or the

second V–position. We assume that such underlying associated components cannot associate to any other vowels (the asterisks in front of the vowel combinations again indicates that the pattern in question is not attested):

[74]



We see that all patterns are possible exceptions, except those which would produce an empty V-slot on the surface.

We have assumed that pre-associated components will not associate to other V-positions within the same morpheme. If a component is valid for all vowels in a stem we leave it unassociated (as in [73]), as a result of which it will associate to all accessible anchors in a morpheme. Below, we will see, however, that components lexically associated to stem vowels do associate to suffix vowels. In accordance with current views, we will assume a convention which allows the spreading of pre-associated components unless such association destroys a po-

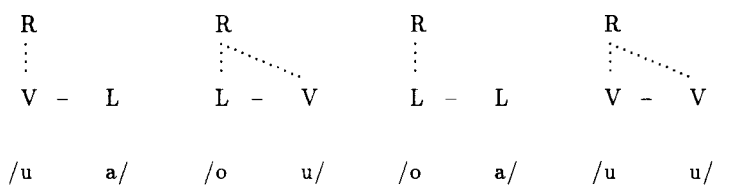
tential lexical contrast (Kiparsky 1982, Van der Hulst & Smith 1986). Consider, for example, the following two distinct stem patterns:

[75]

(a) has pre-association, while (b) does not. If we allow F to spread in (a), both forms will end up the same, namely as /i–e/ (in the case of Turkish). This would destroy a potential lexical contrast, as (a) and (b) are different underlying representations. The fact that lexically associated F and R still spread to suffixes, prevents us from treating them on a par with L, which does not spread.

(iii). Let us turn to stems containing the R-prosody:

[76]

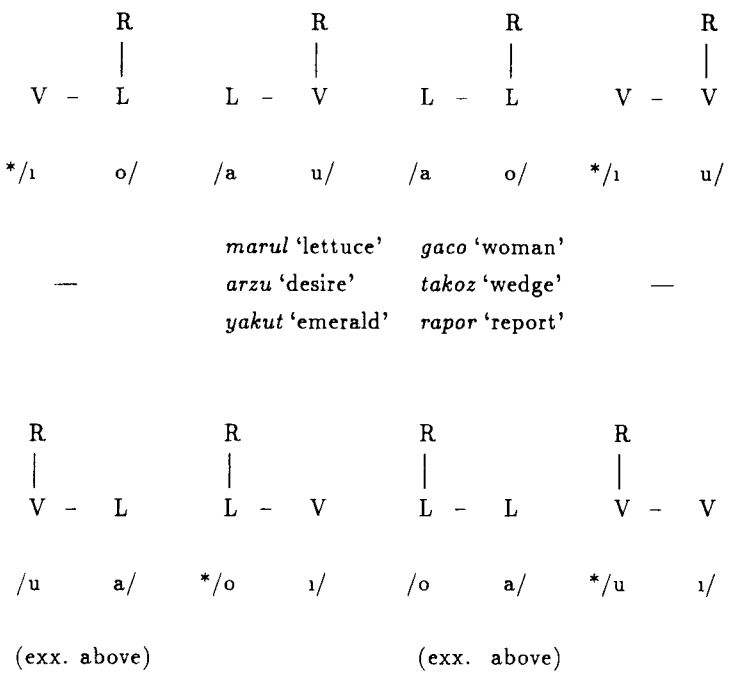


tuhaf 'strange'	*soğuk* 'cold'	*boğa* 'bull'	*kuru* 'dry'
buğday 'wheat'	*yorgun* 'tired'	*oda* 'room'	*uğur* 'fortune'
muhak 'new moon'	*oku=* 'read'	*doğar* 'is born'	*nutuk* 'speech'

We observe that R does not associate to non-initial L, which must be stated as an independent condition. The pattern /o–o/ does occur, however, which would require a lexical association of R to both V-positions. The pattern /u–o/, also exceptionally, is not reported in CS.

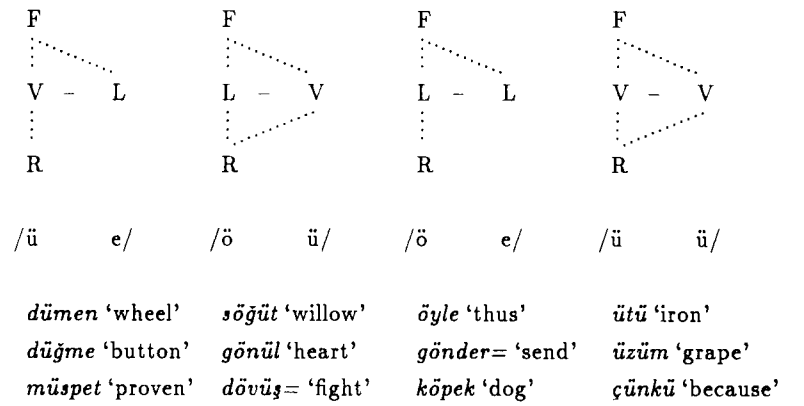
In addition, exceptional patterns can arise due to association of R to either of the two V-positions; cf. [77]. As in the case of the F prosody, we note that disharmonic patterns which would result in an empty V-position are ill–formed.

[77]



(iv). With respect to the combined presence of both prosodies, we also start with the regular pattern (we present the two prosodies on different lines):

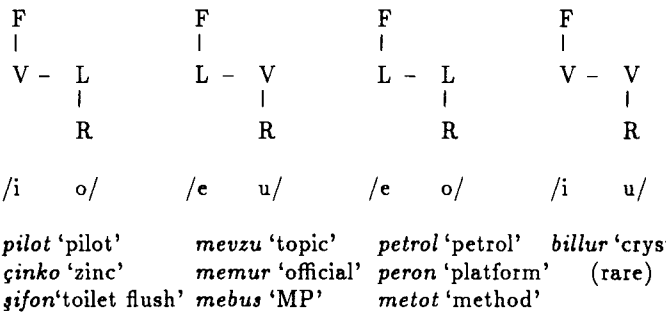
[78]



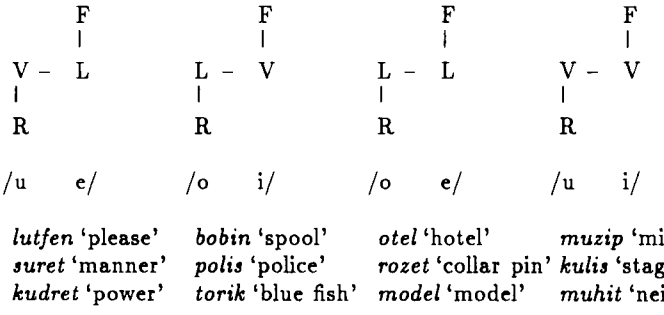
We have assumed that R does not associate to L. The patterns that would arise if such association were to occur (/ü–ö/, /ö–ö/) are not attested according to CS.

Analogous to the above we can imagine a number of patterns with lexical associations. For example, F and R can each be pre–associated to one of the V-positions:

[79]



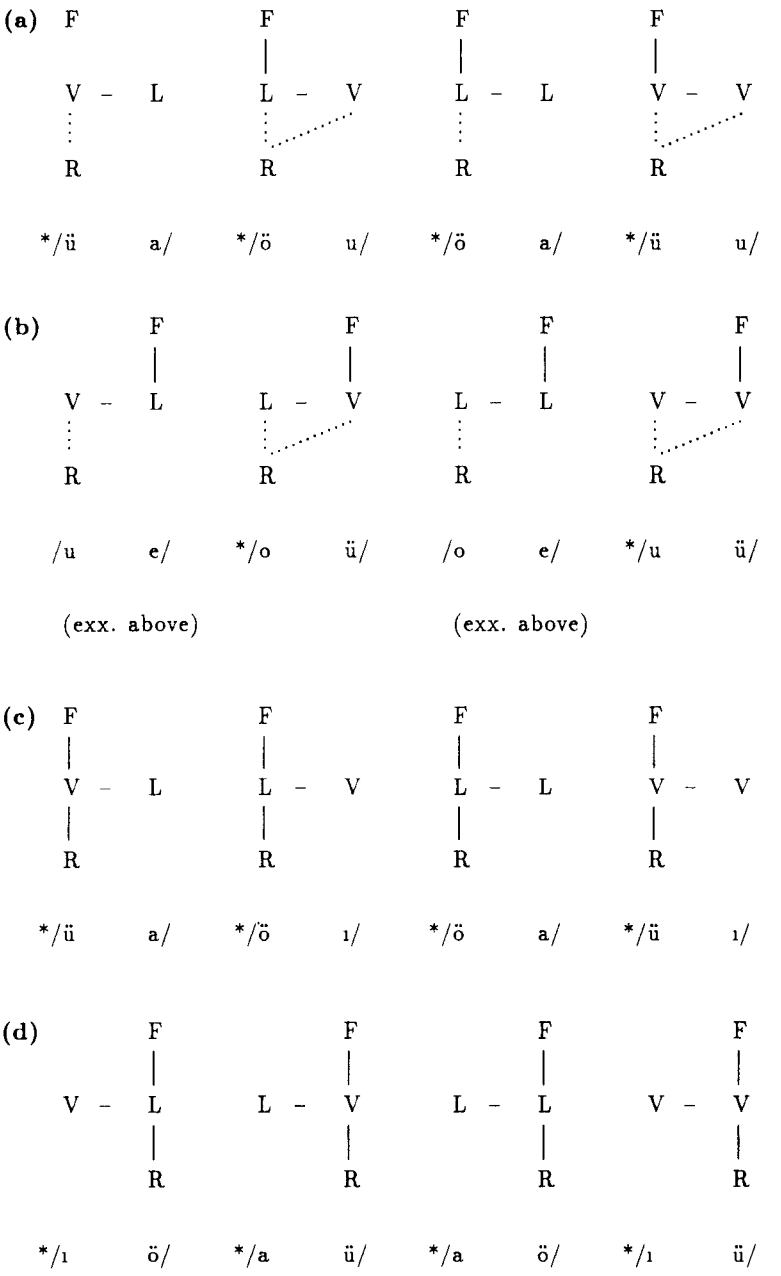
pilot 'pilot' *mevzu* 'topic' *petrol* 'petrol' *billur* 'crystal'
çinko 'zinc' *memur* 'official' *peron* 'platform' (rare)
şifon'toilet flush' *mebus* 'MP' *metot* 'method'

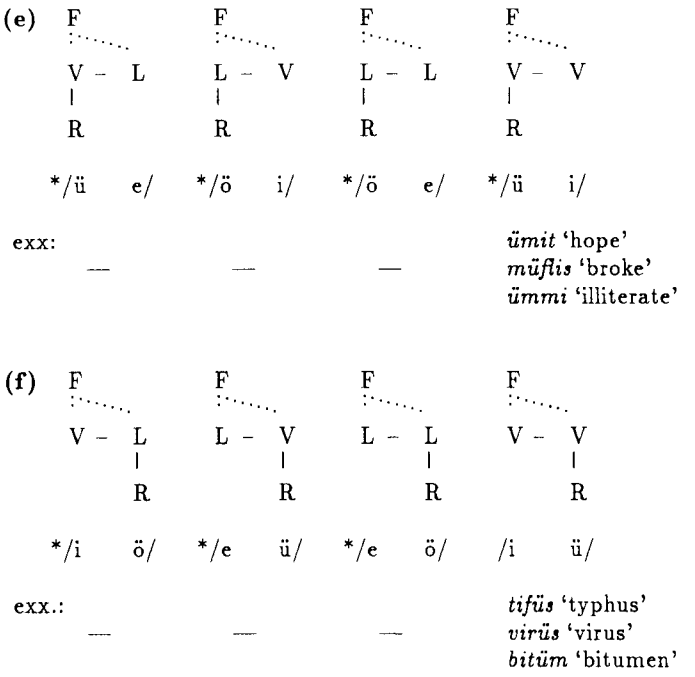


lutfen 'please' *bobin* 'spool' *otel* 'hotel' *muzip* 'mischievous'
suret 'manner' *polis* 'police' *rozet* 'collar pin' *kulis* 'stage wing'
kudret 'power' *torik* 'blue fish' *model* 'model' *muhit* 'neighbourhood'

All these patterns are reported by CS as possible exceptions. All other disharmonic patterns will involve either the presence of both components on one of the V-positions, or the presence of one component on a single V-position with the other on both; twenty–four of such patterns are logically possible and of these only two cases occur that we have not seen before:

[80]


(a)
*/ü a/
*/ö u/
*/ö a/
*/ü u/
(b)
/u e/
*/o ü/
/o e/
*/u ü/
(exx. above)
(exx. above)
(c)
*/ü a/
*/ö ɪ/
*/ö a/
*/ü ɪ/
(d)
*/ɪ ö/
*/a ü/
*/a ö/
*/ɪ ü/



The only attested cases are /ü–i/ and /i–ü/. We summarize our findings regarding exceptional patterns as follows:

[81] * Disharmonic roots do not contain bare V.
* Disharmonic roots do not contain V's with two prosodies.

An important question is why /ü ö ı/ should behave as a group. Of the unmarked five-vowel system, /i u a/ form a natural class in the sense that they associate a single vowel position to a single harmonic component. We therefore propose that one-to-one association is unmarked, and that all deviations from this pattern (whether one-to-zero, which results in /ı/, or one-to-two, which results in /e o ü/, or one-to-three, which results in /ö/) is marked. This leaves the question why /ü/ is more marked than /e o/. Somehow or other our theory of phonological primitives must indicate that the combination of the components 'Front' and 'Round' is less preferred than a combination of either of these with the component 'Low' (cf. Van der Hulst 1988, 85f. for further discussion of this point).

Other Issues in Vowel Harmony

Labial Attraction

In the literature on vowel harmony, special status is sometimes assigned to the pattern /a C^w u/, in which C^w is a labial consonant. The unexpected rounding of the non-initial high vowel is attributed to the preceding labial consonant. However, CS show that the pattern /a – u/ also frequently occurs when the consonant is non-labial ([82a]), while on the other hand the pattern /a C^w ı/ ([82b]) can also easily be found:

[82] a. *marul* 'lettuce' b. *sabır* 'patience'
fatura 'invoice' *kapı* 'door'
yakut 'emerald' *kamış* 'reed'

We conclude that 'labial attraction' does not form part of the synchronic phonology of Turkish.

Suffixes

Most suffixes undergo regular harmony. High suffix vowels undergo both palatal and labial harmony. Consider the following set of representative examples:

[83]

	ABS SG	POSS	ABL	ABS PL	POSS/ACC PL
'room'	*oda*	*odası*	*odadan*	*odalar*	*odaları*
'end'	*son*	*sonu*	*sondan*	*sonlar*	*sonları*
'pipe'	*boru*	*borusu*	*borudan*	*borular*	*boruları*
'village'	*köy*	*köyü*	*köyden*	*köyler*	*köyleri*
'worm'	*kurt*	*kurdu*	*kurttan*	*kurtlar*	*kurtları*
'fox'	*tilki*	*tilkisi*	*tilkiden*	*tilkiler*	*tilkileri*
'cow'	*inek*	*inei*	*inekten*	*inekler*	*inekleri*
'river'	*dere*	*deresi*	*dereden*	*dereler*	*dereleri*
'horse'	*at*	*atı*	*attan*	*atlar*	*atları*
'taste'	*tat*	*tadı*	*tattan*	*tatlar*	*tatları*
'girl'	*kız*	*kızı*	*kızdan*	*kızlar*	*kızları*
'container'	*kap*	*kabı*	*kaptan*	*kaplar*	*kapları*
'iron'	*ütü*	*ütüsü*	*ütüden*	*ütüler*	*ütüleri*

The fact that low suffix vowels do not undergo labial harmony follows from the constraint on non-initial /o–ö/, which we already assumed

for stem-initial harmony. It is not necessary, then, to assign low suffix vowels a specification such as [-R]. The fact that after low vowels only non-round vowels can appear, follows from our assumption that all assocation is local, i.e. involves vowel positions in adjacent syllables. Consider the underlying representation of *pulların* 'stamp (ABS.PL.)':

[84]

(a)

```
        R
p V l - l L r - V n
```

(b)

```
        R
        ⋮
p V l - l L r - V n   →   [pul - lar - ın]
```

The R prosody cannot associate to the vowel of the plural suffix /lAr/ because of the non-initial /o–ö/ prohibition. In addition, R cannot associate to the vowel of the absolutive plural suffix /Vn/ because that would violate the locality requirement. Given our use of unary primitives an absolute minimum of computation is required.

Irregular Suffixes

CS discuss a number of exceptional suffixes. In [85] we give their example [31]:

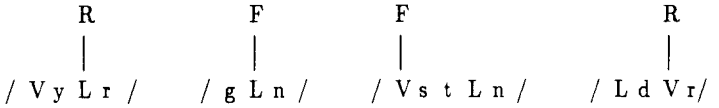
[85]

a.	*gel-iyor-um*	'I am coming'		
	koş-uyor-um	'I am running'		
	gül-üyor-um	'I am laughing'		
	bak-ıyor-um	'I am looking'		
b.	*üç*	'three'	*üç-gen-ler*	'triangles'
	altı	'six'	*altı-gen-ler*	'hexagonals'
	sekiz	'eight'	*sekiz-gen-ler*	'octagonals'
	çok	'many'	*çok-gen-ler*	'polygonals'
c.	*arab-istan*	'Arabia'		
	ermeni-stan	'Armenia'		
	mool-istan	'Mongolia'		
	türk-istan	'Turkestan'		

d. *gid-edur-sun* 'let him keep going'
koş-adur-sun 'let him keep running'
gül-edur-sun 'let him keep laughing'
bak-adur-sun 'let him keep looking'

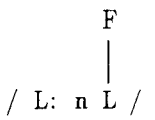
We represent these suffixes as follows:

[86]



None of these suffixes requires the specification of [-R] or [+B]. In two other suffixes, however, an invariant /a:/ occurs preceding an invariant front vowel:

[87] *-a:ne* : denominal, adjective-forming
-va:ri : denominal, adverb-forming



How can we explain that an F prosody of a stem cannot associate to the suffix initial /a:/ without marking this vowel as [+B]? We tentatively suggest that such suffixes have a compound-like character.

Vowel harmony in Turkish is sometimes argued to be non-directional. The fact that we only find rightward spreading from the stem would be a result of the absence of prefixes falling within the harmonic domain. However, given our approach, the notion of directionality does play a role in the case of non-harmonic suffixes.

For example, a back vowel stem, i.e. a stem which does not contain the F prosody, followed by a suffix like /gil/, which does bear the F prosody, does *not* become front. The F prosody of /gil/ does not spread leftward into the stem. Anderson (1980) argues on the basis of such cases that harmony in Turkish is directional.

In various publications Kardeştuncer argues that the suffixes which fail to undergo harmony do not really qualify as suffixes. For example,

in Kardeştuncer (1982) the point is made that [yor] is not a suffix but a compound component, i.e. a stem. If Kardeştuncer is right, the problem noted by Anderson does not arise. Otherwise, we will have to accept that some statement or other must be made in the grammar of Turkish to account for the fact that back stems do not become front before front suffixes. This does not necessarily have to be a statement about directionality. We could also say that for Turkish stems are *dominant.* We know that there are also harmony systems in which suffixal prosodies do spread into the stem. In such systems, then, stems are *recessive.*

Consonants and Harmony

Kumbaracı (1966) discusses a different type of interaction between consonants and vowel harmony. It is claimed that suffixal palato-alveolar consonants (e.g. /š/ <ş> and /j/ <j> or /dj/ <c>) and the suffixal /j/ <y> influence preceding and following vowels. It is claimed that to their left these consonants only allow /i/ or /ı/ (the choice depending on the frontness of preceding vowels), while to their right /i/ and /ı/ as well as /e/ and /a/ occur (the choice again depending on the harmonic property of the root). In other words, the suffixal consonants deround and raise vowels to their left, while rightward only derounding applies.

The forms in [88] illustrate the leftward derounding and raising effect. The forms in parentheses show up if these assimilations do not apply). The stems are *ye=* 'eat', *sakla=* 'hide', *üşü=* 'be cold', *oku=* 'read'.

[88]

VERB	VOLUNTATIVE		IMPERATIVE PL		CONVERB	
ye=	*yi-yim*	*(ye-yim)*	*yi-yin*	*(ye-yin)*	*yi-yeli*	*(ye-yeli)*
sakla=	*saklı-yım*	*(sakla-yım)*	*saklıyın*	*(sakla-yın)*	*saklı-yalı*	*(sakla-yalı)*
üşü=	*üşi-yim*	*(üşü-yüm)*	*üşi-yin*	*(üşü-yün)*	*üşi-yeli*	*(üşü-yeli)*
oku=	*okı-yım*	*(oku-yum)*	*okı-yın*	*(oku-yun)*	*okı-yalı*	*(oku-yalı)*

Pierce (1966) argues that these assimilations are not obligatory. For further discussion see Anderson (1974), Lees (1961, 1966).

The palatals /k' g' l'/

CS offer the following account of the distribution of the palatal variants of /k g l/:

[89] Velars
* palatal if tautosyllabic with a front vowel
* initially and medially unpredictable occurrences

/l/
* palatal if adjacent to a front vowel
* palatal if in word–initial position
* medially and finally unpredictable occurrences

Unpredictable occurrences of palatal consonants can be lexically associated to F. The predictable occurrences can be derived. In fact, the occurrence of palatal /l/ adjacent to a front vowel can be derived as part of the 'vowel' harmony process.

Palatalization of velars requires a separate harmony statement referring to syllable structure. Palatal consonants cause vowels to be front in suffixes. Front suffixes can occur not only after palatal /l/'s but also after velars (CS [57]):

[90]	*infil'ak*	*infil'a:k'i*	'explosion'
	ittifak	*ittifa:k'i*	'alliance'
	imsak	*imsa:k'i*	'fasting'
	eml'ak	*eml'ak'i*	'real estate

Since palatal velars do not occur word-finally, the palatal character of these velars will only show up if a suffix is added.

CS note that some velars sometimes require suffix vowels to be back even when preceded by front vowels. These velars, then, are represented with [+B], a possibility which is not an option in the framework outlined above. For the time being, we will mark such cases as simply not triggering vowel harmony.

Concluding Remarks

In this chapter some of the more interesting topics in Turkish phonology have been presented within the context of an explicit theoretical framework. In this conclusion we shall repeat some of our findings, and draw attention to some areas which continue to deserve attention.

First, we have looked at the phonemic inventory. An interesting issue here concerns the status of the palatalized vs. velarized lateral and velars, and their effect on the harmony rules. The question of vowel length must be looked into deeper.

The syllable structure of Turkish offers few problems for phonological theory. Epenthesis in tautosyllabic consonant clusters in words of foreign origin merits further study.

A major topic in Turkish phonology is its stress system. 'Irregular' stress in words of foreign origin and certain grammatical categories will probably continue to play a role in the discussion about different phonological theories on stress. The analysis we have discussed relies on cyclic stress assignment and extrametricality.

Turkish displays a large number of phonological processes. Of these, vowel epenthesis, final devoicing, compensatory lengthening, vowel shortening, and the k/ø–alternation have been discussed in this chapter. In particular, we have focused on compensatory lengthening and drawn attention to areas of possible future research.

Vowel harmony is one of the most interesting topics in Turkish phonology. We have proposed a new analysis of vowel harmony, cast in terms of unary components. We have shown that this analysis accounts straightforwardly for the Turkish facts. An intriguing side–issue here is that of the disharmonic roots. Other issues that received attention were alleged labial attraction, regular and irregular suffixation, and the influence of consonants on harmony.

On the whole, we hope to have given the reader some idea of the richness in phonological phenomena of the Turkish language. We hope that future research will especially concern itself with the spoken language, because a number of phonological issues need a firmer empirical or instrumental basis.

SOME CURRENT ISSUES IN TURKISH SYNTAX

BY JAKLIN KORNFILT

INTRODUCTION[1]

The publication of Noam Chomsky's *Syntactic Structures* in 1957 initiated a revolution in the field of linguistics which led to a re–creation of the field. Rather than defining the object of linguistic description as a limited corpus of data, the focus of investigation became the knowledge of a native speaker of her/his language, as expressed by the native speaker's intuitions of gramaticality of utterances in that language. It is important to keep in mind that the speaker can produce as well as understand infinitely many utterances which (s)he has never encountered before, yet, human beings are finite organisms. Grammar, then, must be such that it can *generate* infinitely many sentences, using finite means of description (hence the label usually attached to the intellectual enterprise in question).

The means of description used to this end were manifold at first; their main components (if we limit our attention, as we do here, to syntax) were certain levels of representation (e.g., deep structure, surface structure) and rules – the latter of essentially two kinds: phrase structure rules, which yield deep structure, and transformational rules, which map deep structure into surface structure. Lexical entries are "plugged into" deep structure. The grammar in its entirety, then, has to characterize *all* of the utterances accepted as grammatical by the native speaker, and *only* those.

Now, given that the capacity for developing linguistic knowledge is a property of the human mind, and is unique to humans, one task of linguistics is to formulate a theory that characterizes grammars of

[1]ACKNOWLEDGEMENTS: Work on this article has been funded in part by the American Council of Learned Societies and the National Endowment for the Humanities. I would like to thank Syracuse University for a research leave, and the Department of Linguistics at MIT for its hospitality. The help of Lâle Berke, Hasan Kayalı, Engin Sezer, Gönül Alpay Tekin and Şinasi Tekin in form of native judgements and discussion is gratefully acknowledged. All errors and shortcomings are my own.

possible human languages and excludes impossible languages. This requirement brings with itself the task of constraining the power of formal grammars. The rules of early generative grammars were such that they could produce utterances of a form never attested in any human language; for example one could have phrase structure rules that created, say, a verb phrase without a verb; or one might allow for a transformational rule that might delete every second element of an underlying string. Clearly, no known language exhibits such phenomena.

The enterprise of limiting the power of grammars ultimately led to a view that posited only one transformational rule (Move–α), and essentially eliminated phrase structure rules by deriving their effects (as well as the necessary restrictions on Move–α) from a variety of principles and independently motivated sub–theories. Thus, we now have impoverished grammars with principles imposed on them – principles which are universal, if the enterprise in its current direction is on the right track.

However, it is clear that, while the language faculty is common to all humans (and hence that all human languages share many features which the generative enterprise has been attempting to uncover), languages differ from one another. Linguistic theory has to account for those differences as well as for the common features. In other words, not everything is universal. Current theory allows for such variation among languages via the notion of parameters, whose values can be set differently by different languages: we have adopted what is often referred to as a "principles and parameters" approach.

We now have, then, a model of grammar that is "modular": it consists of a number of components (modules – e.g., "Move–α", $\bar{\text{X}}$–theory (of phrase structure), LF (logical form), with a number of sub–theories (e.g., Binding Theory) and principles (e.g., Subjacency). For more details about the theory, the reader is referred to textbooks (e.g., Van Riemsdijk & Williams 1986); for an overview of the development of the generative enterprise in the USA, a good source to consult is Newmeyer (1980). For important primary literature, Chomsky (1981, 1986^a, 1986^b) should be consulted. I should also mention at this point that I shall use in this chapter terminology used in Government and Binding theory, unless noted otherwise; the reader is referred to the standard works just mentioned for such terminology.

Given the interest in language variation via the parameter approach just mentioned, we have started finding mention of Turkish data and citations of studies on Turkish under general and theoretical topics. Since

Lees's and Underhill's pioneering work on Turkish syntax (within an early transformational model and the Standard Theory, respectively), there have been numerous studies on various topics. In this chapter I will focus on four broad topics which are both of current general and theoretical interest and have relevance within an investigation of the syntax of Turkish. The first is Binding Theory. This topic is especially relevant, because it constitutes one of the sub-theories of the syntactic model as currently put forth in so-called Government and Binding theory. The facts it deals with (correct interpretation and distribution of pronominal and anaphoric elements) are of great interest, since they give evidence of a native speaker's ability to understand a given element in terms of another element.

The second topic is Relative Clauses and $\bar{A}$-Binding. A variety of interesting questions arise under this topic. This is an important issue from a theoretical point of view, since it ties in with the previous section. Binding Theory, as formulated in Chomsky (1981), deals with elements in argument positions; $\bar{A}$-Binding (non-argument binding), i.e., binding of elements by antecedents in non-argument positions, is assumed to obey different principles. However, there has been some theoretical work trying to extend argument-binding to non-argument binding, and it is interesting to see whether such extension brings some insights to Turkish syntax.

The third section deals with empty categories and the Configurationality Hypothesis. The issue of empty, i.e., phonologically unrealized elements, is an important one, since it provides us with an especially revealing window into the native speaker's mind. If the speaker is able to interpret correctly something which is not pronounced, and if (s)he gives grammaticality judgements about particular occurrences of such unpronounced elements, this ability must be a direct mirror of an innate and highly complex language faculty.

Now, it has been claimed that word-order free languages (and Turkish does have extremely free word order) have a variety of syntactic properties that are different from languages like English that have more rigid word order. Perhaps the most important such difference is claimed to exist in phrase structure: Turkish-type languages are supposed to have flat structure, while English-type languages have long been assumed to have hierarchical structure. Another difference would be that Turkish-type languages have no empty categories, while English-type languages do.

The fourth topic deals with the Unaccusative Hypothesis, first advanced in Pearlmutter (1978). This hypothesis claims that intransitive verbs fall into two groups; verbs of the first group have an underlying subject, while verbs of the second group have an underlying object – both groups, of course, have just a subject at the surface. Some scholars have claimed, however, that there is no evidence in Turkish for such a dichotomy of intransitive verbs.

Binding Theory (A–Binding)

Chomsky (1973) claims that tense renders a clause "opaque", so that its elements are inaccessible to operations primarily involving domains outside of (and higher than) that clause:

[1] The Tensed–S Condition:
No rule may relate X and Y in the structure
... X ...[$_a$ ... Y ...] ... (or: ... [$_a$ ... Y ...] ... X ...
where **a** is a tensed clause.

George & Kornfilt (1981) demonstrated that tense does not create opacity universally, contra Chomsky (1973). Turkish embedded clauses, despite lacking Tense, can be "opaque":

[2] **(Biz$_i$) [birbirimiz$_i$-in / kendimiz$_i$-in düşman-dan*
we **each other**-GEN **ourselves**-GEN enemy-ABL

*kork-tuğ-**umuz**]-u* *bil-mi-yor-du-k.*
fear-DIK-**1pl**-ACC know-NEG-PROG-PAST-1pl

'We didn't know that each other/ourselves were afraid of the enemy.'

On the other hand, complement clauses having undergone Exceptional Case Marking (ECM) are tensed in Turkish; yet, they seem to be transparent:

[3] *Ahmet$_i$ [kendin$_i$-i milyoner ol-du/ ol-acak] san-ıyor.*
himself-ACC millionaire be-PAST/ be-FUT believe-PROG
'Ahmet believes himself to have become/(to shall become) a millionaire.'

[4] *Tüccar-lar$_i$ [birbirlerin_i-i iflas et-ti/ ed-ecek]*
merchant-pl each other-ACC bancrupt-PAST/ FUT

san-ıyor-lar.
believe-PROG-pl
'The merchants believe each other to have gone bancrupt/ will go bancrupt.'

Now note that, at least for one dialect, clauses that have ECM-ed subjects lack AGR (for a discussion of this phenomenon and the differences between the two dialects, cf. Kornfilt 1977). On the other hand, the tenseless gerundives do have AGR. G&K concluded that, at least in those languages where AGR was the most peripheral element of the verbal morphology, *it* was the element that created opacity, rather than Tense. They proposed that this type of opacity really captured the notion of "Finiteness"; thus, domains headed by AGR were said to be "finite" and syntactically "opaque". This idea was incorporated into Chomsky's '81 approach to Binding Theory by making it part of the definition of the notion of "accessible SUBJECT"–a notion crucial in the computation of the domain of "Governing Category", the domain within which the Binding Conditions are said to hold. Without going into all the details, I would nevertheless like to present the basic outline of that approach and turn to the Binding Conditions (for A[rgument]-Binding):

[5] Binding Theory (Chomsky 1981):
(A) An anaphor is bound in its Governing Category
(B) A pronominal is free in its governing category
(C) A R(eferential) expression is free

The term "anaphor" covers reflexives, reciprocals, and traces which result from N(oun) P(hrase) movement. An element is "bound" if it has an antecedent that C-Commands it; the element is "free" if it is not "bound".

The domain of an element's "Governing Category" is defined as follows:

[6] X is a GOVERNING CATEGORY for Y iff X is the minimal category containing Y, a governor of Y, and a SUBJECT accessible to Y.

We now need definitions for "governor" and "accessible SUBJECT".

[7] Government:
A governs B in the following structure (i):
(i) [$_z$ ... B ... A ... B ...], where
(a) A = X^o or is co-indexed with B
(b) where Y is a maximal projection, if Y dominates B then Y dominates A
(c) A c–commands B

The definition of SUBJECT:

[8] a. the AGR(eement) element in finite clauses
b. the syntactic subject (i.e., [NP,S] or [NP, NP]) elsewhere

We see that G&K's idea is incorporated into this approach as clause (a) of the definition of SUBJECT.

As for "accessibility", suffice it to say for our porposes that an element A is accessible to another element B iff A co-commands B.

Obviously, the same predictions are made by these definitions for the Turkish data presented so far as those made by G&K, if the embedded clauses are viewed as the G(overning) C(ategories) of the anaphors in embedded subject position. In order for the definition [6] above to yield this result, we must say that the embedded clause must provide the embedded subject with both a governor and an accessible SUBJECT. Kornfilt (1984) claims that the AGR morphology on the embedded verb performs both functions; hence, the embedded clause is, indeed, the GC for its subject. Since anaphors must be bound within their GC per Condition A, that condition is violated in our examples in [2], and ungrammaticality is correctly predicted. On the other hand, since in examples [3] and [4] there is no embedded AGR, the element in embedded subject position finds no accessible SUBJECT for itself in the embedded clause; such a SUBJECT is provided by the higher clause, which also provides the governor for that embedded subject (i.e., the matrix verb); hence, the GC for the lower subject is the matrix, and the anaphor in embedded subject position *is* bound within that GC; hence the grammaticality.

However, there are examples very similar to the ungrammatical ones in [2] which appear to challenge this analysis:

[9] *(Biz$_i$) [***birbirimiz$_i$***-in düşman-dan kork-tuğ-***un***]-u*
we **each other**-GEN enemy-ABL fear-DIK-**3sg**-ACC

bil-mi-yor-du-k.
know-NEG-PROG-PAST-1pl

'We didn't know that each other were afraid of the enemy.'

Note that in this grammatical example, the embedded AGR element is the 3sg form, which, in effect, does not agree with the anaphoric embedded subject; as a matter of fact, it remains invariant in grammatical examples like [9], irrespective of the person and number of the embedded subject.

In order to accommodate examples of this nature, Kornfilt (1984) proposes that not *any* AGR element qualifies as a SUBJECT for the purposes of Binding Theory, but only genuine AGR that shares all relevant features (for Turkish, the features of person and number; for other languages, possibly gender and/or other combinations of features). Such genuine AGR is labelled "strong AGR", while the "pseudo-AGR" exemplified in [9] is labelled "weak AGR" [2] –an element playing no crucial role for Binding, but is necessary in order to ensure that the subject of the domain receives the proper Case marking.

If this approach is on the right track, an embedded subject has the embedded domain as its GC if the embedded domain is headed by strong AGR, but has the higher domain as its GC if the embedded domain is headed by weak AGR; this should hold no matter whether the embedded subject is an anaphor (as in our previous examples), or is a pronominal as in the examples to follow.

One question that arises in a language like Turkish which is a so-called Pro-Drop language (cf. section on Empty Categories) is: What surface element represents the syntactic class of "pronominals", especially where they are subjects? Is it the phonologically unexpressed *pro*, the overt pronouns *o(n)* and *onlar* (I shall confine discussion of pronominals mainly to 3rd person), or the logophoric pronoun/reflexive *kendisi* (which will be discussed briefly in the next section on relative clauses)?

I shall, despite its interest, exclude *kendisi* from the discussion here and refer the reader to Özsoy (1983) and Sezer (1980). There, this

[2] In Kornfilt 1986^b such a distinction between "strong" and "weak" AGR is argued to play a role in morphology, as well.

element is treated essentially as a reflexive, at times long-distance bound, and as influenced not just by syntactic but, importantly, also by discourse-based considerations.

Kornfilt (1984, 1988[b]) treats *pro* as the representative of the syntactic class of pronominals. The overt pronominal is viewed as a marked element which is restricted in its distribution by both syntactic and pragmatic factors. Where it is a subject, it essentially never appears as a free pronoun, able to co-refer with a potential antecedent–rather, it is disjoint; we might call it an obviative element.[3] This fact is accounted for in the following fashion:

Note that Binding Condition B requires that a pronominal be free in its GC. If *pro* is that pronominal as is claimed, co-referentiality with the antecedent should be possible, and it is:

[10] *Askerler*$_i$ *[***pro**$_{i/j}$ *öl-ecek-***lerin***]-e* *inan-ıyor-lar.*
soldiers$_i$ **pro**$_{i/j}$ die-"DIK-FUT"-**3pl**-DAT believe-PROG-3pl
'The soldiers$_i$ believe that they$_{i/j}$ will die.'

Nothing is predicted about the "marked", overt pronominal so far. As a matter of fact, if we replace the *pro*, which is referentially free in the example above, with the overt pronominal, the latter becomes disjoint:

[11] *Askerler*$_i$ *[***onlar-ın**$_{*i/j}$ *öl-ecek-***lerin***]-e* *inan-ıyor-lar.*
soldiers$_i$ they-GEN$_{i/j}$ die-"DIK-FUT"-**3pl**-DAT believe-PROG-3pl
'The soldiers$_i$ believe that they$_{*i/j}$ will die.'

Since the Binding Conditions do not predict this fact (while not being counter-exemplified by them, either), Kornfilt (1984) proposes to use Chomsky (1981)'s functionally-based "Avoid Pronoun Principle" to account for this fact:

[12] The Avoid Pronoun Principle (APP): "Avoid Pronoun".

[3] The only exception to this, as shown by Erguvanlı-Taylan (1986[a]), is the possibility of the overt pronoun as the possessor of a possessive NP which is itself not a subject, and this is only possible if the antecedent of the pronoun is a non-subject. For a very thorough, systematic description of the distribution of both pro and the overt pronoun, especially of the latter where it is either a subject or a non-subject, the reader is referred to Erguvanlı-Taylan's article. Note that in the discussion here, we are concerned with only those pronouns that are subjects.

As such, this principle can be interpreted in various ways: as imposing the choice of an anaphor over that of a pronominal, as, for example, in Harbert (1986) and Bouchard (1985); or, as in Chomsky (1981), as imposing the choice of the phonologically unrealized PRO over that of an overt pronoun.

Actually, while the Chomsky (1981) interpretation has, in general, been taken to impose the choice of a phonologically empty pronominal over the choice of an overt one, the formulation as such doesn't make this un-ambiguous, given that PRO is characterized in that same work as a non-overt element with both pronominal *and* anaphoric features. Hence, taken at face value, the formulation of the APP in [12] is open to both interpretations. I shall continue to view it in the spirit it was intended in, namely as imposing a non-overt pronominal over an overt one, while allowing that, in certain instances (cf. Harbert 1986, Bouchard 1985, Kornfilt 1987), the other interpretation might also be needed.

Since, in Chomsky (1981), PRO is used for some of the instances for which in later versions of the syntactic model the *pure* (i.e., non-anaphoric) pronominal *pro* was proposed (cf. Chomsky (1982)), Kornfilt (1984) replaces PRO with *pro* in the formulation of the APP.

For our purposes here, we see how the APP makes the right predictions about the contrast between [10] and [11]. Now note also that the AGR element found on the embedded verb is "strong" in both cases–a fact taken as crucial for the APP to perform its predictive role, since the two constructions are completely parallel only if they are, among other factors, identical in the type of the AGR element in question.

What happens if, instead, we have weak AGR in our examples? We predict that the example with a *pro* as its embedded subject will become ungrammatical, due to the fact that it is not satisfactorily "identified" in its features by the AGR element, since the latter is not "strong", i.e., it lacks the required set of complete features (cf. also the section on Empty Categories and Chomsky (1982)):

[13] *Askerler*$_i$ *[* pro$_{*i/*j(3pl)}$ *öl-eceğ-***in***]-e* *inan-ıyor-lar.*
soldiers$_i$ pro$_{*i/*j(3pl)}$ die-"DIK-FUT"-**3sg**-DAT believe-PROG-3pl
'The soldiers$_i$ believe that they$_{*i/*j(3pl)}$ will die'

As predicted, this example is good only where *pro* would be identified by the overt value of AGR, namely as a 3rd prs. *singular* subject. An overt pronominal in the same construction would be allowed by the

APP, since the non-overt pronominal *pro* is *not* possible in the same environment. However, this prediction is wrong–at least for the co-referential reading:

[14] *Askerler*$_i$ [**onlar-ın**$_{*i/j}$ *öl-eceğ-***in***]-e* *inan-ıyor-lar*
soldiers$_i$ **they**-GEN$_{*i/j}$ die-"DIK-FUT"-**3sg**-DAT believe-PROG-3pl
'The soldiers$_i$ believe that they$_{*i/j}$ will die.'

However, this is not problematic for the overall account developed here; note that, given the *weak* AGR element heading the embedded clause in [14], the GC of the overt pronominal embedded subject is not the embedded clause, but rather the matrix. There, according to Condition B, that pronominal should be free; however, it is not–it is bound by the matrix subject; hence, the example is out under the co-referential reading.

To recapitulate: At the beginning of the section on (subject) pronominals, we had said that *pro* is the representative element of the class of syntactic (subject) pronominals in Turkish; the overt pronominal does not qualify, because it does not behave as a free pronoun–it seems to be obviative, i.e., disjoint from its potential antecedent. We now see why: Where the overt pronoun is an embedded subject, the APP will rule it out if the embedded clause is headed by strong AGR, and Binding Condition B will rule it out if the embedded clause is headed by weak AGR.

Enç (1985) introduces a counterproposal: While the general approach is similar (i.e., a distinction between two types of AGR, only one of which qualifies as an accessible SUBJECT for the embedded structural subject), the specific proposal is that the distinction is based on the Case-assigning properties of the AGR element, rather than the inherent features of genuine agreement with the structural subject. More specifically, Enç proposes that only Nominative–assigning AGR can count as an accessible SUBJECT; crucially, Genitive-assigning AGR does not so qualify.

If this rival approach were on the right track, it would be very interesting for a number of reasons. First of all, it would show that the earlier, Case-based account of Binding (cf. the "Nominative Island Condition" (NIC) of Chomsky 1980) was correct. Secondly, note that other researchers had also noticed that non–Nominative embedded subjects were accessible to Binding from the higher clause in various other languages, and Enç quotes such studies (the reader is referred to Enç's

paper for references; some languages in question are Quechua and Portuguese). Now note that in those reports, the non-Nominative subjects are Accusative, i.e., they have undergone Exceptional Case Marking, under government by the matrix verb. The same actually happens in Turkish, as well:

[15] *Askerler*$_i$ *[***birbirlerin-***i*$_i$ *öl-ecek]* *san-ıyor-lar.*
soldiers$_i$ **each other**-ACC$_i$ die-FUT (no AGR) believe-PROG-3pl
'The soldiers$_i$ believe e.o.$_i$ to be going to die.'

Given this fact, Chomsky's later version of the Binding Theory (i.e., the 1981 model we have been considering) makes the correct predictions as well: The Governing Category for the anaphor in embedded subject position is not the lower, but the higher clause–the governor for that anaphor is the higher verb; hence, we do not know what contribution Case makes to Binding.

However, the Turkish examples with the Genitive embedded subjects are different, since the Genitive Case is assigned *within* the embedded clause (Enç adopts the same approach towards Case assignment to subjects as Kornfilt 1984: it is assumed that AGR governs the subject and marks the subject for Case). Both Enç and Kornfilt (1984) view AGR as the head of S, while Brendemoen & Csató (1984) view AGR as the head of $\bar{S}$, and INFL (presumably consisting only of Tense/Aspect and the like) as the head of S. The repercussions of this difference are too complex to discuss in this article. Both views, however, seem to attribute non–Accusative Case marking on the subjects to Case assignment by AGR. Therefore, if it should turn out that Genitive–marking AGR does not "create opacity", this would indeed be evidence that such AGR does not qualify as accessible SUBJECT, while Nominative–marking AGR does, since no government of the embedded structural subject takes place from outside the domain headed by AGR in either case. However, we have seen earlier that this strictly Case–based approach does not quite work, since we saw that Genitive–assigning AGR does qualify as accessible SUBJECT (and this both for anaphoric and pronominal embedded subjects, the latter if, as argued, *pro* is taken to be the relevant pronominal), as long as it is "strong", i.e., genuine AGR alternating for the relevant features. Furthermore, it can be shown that overt pronominals, when they are Nominative–marked embedded subjects, are still disjoint, while they should be free and hence able to co–refer with their potential antecedent:

[16] *Askerler*$_i$ *[***onlar**$_{*i/j}$ *öl-ecek-***ler***]* *san-ıyor-lar.*
soldiers$_i$ **they-**NOM$_{*i/j}$ die-"DIK-FUT"-**3pl** believe-PROG-3pl
'The soldiers$_i$ believe that they$_{*i/j}$ will die.' [4]

Given the array of data as reported, I conclude that an approach to Binding as outlined here and as based on genuine feature agreement between the head and its specifier (i.e., the structural subject) is more adequate than an account based strictly on Case.

Now note that if this is true, then the account poses a problem to the Binding Theory adopted in Chomsky (1986[a]). There, it is proposed (in part following an idea by Lebeaux 1983) that the limited distribution of anaphors as subjects is not due to the Binding Conditions, but rather to the Empty Category Principle (ECP), which is defined as follows:

[17] The Empty Category Principle (ECP):
A (non–pronominal) empty category
has to be properly governed.

The definition of the notion "proper government" is given below:

[18] Proper Government:
A properly governs B iff A governs B (and A $\neq$ AGR)

It is claimed under this more recent approach to the distribution of anaphors that anaphoric elements undergo (abstract) movement at the level of Logical Form (LF), adjoining them to INFL, and leaving behind an empty category (ec) that has to obey the ECP. Since such an ec would violate the ECP when it is in subject position (given that it can only be governed by AGR, which is not a proper governor), the unavailability of (certain) anaphors in such positions would follow.

Now note that in Turkish, if the previous discussion is on the right track, there is one generalization that prevails: the "stronger" the AGR element, the less possible it is to have anaphoric subjects that agree with that element and which would have to be bound from outside the domain headed by that strong AGR. Now, if the distribution of anaphoric subjects has nothing to do with AGR as an accessible SUB-

[4] Note that Enç marks examples of this nature as grammatical under the crucial co-referential reading; for me as well as a number of other native speakers, these are ungrammatical under that reading.

JECT, but rather with the availability of a proper governor for ECP purposes, these facts are quite surprising: either AGR in Turkish does not qualify as a proper governor (as in English), or it does. If it does not so, AGR type should be irrelevant to the distribution of anaphoric subjects – but it clearly is relevant.

On the other hand, if AGR does qualify as a proper governor in Turkish (one might say that Turkish differs in this respect from English, due to its nature as a "Pro-Drop" language), then one would expect for strong AGR to be a likelier candidate for proper governor status than weak AGR, and for anaphoric subjects agreeing with such strong AGR to be more felicitous than anaphoric subjects "agreeing" with weak AGR. However, the opposite is the case, as we saw.

I suggest, therefore, that the ECP-based approach to the facts at hand makes the wrong predictions, and that the 1981/1982 model of Binding Theory is the more explanatory approach, provided that the notion "accessible SUBJECT" is refined so as to differentiate among "strong" and "weak" AGR.

Relative Clauses and Ā-Binding

Some of the early work on Turkish syntax took as its point of departure the interaction between morphology and syntax; a very important article in this context is Underhill's (1972) study on the determination of the *-An* versus *-DIK* morphology in relative clauses. His observations, together with a few additional ones, form the basis of Hankamer & Knecht's (1976) account – the most exhaustive study of this topic so far. The facts are as follows:

Where the target of "relativization" is a subject or part of a subject, that target is phonologically unexpressed, and *-An* morphology gets attached to the verb. Where a non-subject or part of a non-subject is the target, that target is also unexpressed; *-DIK* morphology is attached to the verb, followed by Agreement for the subject of the modifier clause; that subject receives Genitive Case (as in most other patterns of embedding):

"Subject Relativization" with *-An*:

[19a] *[Ø$_i$ okul-a gid-**en**] adam$_i$*
school-DAT go-AN man
'The man who goes to school'

[19b] *[[Ø$_i$ kız-ı] okul-a gid-**en**] adam$_i$*
daughter-POSS3sg school-DAT go-AN man
'The man whose daughter goes to school'

[19c] *[[Ø$_i$ hizmetçi-yi kov-ma-sı] biz-i üz-**en**]] adam$_i$*
servant-ACC fire-VN-POSS3sg we-ACC sadden-AN man
'The man who it saddened us that (he) fired the servant'

"Non-Subject Relativization" with *-DIK*:

[20a] *[adam-ın Ø$_i$ kov-**duğ**-u] hizmetçi$_i$*
man-GEN fire-DIK-POSS3sg servant
'The servant whom the man fired'

[20b] *[(biz-im) [hizmetçi-yi Ø$_i$ kov-ma-sın]-a*
we-GEN servant-GEN fire-VN-POSS3sg-DAT
*üzül-**düğ**-ümüz] adam$_i$*
sadden-DIK-POSS1pl man
'The man who we got saddened that (he) fired the servant'

Where there is no S–Structure subject bearing a theta (i.e., thematic) role (or, in R(elational) G(rammar) terminology, there is no non-dummy "final 1"), the "Subject Relativization" marker *-An* is chosen, although the "target" is neither a subject nor part of a subject. Such situations arise when a non-specific subject moves to pre-verbal position, and also when a non-subject is extracted out of an Intransitive Passive:

Relativization out of clauses with non-specific subjects:

[21] *[[Ø$_i$ kız-ın]-ı arı sok-**an**] adam$_i$*
daughter-POSS3sg-ACC bee (NON-SPEC) sting-AN man
'The man whose daughter a bee/bees stung'

Relativization out of clauses with an impersonal passive:

[22] *[otobüs-e* $\emptyset_i$ *bin-il-***en***]* *durak*$_i$
bus-DAT board-PASS-AN stop
'The stop where the bus is boarded'
(' ...where it is boarded to the bus')

H&K proposed an account based on three principles:

1. Primary principle:
   Subjects relativize with the S(ubject) P(articiple) and non-subjects relativize with the O(bject) P(articiple) regardless of case or position.
2. The Mother Node Principle (MNP):
   If a subconstituent of a major constituent of the R(elative) C(lause) is relativized, the participle is chosen which would be appropriate for relativization of the major constituent itself.
3. The No-Subject Principle (NSP):
   If there is no subject in the RC at the time of RC formation, the OP construction is impossible and only the SP construction is chosen.

All the data are covered by these three clauses, which, while being accurate generalizations, are not explanatory. For example, why should the situation depicted by 2 and 3 converge –i.e., why should a part of a larger subject and a non-subject of a clause with "no subject" behave in similar ways with respect to participle choice? And what does either one of the three conditions follow from?

To my knowledge, there has not been any recent research that has carried H&K's account further – a surprising fact, considering how widely quoted and diagnostically used within Turkish studies this account has been. Kornfilt (1984) attempts to derive the first clause from the general idea that resumptive pronouns cannot be $\bar{A}$–bound (read: "non–argument" or "A–bar bound", i.e., bound by an element in a non-argument position), when the binder is "too close" in a sense that needs formalization. The exact condition to be formulated would be akin to Chomsky's (1981) Binding Condition B, which says that pronouns have to be free in their Governing Categories (for definitions, the reader is referred to the references given in the introduction to this chapter, and also to the previous section on Binding Theory), i.e., they cannot have a C–Commanding antecedent within certain phrase–structural domains. This explains the ungrammaticality of examples like:

[23] **John$_i$ hates him$_i$*

Now Chomsky's (1981) Binding Conditions are formulated for A–Binding only, i.e., for those situations where the binder itself is in an argument position (i.e., essentially a position subcategorized for by the verb, or the subject position). Kornfilt (1984) assumes that in Turkish, just like in English, the "gap" interpreted as the head of the RC is occupied by a variable, which is bound by an "operator" in COMP position; the difference between these two languages is that in English, in most instances, the operator is overtly expressed as a relative pronoun, while in Turkish, the operator is always empty. Hence, the representation of the relative clause in [19a] would be as follows:

[24] *[[* e$_i$ *okul-a* *gid-***en***]* Op.$_i$*]*$_{COMP}$ *adam$_i$*
school-DAT go-AN man
'The man who goes to school'

Why can *-An* not be replaced by *-DIK*, otherwise found not just on "non-subject RCs", but also on embedded verbs (especially in complements of factive predicates, hence appropriate for relative clauses)?

Recall that *-DIK* has to be followed by agreement morphology; but if such morphology *were* attached to the verb, the empty category would be *pro*, the phonologically empty pronominal (cf. Chomsky 1982 and the section on "empty Categories"). But if we had a condition, in parallel to Condition B, that said that, within certain domains, pronouns cannot be Ā-bound (i.e., non–argument bound), the ungrammaticality of 1a with a choice of *-DIK* would follow:

[25] **[[* pro$_i$ *okul-a* *git-***tiğ-i***]* Op.$_i$ *] adam$_i$*
school-DAT go-DIK-POSS3sg man
Attempted reading: 'The man who goes to school'

As a matter of fact, Aoun (1981) does propose an approach to Binding in this spirit, and Borer (1984) exploits this idea to explain some aspects of Hebrew RCs. Of course, one question that arises is that of the relevant domain within which a pronoun must remain Ā free. If it is the most immediate S̄ (or, in Chomsky (1986^b), Complementizer Phrase (CP)), then the facts of [19a] are explained, but not those of [19b] and [19c]. One might attempt to expand the relevant domain somehow. Note that in both [19b] and [19c], a subject has been extracted out of a

larger subject; and suppose we replaced *-An* with *-DIK*+AGR(eement). The empty category occupying subject position of the RC is a *pro*, since it is identified by the features of the lower AGR. Now, how far away can its Ā-binder be?

[26] *[[[**pro**$_i$ *kız - ın]-ın okul-a gid -tiğ - i*]Op.$_i$]$_{COMP}$ *adam*$_i$
daughter-3sg-GEN school-DAT go-DIK-3sg man
'The man whose daughter goes to school'

[27] *[[[**pro**$_i$ *hizmetçi-yi kov-ma-sın]-ın biz-i*
servant-ACC fire-VN-3sg-GEN we-ACC

*üz-düğ-ü]*Op.$_i$*]*$_{COMP}$ *adam*$_i$
sadden-DIK-3sg man
'The man who it saddened us that (he) fired the servant'

If the relevant domain within which a pronoun has to be free is the lowest S̄, then the ungrammaticality of [26] is accounted for, as well. However, what do we say about [27]? Given that the *pro* there is the subject of a larger subject which is co–indexed with the higher AGR and is presumably governed by the higher COMP (cf. Chomsky 1986[b]) and perhaps therefore permeable to both government and Binding by that higher COMP, we might be able to say that the *pro* would be Ā-bound in these instances, as well, having thus extended the relevant domain of Ā-binding.

But what about non–subject extractions out of Sentential Subjects? Those are not pronominals, since they don't agree with any AGR marker. As a matter of fact, such extractions are less than perfect, and some speakers are confused as to which "Relativization marker" to choose. Moreover, the "logophoric" resumptive element *kendisi* is possible in these cases, while it isn't in the others discussed so far:

[28] *[[[* **pro**$_i$ *hizmetçi-yi kov-ma-sı] biz-i*
servant-ACC fire-VN-**3sg** we-ACC

çok üz - en] Op.$_i$*]*$_{COMP}$ *adam*$_i$
very sadden-AN man
'The man who it saddened us that (he) fired the servant'

[29] *[[[**kendisin**-in_i *hizmetçi-yi kov-ma-***sı***] biz-i çok*
he-GEN servant-ACC fire-VN-**3sg** we-ACC very

üz -**en**]Op_i]$_{COMP}$ *adam*$_i$
sadden-AN man
'The man who it saddened us that he fired the servant'

[30] [[[*Hasan-ın* $\emptyset_i$ *kov-ma-***sı***] biz-i çok üz-***en***]Op_i]$_{COMP}$
-GEN fire-VN-**3sg** we-ACC very sadden-AN

hizmetçi$_i$
servant
'The servant who it saddened us that Hasan fired (him)'

[31] [[[*Hasan-ın* **kendisin**-i_i *kov-ma-***sı***] biz-i çok*
-GEN he-ACC fire-VN-**3sg** we-ACC very

*üz-***en**]Op_i]$_{COMP}$ *hizmetçi*$_i$
sadden-AN servant
'The man who it saddened us that (he) fired the servant'

As mentioned above, the grammatical instances of these examples are fine for some speakers with *-DIK* instead of *-An*. Whatever the ultimate explanation for the differences in the use of the logophoric resumptive element as well as for choice of participial morphology, the situation is clearly of considerable complexity. Zimmer (1987) also reports free variation of *-DIK* and *-An* morphology for extractions of non–subjects out of clauses with non–specific subjects which are not incorporated.

While Kornfilt (1984)'s idea to relate the choice of participle morphology to the (im)possibility of bound (resumptive) *pro*s covers the data characterized by H&K's clause [19] and part of their clause [20], it doesn't carry over to extractions of non-subjects out of larger subjects, nor does it explain non–subject extractions out of Impersonal Passives and out of clauses with subject incorporation. It does have the advantages of making *-DIK* the elsewhere case (which must be right, given the general morphological facts of Turkish complementation) and of deriving (most of) the "exceptional" *-An* morphology from the intuitively plausible idea that resumptive pronouns cannot occur in certain cases–a fact noted for other languages as well and explainable by theoretically insightful principles. Nevertheless, given that not all *-An*

choices are covered, this remains a challenging and interesting area for future research.

Empty Categories and the Configurationality Hypothesis

Note that the previous discussion of the Binding facts in Turkish crucially relied on the assumption that the phonologically non-overt subject "identified" by strong AGR is a pronominal and should behave, from a syntactic point of view, as expected from any regular pronoun– at least "regular" pronouns in non-Pro-Drop languages.

But how do we know that the assumption made about the true nature of what was called *pro* here is correct? After all, Turkish has "missing" subjects in other contexts, as well; for example, infinitival clauses have non-overt subjects, yet there is no AGR at all. We also encountered phonological "gaps" in relative clauses, and most of those gaps were not "identified" by AGR morphology. What kind of silent element do we have in those instances? In what follows, an attempt will be made to claim that even though all silence sounds the same, there must be different silent elements (i.e., "empty categories"), since they have different syntactic properties. Note also that this topic is related to yet another general issue, namely to the "Configurationality Hypothesis".

Ever since Hale (1978), the idea has been investigated by various scholars that languages fall into different groups according to whether they have phrase-structural V(erb) P(hrases) or not; those which do would be "configurational" within this typology, and those that lack VPs would be "non-configurational". Concomitant with this difference there would be other differing properties: non-configurational languages would be word-order free, would lack (genuinely syntactic) movement rules – although such non–configurational languages would exhibit effects of "Scrambling"; this would be the result of just one central base rule:

$$\bar{X} \rightarrow W^* X$$

where W* stands for a sequence of zero or more categories that are maximal projections (perhaps NP or $\bar{S}$), and X is the head of the maximal projection $\bar{X}$. The great word–order freedom of such languages would be generated in this fashion.

In what follows, I would like to claim that Turkish does have a variety of different kinds of Empty Categories; in particular, it has empty categories that behave like variables, i.e., entities that are Ā-bound (as we saw earlier in the discussion of Relative Clauses) and correspond to wh–traces in languages like English; it has empty categories that are (non-overt) Ā-bound anaphors (in parallel to NP-traces of languages like English)[5]; and Turkish also has the empty pronominal *pro* as well as the anaphoric pronominal PRO.

I will present a brief discussion of some evidence to back up the claim of such rich variety. (For a more thorough investigation, the reader is referred to Kornfilt (1984). For some discussion of syntactic differences between *pro* and PRO within the R(elational) G(rammar) framework, see Özkaragöz 1986[a,b]). Then, I shall address the issue of configurationality in Turkish only.

It has been often claimed by traditional as well as theoretical grammarians (for the latter, cf. Chomsky 1982) that so–called Pro–Drop languages can omit a subject pronominal, because the unrealized element is recoverable via the rich Agreement system in such languages. Taken at face value, this seems to be neither a necessary (cf. languages like Chinese and Japanese, which have no AGR) nor a sufficient (cf. languages like German) condition on unrealized subjects in "finite" clauses. However, here, I shall not be concerned with a satisfactory formulation of the "Pro–Drop parameter" as a universal, but shall content myself with pointing out that in Turkish, such a requirement is, indeed, necessary.

The requirement that *pro* be "identified" by what has been called here previously "strong AGR" is a strict and formal one and cannot be overridden by pragmatic or discourse recoverability of *pro*'s contents; as a matter of fact, the requirement seems to be a local one; as we saw in [13], repeated below as [32] for convenience, even a syntactically "close" antecedent within the structural configuration cannot act as a proper identifier of *pro*:

[32] *Askerler*$_i$ [**pro**$_{*i/*j(3pl)}$ *öl-eceğ*-**in**]*-e* *inan-ıyor-lar.*
soldiers$_i$ pro$_{*i/*j(3pl)}$ die-"DIK-FUT"-**3sg**-DAT believe-PROG-3pl
'The soldiers$_i$ believe that they$_{*i/*j(3pl)}$ will die'

[5]This type of empty category will not be discussed here; for some discussion of such elements, cf. Kornfilt (forthc.).

We see that even though the embedded *pro* has an immediately preceding potential co–referent and identifier, it cannot be properly identified in this way; it needs to be identified by the AGR morpheme.

Examples involving 3rd person plural subjects are especially interesting in this context, since the AGR morpheme for such subjects consists of clearly delineated two parts, one designating plurality, and the other person. The part designating plurality can be omitted when the subject is overt (as a matter of fact, omission is usually preferred):

[33] *komşu-lar tatil-e çık-tı(-lar).*
neighbor-pl vacation-DAT go out-PAST(-3pl)
'The neighbors went out on vacation.'

[34] *komşu-lar$_i$ [pro$_i$ ev-lerin/ *ev-in]-i biz-e*
neighbor-pl house-3pl house-3sg-ACC we-DAT

emanet et-ti(-ler)
entrust-PAST(-3pl)
'The neighbors entrusted us their home'

Again, we see that the plural part of 3rd person plural Agreement can be omitted, where the subject is overt (namely in the matrix clause of [34] above). However, within the possessive phrase, the possessor is omitted – in other words, the subject position of the larger NP is occupied by *pro*; there, the version with full 3rd person plural AGR is needed; omission of the plural part of 3rd pl. AGR, otherwise even preferred, is impossible.

If *pro* needs to be identified by a local AGR element, and if that AGR needs to be fully spelled out (since not even a partially overt AGR within a context with an antecedent is sufficient to properly identify *pro*), it cannot be the non-overt subject we find with infinitivals that lack any AGR whatsoever. Let us call the latter element PRO and mention two independent differences in syntactic properties between these two elements, in addition to the difference in co-occurrence with AGR.

It has been observed in general and in a number of languages that PRO needs to have a theta (i.e., thematic) role, even where it is not controlled by any antecedent and is interpreted as having arbitrary reference; there is no such restriction on *pro*, which can therefore function as an expletive element:

[35] *[* **PRO**$_{arb}$ *Türkiye-de yüzücü ol-***mak***] zor-dur.**
Turkey-LOC swimmer be-INF difficult-ASSERTIVE
'(For **PRO**$_{arb}$) to be a swimmer in Turkey is difficult.'

[36] *[***pro**$_{expl}$ *Türkiye-de hâlâ yüzücü ol-ma-***sı***] bir mucize-dir*
Turkey-LOC still swimmer be-VN-**3sg** a miracle-ASSERTIVE
'That **there** still are swimmers in Turkey is a miracle.'

The other type of syntactic difference concerns differences in binding, which, to my knowledge, were first discussed in Partee (1975) with reference to English PRO versus English overt pronouns, when these elements are in the scope of a sequence that has the form "only NP"; let us first observe the pronoun:

[37] *Only John expected [that he would win]*

This example is ambiguous between two readings; I shall label the distinct interpretations following Partee:

1. Bound variable reading:
   [38a] *No one except for John expected himself to win.*

2. Co-referential reading:
   [38b] *No one except for John expected John to win.*

The corresponding example with an embedded PRO subject instead of the pronoun is not ambiguous:

[39] *Only John expected [***PRO** *to win].*

Here, only the bound variable reading is possible.

Turkish behaves in similar ways, with Turkish PRO behaving as its English counterpart, and *pro* as the English overt pronoun:

[40] *Sırf Hasan* [**pro** *yarışma-yı kazan-acağ-***ın***]-ı*
only Hasan race-ACC win-"DIK-FUT"-3sg-ACC

düşün-yor-du.
think-PROG-PAST
'Only Hasan thought that he would win the race'

Just as in English, both the bound variable and the co–referential readings are available in this example.

[41] *Sırf Hasan* [**PRO** *yarışma-yı kazan-***ma**]*-yı um-uyor-du.*
only Hasan race-ACC win-INF-ACC hope-PROG-PAST
'Only Hasan hoped to win the race.'

Again, just as in English, only the bound variable reading is available, and the co–referential reading is excluded.

We see that, just as in our discussion of A-Binding, Turkish *pro* behaves syntactically like any regular pronominal, while PRO behaves in distinct ways. Although both elements are phonologically non–overt, they can be distinguished by such differences in syntactic properties, and they impose different co-occurrence requirements with respect to AGR.

In Chomsky (1981) and (1982), it is stated that PRO has both pronominal and anaphoric features. If we view PRO as an anaphor, Binding Condition A would require that it be bound in its Governing Category; Binding Condition B would require that it be free in its Governing Category, thus leading to a paradox. If PRO were ungoverned, it wouldn't have a Governing Category, hence no paradox would arise. Hence, Chomsky (1981) states the so-called PRO-*Theorem*, which asserts that PRO has to be ungoverned.

Now, the element that exhibits all syntactic properties of PRO (e.g. control by an antecedent in so-called Control (or Equi) contexts, possibility of arbitrary interpretation, exclusion of co-referential reading in "only-contexts", requirement of thematic role) cannot occur with any type of AGR; as we saw in [36], if it did, its interpretation would change. Why should there be such a prohibition on the co-occurrence of PRO with AGR?

In English, the reason is clear: AGR would govern the subject position; hence, a violation of the PRO–Theorem would arise. Now, it is plausible to explain the same prohibition against co-occurrence of PRO

with AGR in Turkish in the same way. However, if this explanation is correct, then PRO cannot be a sister of the verb in Turkish; in other words, Turkish must have a VP. This is because if Turkish lacked a VP constituent, then PRO would be governed by the verb. But we just established the validity of the PRO–Theorem for Turkish; if so, PRO should not be able to be governed by anything at all.

This type of evidence in favor of a VP in Turkish might be rather theory-internal. However, it is not really different in kind from perhaps more traditional arguments based on pronominal co-reference of the following type:

[42] *[Hasan$_i$-ın anne-si] on$_i$-u çok sev-er*
-GEN mother-3sg he-ACC very love-AOR
'Hasan's mother loves him very much.'

Possibility of co–reference between the pronominal and the possessor within the possessive subject NP argues for the existence of a VP in the following way:

If there were no VP, the object pronominal would C–Command the possessor, its antecedent; this would therefore lead to a violation of Binding Condition C (which requires that a referential expression – here, the lexical NP "Hasan" – be free). However, if there is a VP, the direct object will *not* C-Command its antecedent, and co–reference between antecedent and pronominal should be possible, which it is; hence, there is a VP.

Now, all such arguments in favor of a VP which are based on Binding Theory have a different status within the more recent approach to configurationality by Hale (cf. Hale 1983), who sets up an additional level of representation called Lexical Structure (LS)–an abstract level, where all languages have hierarchical structure and where Binding Theory would hold. However, only configurational languages would also have hierarchical structure at the Phrase Structural (PS) level. Hence, arguments based on Binding Conditions might establish for a given language that it has a VP at LS (which this more recent approach would posit anyway); but this would not make it into a configurational language, since it might still have flat, i.e., non–hierarchical structure at PS.

However, evidence that a given language has a variety of distinct empty categories is more revealing in this context. This is because,

at least in one version of more recent formulations of the Configurationality Hypothesis (cf. Hale 1983), it is claimed that the Projection Principle of Chomsky (1981) (which claims that representations at each syntactic level are projected from the lexicon, in that they observe the subcategorization properties of lexical items), holds only of the LS representations in non-configurational languages and not of their PS representations, while in configurational languages, the Projection Principle would hold of all levels. It is essentially because of the Projection Principle that empty categories have been assumed to exist; if positions required by certain lexical properties of items are not phonologically realized, those positions are assumed to be occupied by empty categories. However, if the Projection Principle does not hold of the PS level in non-configurational languages, then not all positions have to project from LS to PS; hence, "silence" does not have to correspond to a structural position, and there does not have to be an empty category there.

As we saw before, there is ample evidence for distinct *pro* and PRO in Turkish. Furthermore, we saw earlier, during the discussion of Relative Clauses, that the language also has empty categories that are Ā-bound by an operator, i.e., so-called "variables". There, too, we see that *pro* and empty variables behave in distinct ways–and, crucially, in ways that parallel their equivalents in languages like English. In this context, I shall briefly look at the phenomenon of Strong Crossover. Note the following contrast in English:

[43] *The man$_i$ [who$_i$ [e$_i$ thinks [that [he$_{i/j}$ is in love with Mary]]]]*

[44] *The man$_i$ [who$_i$ [he$_{*i/j}$ thinks [[e$_i$ is in love with Mary]]]]*

If we view the Ā-bound variable as an R–expression (just like proper names and full NPs), we would require that it obey Binding Condition C. Hence, variables would have to be free (this, in essence, is the approach taken to "Strong Crossover" in the Chomsky '81 framework). Now note that the variable in [43] is, indeed, A–free, i.e., it is not C–Commanded by the pronoun; hence, variable and pronoun can co–refer. In [44], however, the variable, being C–Commanded by the pronoun, is not A–free, hence violates Condition C; co–reference between pronoun and variable is not possible.

Similar examples can be constructed for Turkish, as well.

[45] *[[*$\mathbf{e}_i$ *[***pro**$_{i/j}$ *Ayşe -ye aşık ol-duğ-un]-u san-an]*Op$_i$*] adam*$_i$
-DAT in love be-DIK-3sg-ACC believe-AN man
'The man$_i$ who$_i$ believes that he$_{i/j}$ is in love with Ayşe'

[46] *[[***pro**$_{*i/j}$ *[***e**$_i$ *Ayşe -ye aşık ol-duğ-un]-u san-dığ-ı]*Op$_i$*] adam*$_i$
-ADT in love be-DIK-3sg-ACC believe-DIK-3sg man
'The man$_i$ who$_i$ he$_{*i/j}$ believes is in love with Ayşe'

How do we know which one of the empty categories is *pro* in these examples, and which one the variable marked as *e*? The Relative Clause morphology gives us the main clues. Thus, we know that relativizing a subject necessitates *-An* morphology; this is what we have in [45], to go along with the interpretation that the Ā-bound variable is in matrix subject position. In [46], we want the Ā-bound variable to be in embedded subject position; hence, since we are relativizing out of a larger non-subject, and there is a thematically marked matrix subject, we have to select *-DIK*. Thus, we could replace the *pro* with a full NP in [46] and still get the interpretation that the embedded empty subject is the variable:

[47] *[[Ahmed-in [***e**$_i$ *Ayşe-ye aşık ol-duğ-un]-u san-dığ-ı]*Op$_i$*] adam*$_i$
-GEN -DAT in love be-DIK-3sg-ACC believe-DIK-3sg man
'The man$_i$ who$_i$ Ahmet believes is in love with Ayşe'

Note that the lower *-DIK* in both [46] and [47] is the regular, factive *-DIK* of general embedding and is independent of the Relative Clause; it is only the second, higher *-DIK* that is indicative of the Relative Clause. Note also that, since the lower *-DIK* is followed by AGR morphology, the Ā-bound variable is actually a *pro*, i.e., it is a resumptive pronoun. But this is irrelevant for our concern here, namely Strong Crossover, which does not care whether the variable is realized as a resumptive pronoun or not, as long as it *is* a variable, i.e., is operator-bound. In order to reflect the Turkish situation, we might offer a slightly different gloss for [46], as follows:

'The man$_i$ who$_i$ he$_{*i/j}$ thinks (he$_i$) is in love with Ayşe'

We have seen now that "silence" in Turkish corresponds to distinct and varied ways of syntactic behavior, hence arguing strongly in favor of distinct empty categories in the language, hence for its status as a configurational language.

Note also that, if a language is non-configurational and lacks empty categories, it would not be expected to exhibit Condition C violations involving empty categories–even in the more recent approaches towards configurationality that relegate Binding Theory to LS. Hence, the last point in our discussion contributes to the topic of configurationality in this way, as well.

To see that *pro* can lead to Condition C effects in contexts more general than Crossover situations, let us look at the following examples:

[48] *Hasan*$_i$ [pro$_i$ *dün* *tanı-ş-tığ-ı]* *kız-a* *telefon et-ti*
yesterday meet-RECIPR-DIK-3sg girl-DAT telephone-PAST
'Hasan$_i$ called up the girl whom he$_i$ met yesterday.

[49] pro$_{*i/j}$ [*Hasan*$_i$ *-ın* *dün* *tanı-ş-tığ-ı]*
-GEN yesterday meet-RECIPR-DIK-3sg
kız-a *telefon et-ti*
girl-DAT telephone-PAST
'He$_{*i/j}$ called up the girl whom Hasan$_i$ met yesterday.'

Note that the surface sequences of lexical NPs and agreement morphemes are the same in these two examples, and that the agreement morphemes themselves are identical, as well; the differences in coreference possibilities can therefore not be due to those elements alone, but must be due to the influence of *pro*. [6]

A yet more recent approach to the configurationality issue is that by Jelinek (1984), later also adopted by Hale (1985), that claims – very reasonably – that the Projection Principle should hold for all languages, and at all levels of representation. Non–configurational languages would differ from configurational ones in that the relevant syntactic properties (here, the Projection Principle) would hold of bound morphemes rather than of the elements otherwise taken to occupy phrase–structural argument positions. The latter, where overt, would be adjuncts and, as such, optional; they could be omitted without violating the Projection Principle.

Note, however, that [48] and [49] would show that, within this approach, Turkish would be configurational. This is because, once again, if the phrase-structural positions (rather than the bound verbal morphemes) are adjuncts, they shouldn't contribute to Condition C violations, since they wouldn't correspond to argument positions at LS. But

[6] A similar argument is given for Hungarian by Horvath (1987).

clearly, they do. Since the surface sequences of lexical NPs and AGR morphemes are the same in [48] and [49], and since the AGR morphemes are identical in the two examples, the relevant violation of Condition C must have been contributed by the lexical NPs (and *pro*). If so, those NPs are not adjuncts, but occupy argument position at PS, and so does *pro*, the empty category.

If this treatment is on the right track, Turkish is a configurational language. Now, there are some facts about pronominal reference, discussed by Erguvanlı-Taylan (1986[a]), which suggests that both C-Command (a hierarchical notion) and linear sequence are important in determining free versus disjoint reference for pronouns in Turkish. Unfortunately, space limitations preclude a discussion of these facts here; but the reader is referred to that excellent description by Erguvanlı-Taylan and invited to attempt a reformulation of her data in terms of phrase structural hierarchy.

Unaccusative Hypothesis and Related Issues

Yet another way in which the Configurationality debate interacts with other notions in linguistic theory is the question whether verbs differ as to whether their (surface) subject corresponds to a (deep) object or subject; in other words, do intransitive verbs fall into the different classes of Unaccusatives (whose only argument is a deep object) and Unergatives (whose only argument is a deep subject)? The question is an important one, irrespective of whether we would want to posit such a characterization for LS or PS.

This question–often termed the "Unaccusative Hypothesis"–has been of interest to both GB and RG. The Unaccusative Hypothesis was first advanced in Perlmutter (1978) and sparked language-specific studies in its wake. The idea is that certain intransitive verbs take only initial 1s (these are often called "unergative verbs"), while certain other intransitives take only initial 2s (so-called "unaccusative verbs"). The 2 of an unaccusative verb undergoes "Unaccusative Advancement" to 1, hence unaccusative verbs surface with a final 1. Within GB, this idea has been implemented in Burzio (1981) as follows:

Unaccusative verbs (called "ergative" by Burzio) are assumed to start with their sole argument within the VP, i.e., in Direct Object position. Further, these verbs are assumed to lack Case marking capacity. As a result, the VP–internal NP will be Case–less; in order not to vi-

olate the Case Filter (which requires that all phonologically realized NPs bear Case), the NP moves to subject position, where it is assigned (Nominative) Case by INFL(ection). The movement, as well as its motivation, are just as in Passive. Intransitive verbs (called "unergative" by Burzio) surface with the same argument configuration they start with.

It is not quite clear how to determine the verbs that are unaccusative or unergative. Although the dichotomy seems semantically based (e.g. non–agentive, non–volitional verbs are said to be unaccusative), this does not always seem to work, at least not universally.

RG characterizes Passives as 2 to 1 Advancement, as well. For transitives, this is straightforward: The 2 becomes a 1, forcing the initial 1 to become a 1–chômeur (i.e., a non–term which doesn't participate in syntactic processes).

Many languages have Intransitive Passives; Turkish is among them, and so are most Germanic languages; English is not:

[50a] *Bu alan-da iyi koş-***ul**-*ur*
This field-LOC well run-PASS-AOR
[50b] **'It is run well in this field.'*

RG characterizes such Passives just as it does transitive Passives, namely as 2 – 1 Advancement. A "dummy" (i.e., an expletive) is inserted as a 2, advancing to 1.

"Unaccusative Passive" is predicted not to exist: An unaccusative 2 undergoes Unaccusative Advancement to 1, as mentioned before. If a dummy were inserted as a 2 and were to undergo Passive 2 – 1 Advancement, the so–called 1–Advancement Exclusiveness Law, which precludes more than one advancement to 1 per clause would be violated. Second application of (intransitive) Passive after regular transitive Passive is precluded on the same grounds.

Özkaragöz (1986[b]), Biktimir (1986), and Knecht (1986[b]) have presented evidence that either prediction is wrong for Turkish, and that Turkish does have both Unaccusative Passives and "Double Passives". According to these researchers (and their informants), Unaccusative Passives are just as productive and acceptable as "Unergative Passives". Double Passives are claimed to be more restricted: the construction has to be in the Aorist, and the verb stem has to be transitive; according to Özkaragöz (1986[a]), no agent phrases are allowed at all; according to Knecht (1986[b]), one agent phrase is allowed.

All of these studies state quite emphatically that the Turkish data in Perlmutter (1978) is wrong, in that Perlmutter claims that the Turkish Unaccusative Passive examples are ungrammatical (the ungrammaticality of his corresponding Dutch examples have, to my knowledge, not been challenged). Instead, these more recent studies claim that Turkish Unaccusative Passives are just as good as Unergative Passives; e.g.:

[51] *Bu yetimhane-de çabuk büyü-***n**-*ür.*
this orphanage-LOC fast grow-PASS-AOR
'It is grown up fast in this orphanage'

[52] *Buz-un üst-ün-de kay-***ıl**-*ır.*
ice-GEN top-3sg-LOC slip-PASS-AOR
'It is slipped on the ice.'

My own judgements as well as those of my informants go more in the direction of Perlmutter's reported facts than those of the later studies. More specifically, [52] is fine under the reading that one glides over the ice for fun. [51] was rejected by most of my consultants. Some unaccusatives *were* accepted, but only after some rich context was provided, and only if the tense was in the Aorist. Neither transitive nor unergative passives encounter any hesitation in acceptance nor do they place requirements on context and tense.

Similar differences in grammatical judgements also prevail with Double Passives. Agentive phrases are completely rejected (as with Özkaragöz's informants, but not Knecht's). The constructions are judged grammatical, if a different morphological analysis (or a very similar-looking, yet different morphological string) is possible. Thus, Özkaragöz's:

[53] *Bu şato-da boğ-***ul-un**-*ur.*
this chateau-LOC strangle-PASS-PASS-AOR
'One is strangled (by one) in this chateau.' (Ö's [1a])

is rejected, but is accepted as follows (with some hesitation):

[54] *Bu şato-da boğul-***un**-*ur.*
this chateau-LOC drown-PASS-AOR
'One drowns in this chateau.'

Similarly, Özkaragöz's

[55] *Bu oda-da döv-***ül-ün-***ür.*
this room-LOC hit-PASS-PASS-AOR
'One gets beaten (by one) in this room.' (Ö's [1b])

was rejected as such, but the following was accepted (or even proposed by one speaker spontaneously) quite readily as the intransitive passive of a "Middle Reflexive":

[56] *Bu oda-da döv-***ün-ül-***ür.*
this room-LOC hit-REFL-PASS-AOR
'One beats oneself (i.e., wails, laments) in this room.'

While we might have encountered a dialect split here, the real question is, what is the status of the Unaccusative Hypothesis in the syntax of Turkish. Özkaragöz (1980) and (1986[b]) presents some evidence, based on the distribution of *-ArAk* adverbial clauses, that the Unaccusative Hypothesis does play a role. Knecht (1986[b]) has an alternative analysis, based on semantic/thematic considerations – a very plausible alternative. For lack of space, we cannot present this debate here; the reader is referred to the works just mentioned for the specifics of the controversy.

Özkaragöz (1986[b]) presents an additional, interesting argument in favor of Unaccusative "initial strata" in Turkish, based on auxiliary choice with certain loanwords: Unaccusatives, she claimes, take *ol=*, and Unergatives choose *et=*:

[57] *ameliyat* **ol-***mak* (Ö's [77])
surgery 'BE'-INF
'to undergo surgery'

[58] *terennüm* **et-***mek* (Ö's [76])
singing 'DO'-INF
'to sing, hum'

While quite convincing, these data are, unfortunately, limited to the borrowed vocabulary consisting of *borrowed noun + Aux* sequences and might therefore not be representative of the underlying argument structure properties of Turkish verbs in general.

The debate around the Unaccusative Hypothesis continues with work like that of Zaenen (1988), arguing that Impersonal Passives do not furnish *direct* evidence for Unaccusatives in Dutch, either, and that various semantic features have to be considered to explain other constructions that distinguish among verb groups.

The characterization of Passive as 2 - 1 advancement has been challenged, as well. This is, perhaps, a plausible move, depending on the alternatives offered.

Within RG, one might characterize Passive as 1 → 1-chômeur demotion (cf. Keenan 1975), thus characterizing transitive and intransitive Passives in a unified way, without having to posit a dummy 2. (This violates the Motivated Chômage Law, which, essentially, states that no demotion of a term is possible without a corresponding promotion to the former status of that term.)

Within GB, a similar question can be asked. There, it is assumed that Passive morphology suppresses the Case assigning capacity of the verb, thus forcing the direct object to move to subject position, thus receiving Case in its new position. The Passive morpheme also suppresses assignment of a thematic role to the subject position; thus, the moved NP will not violate the Theta Criterion, which (stated very roughly) requires that there has to be a 1-1 mapping between arguments and thematic roles. The question is: Which one of these two functions of the Passive morpheme is primary, which one is derivative? Chomsky (1981) suggests Case suppression is primary. However, we could also say that the first property–Case suppression–takes place wherever there is something to suppress–i.e., in transitives only. Suppression of the "subject" thematic role takes place in all instances of Passive.

One fact about Turkish Intransitive Passives–namely that by-phrases are either impossible or restricted to highly non-specific agents–is puzzling under both the RG and the GB account. One might attempt to claim, instead, that the Intransitive Passive is different – both from a syntactic and a morphological point of view – and say that it marks an "impersonal initial 1" or "impersonal external argument", without being a real Passive. One might conceive of this process as being similar to the cliticization of an impersonal subject clitic to the verb. Slightly different proposals, similar in (syntactic) spirit, have been advanced by Biktimir (1986) and Knecht (1986[b]) and pose some problems, which space limitations do not allow me to discuss.

Other interesting issues (e.g. characterization of Causative Formation, its interaction with other syntactic phenomena and with seman-

tics) have to be left out of this discussion, again due to space limitations. The reader is referred to Underhill's bibliography (Underhill 1986[b]) for references dealing with additional topics.

Concluding Remarks

We have seen that Turkish provides exciting facts for syntactic issues of current theoretical and typological interest. While there are interesting and thorough investigations of those facts, as we have seen in the discussions above, we have also had to concede that there are still many important questions left open; for example, there still is no satisfactory account of Turkish relative clauses in all of their aspects. The question of whether the Unaccusative Hypothesis is relevant for Turkish has not been completely answered – or perhaps it is more accurate to say that, while the evidence does seem to point out that the hypothesis is relevant, it is equally clear that it is not as relevant for Turkish as it seems to be for some other languages. In other words, there are not as many phenomena in Turkish that bear witness to the Unaccusative Hypothesis in as clear-cut a fashion as in some other languages. Why should there be such a difference among languages? This is a question which still awaits an answer.

There are also a number of additional questions that arise about the syntax of Turkish and which have not been discussed here; e.g., what governs the choice of *-mA* versus *-DIK* "gerundives"? It is clear that factivity plays a crucial role, but it is equally clear that this notion is not enough to explain all the facts. Another question is choice of bounding nodes in Turkish: In addition to NPs, do we have S or $\bar{S}$ as a bounding node? Has it been completely established that Turkish does have an $\bar{S}$? There are some arguments in favor of the latter, but the last word on this issue has not been written yet.

Very recent work in syntactic theory has posited a dichotomy between lexical and functional categories and their projections (cf. Abney 1987, Fukui & Speas 1986). It has been claimed that a typology of languages might be drawn along such lines, by setting the relevant parameters differently. If this approach is correct, where would the position of Turkish be within such a typology? Thus, I would like to end this chapter with this array of questions for future research in the field of Turkish syntax.

TURKISH SEMANTICS REVISITED

BY BIRGIT NILSSON

INTRODUCTION

In line with the trends in general linguistics, there is a growing interest in discourse analysis of Turkish. Most of the research to be reviewed in this chapter shows a clear orientation towards pragmatic notions for the semantic characterization of the syntactic and morphological phenomena under analysis.

The three topics to be discussed here are Tense, aspect and modality, Case marking and Word order. Due to the difficulty in making a sharp division between syntax and semantics, a number of works dealing mainly with syntactic theory will be mentioned, although they are not themselves part of the survey.

The only abstract notations appearing in the text are well–known symbols in Turkish linguistics: I and A stand for high–vowel harmony *(i–ü–ı–u)* and low–vowel harmony *(e–a)*, respectively. D *(d–t)* and G *(ğ–k)* symbolize consonant assimilations, the former progressive, conditioned by voice, and the latter regressive, conditioned by the vowel–consonant distinction.

TENSE, ASPECT AND MODALITY

One especially interesting and apparently quite complex issue with respect to Turkish predicates is the distinction between tense, aspect, and modality. The notion of aspect has often been ignored in connection with Turkish, which is in most grammar books attributed with a set of tense forms and a few modal forms.

The first and most comprehensive argumentation for a category of aspect in modern Turkish, carried out within a structuralist framework, is found in Johanson (1971). The main discussion concerns the opposition between the suffixes *-DI* and *-(I)yordu*, which have generally been given names like "past"/"perfect" and "past progressive"/"present past", respectively. The latter suffix is claimed to be

the marked and thus the most specified (or context–restricted) one. In distinction to *-DI*, *-(I)yordu* signals "Intraterminalität"; that denoted by the verb is viewed as some portion of event without any consideration of the starting point or the end point of that event. An example from Johanson (1971, 105):

[1] *Demin dışarı bak-tı-m. Kar yağ-ıyordu.*
just out look-DI-1sg snow fall-Iyordu
'I just looked out. It was snowing.'

With this analysis Johanson provides an explanation of the more extensive use of the "unmarked" *-DI*, which may also appear in contexts where, for example, the (unmarked) imperfective member of a Russian aspectual verb pair would be used (cf. *çok okudum* 'I read much', in Russian, *mnogo čitala* (imp.)/ **pročitala* (perf.)).

The "aorist" *-(I/A)r* and the "past time" suffix *-mIş* are also given aspectual values, although Johanson comments that these suffixes are borderline cases with strong modal features. Similar conclusions can be drawn from more recent works. As to the aorist, Yavaş (1982[a]; cf. Yavaş 1980) argues that it is an aspectual/modal notion characterizing "what is typical, normal or even inherent to an entity or to a situation" (*ibid.*, 48; cf. Savaşır 1986). Yavaş, furthermore, states that future reference by the aorist is a prediction based on generalizations from such characteristics rather than knowledge about some coming event, either scheduled or otherwise certain to occur (in which case the "most general" future *-(y)AcAG* or the "progressive" *-(I)yor* would be used, see below).

In Johanson's (1971) system of oppositions, *-(I/A)r*, alternatively *-(I/A)rdI* (aorist + past 'was'), is contrasted with *-(I)yor/-(I)yordu* by the feature "Prägnanz", which is positively marked for the latter and which stands for a focusing on the factual occurrence of the event. The other "progressive" form in Turkish, *-mAktA(ydI)*, is considered to be almost identical to *-(I)yor(du)*, as far as aspectual oppositions are concerned, the main difference being a matter of context type (or style).

Tura (1986[b]) refers to the distinction between *-(I)yor* and *-(I/A)r* as one of "token" (observation, instantiation, transitory status etc.) versus "type" (description, generic or permanent status etc.) and suggests a parallel distinction between the predicative "zero" (ø) and *-DIr* in non–verbal sentences:

[2] *Ali her akşam yedide evine* (a) *gid-iyor* / (b) *gid-er.*
Ali every evening at seven to his house go-
'Ali goes home every evening at seven.'

[3] *Ali her akşam yedide* (a) *evinde-ø/* (b) *evinde-dir.*
'Ali is home every evening at seven.'

The (a)–alternatives in [2] and [3] are stated to be expressions of observed, factual and as such temporally limited behavior, whereas the (b)–alternatives would be conclusions about habitual behavior (*ibid.*, 151ff.).

What is more or less clearly indicated by the different analyses referred to above is thus that, in distinction to other verb suffixes with which it may alternate, the Turkish aorist stands for something "atemporal" to be characterized in such terms as, for example, genericness and/or potentiality. In other words, the aorist would not relate as much to the actual event as to the "idea" or notion of that event.

The contrast between *-DI* and *-mIş* is usually characterized as a difference between direct and indirect experience or witnessed event and inference (Kononov 1956, Lewis 1967, among others; for a more general psychological explanation in terms of "prepared" vs "unprepared mind", cf. Slobin & Aksu 1982). Although he supports such characterizations, Johanson (1971) considers them to be partly context dependent and endeavors to define a still more abstract feature of contrast called "Postterminalität"; the event is viewed after its starting point (for verbs with which the initiation of the event is the critical border, see *başla-* 'begin' in [4] below) or end point has been reached and passed. The marked entity is *-mIş*:

[4] *Bir de baktım ki yağmur yağmağa* (a) *başla-dı/*(b) *başla-mış.*
one too I looked that rain fall-INF-ALL start-
'Suddenly I saw that it (a) started / (b) had started raining.'

In [4a], a situation is reported where the initiation of a new event (the starting of the rain) occurred at the same time as the speaker looked out, whereas in [4b] the rain was already there, as the speaker witnessed. Since this event is related to a past action ('looked (out)'), the corresponding English predicate to *başlamış* may be a pluperfect, as in the translation above (see Johanson 1971, 284; in fact, an English

perfect could also be used, in case the speaker looked out immediately before he utters the sentence: "I looked (out) and noticed that it has started raining.").

With the same feature Johanson separates *-mIştI* (postterminal + past 'was', i.e. pluperfect) from *-DIydI* (non-postterminal + past 'was'), the latter of which is interestingly enough claimed to be, not a pluperfect, as is traditionally done, but rather a "perfect". In order to distinguish *-DIydI* from other "perfects", among them the single *-DI*, Johanson finally introduces a fourth aspectual feature, that of "Diagnostizierung". In connection with this feature, *-DIydI* is contrasted to *-DI* as an entity expressing greater distance in time (a historical rather than diagnostic dimension) and thus a lesser degree of actuality or relevance at the time of the speech event. It is also noted that *-DIydI* is infrequent and appears isolated in Turkish texts to the effect that verbs in *-DIydI* create a discontinuity in the narrative chain. Another perfect would be *-mIştIr*, which despite its "Postterminalität" is stated to be quite close to *-DIydI* through the semantic impact of the added copula *-tIr*. Again, the main distinction would be one of diagnostic *(-mIştIr)* versus historical *(-DIydI)*.

Certain finite verb forms are regarded as non-aspectual by Johanson and are consequently not part of his analysis. The future *-(y)AcAG*, for instance, is without further comment stated to be modal and probably also temporal, but definitely not aspectual. Yavaş (1982[b]) relates this suffix to epistemic modality. With a remark on the rather wide-spread opinion in general linguistics that future reference naturally contains a modal component, in that it is always connected, at least theoretically, with some amount of uncertainty, Yavaş argues that the choice of suffix in Turkish for the expression of futurity depends on the degree of certainty and what type of knowledge the prediction is based on. The most general future marker is *-(y)AcAG* overlapping with both the aorist *-(I/A)r*, in case of future prediction as a result of supposition or conclusion, and the progressive *-(I)yor*, for planned or scheduled future events. The capacity of *-(y)AcAG* to function as an epistemic modal would also explain its use for predictions about past and present events, whereby it becomes semantically close to the necessitative *-mAlI* in the sense of 'it must be the case that ...' (cf. sentences [2] and [5] in Yavaş 1982[b], 413):

[5] *Hasan şimdi kütüphanede ol-acak /ol-malı.*
Hasan now in the library be-
'Hasan will/should be at the library now.'

Another instance of modality not yet explored in any greater depth occurs with the combination of the conditional *-(y)sA* and the verb forms mentioned above (e.g. *gel-iyor-sa-k* (come-present-conditional-1pl) '(now), if we (do) come'). According to Kuruoğlu (1986[b]), the temporal properties of these verb forms are then weakened in favor of modal and aspectual properties, their time reference being less constant than in non–conditional sentences and dependent on the time reference of the main clause. One of the examples given is the following sentence (*ibid.*, 139), where the present/future time aorist *-(I/A)r* denotes either a past habitual event ([6a]) or past future event ([6b]), depending on the temporal features of the following main clause.

[6] *Kardeşim çok denize gir-er-se*
my brother/sister much into the water enter -AOR-COND
hasta (a) *ol-ur-du* / (b) *ol-acak-tı*
sick be-AOR-PAST be-FUT-PAST

'If (whenever) my brother/sister went swimming a lot,
(a) s/he used to get sick / (b) s/he would get sick.'

The aspectual and modal qualities of Turkish verb forms apparently also have influence on their compatibility with different types of negation. The main semantic difference between the verbal suffix *-mA* and the independent *değil* used for negation in verbal predicate structures has been referred to as a distinction between "internal" and "external" (or sentential) negation, respectively (Tura 1981), the former negating the assertion made by the non–negated predicate and the latter negating not only that assertion but also the presuppositions of the sentence ('it is not the case, as is believed/stated, that ...'). Erguvanlı-Taylan (1986[b]) notifies that sentence negation with *değil* is possible after *-mIş* but not after *-DI*, unless there is double negation (*-mAdI değil* 'it is not the case that ... not ...'). The presuppositional force of a structure like [7a] would be stronger than one with *-mA*–negation (*...yap-ma-mış-ım, yap-ma-dı-m* (do-not-past-1sg) 'I did not do') in that "the affirmative statement expressed by the embedded structure is assumed to be in the minds of the speaker and the hearer" (*ibid.*, 170f).

[7] *Böyle bir şey* (a) *yap-mış*/(b) **yap-tı değil-im.*
such a thing do- not-1sg
'It is not the case that I have done anything like that.'

The different behavior of *-mIş* and *-DI* in this respect could perhaps be given as another piece of evidence for the semantic difference between them. Especially when used as a participle (as in *gelmiş kadın* /arrived woman/ 'the woman who has come/arrived'), *-mIş* is strongly resultative (or "perfective", cf. Slobin & Aksu 1982). Even when it appears as a sentence predicate suffix, this feature could make *-mIş* capable of presenting an event as a fact based on certain conditions taken into account, or presupposed, by the speech participants, whereas the less strongly resultative *-DI* would mainly have an assertory force in relation to the event described.

Case

The development of different approaches to case in general linguistics as well as Turkish linguistics offers a good example of the change in semantic explanation from discrete features to broader discourse functions. A much discussed question has been whether cases have meaning at all. Under the influence of phonology, definitions of meaning were at one time based on ideas about paradigmatic oppositions. The members of a phonological system are given values by the phonetic features distinguishing them from other phonemes. Phonotactic restrictions, which neutralize an opposition between phonemes in certain environments, are not in general considered to affect the phonological values constituting the system. Case oppositions have been established according to similar procedures. The oppositional values are semantic features, and the main aim of the analysis is to determine the relationships between the cases themselves, or in other words their "meaning", within the frames of the system. Turkish cases have been described in such a fashion by Hjelmslev (1935-37) and, less rigorously, by Ivanov (1975) and Bastuji (1976). Now, in comparison to phonemes –and certain other morphological categories, like tense and aspect– cases show a much lesser, if any, degree of interchangeability with other cases, and it has often been refuted that cases have meaning; since a case morpheme is mostly predictable, or governed, by another unit in the sentence structure, the argument goes, the meaning connected with it

does not lie in the case morpheme itself but somewhere else. Against this it could be argued, and has been argued, that predictability is a measure of information value rather than semantic value, or meaning, and that the information value "zero" does not necessarily imply lack of meaning. Furthermore, as linguistic analysis has been directed more and more towards explanations on the basis of discourse functions, the definition of meaning in terms of paradigmatic values related to closed morphological systems has become less interesting.

In Nilsson (1985), case marking is regarded as a textual operation related to the speaker's organization of language structures with respect to what he wants to convey by these structures (cf. Nilsson 1979[a,b]). The thesis concentrates on the accusative and the genitive in Turkish. It is shown how both types of case marking are dependent on not only reference, i.e. varying degrees of definiteness and specificness, but also other pragmatic factors. Definites can always and must normally be marked (cf. *kitabı* (acc.) *oku-* 'read the book' vs. the semantically different *kitap oku-* 'read a book/books', and *şehrin* (gen.) *sokakları* (poss.) 'the streets of the city' vs. *şehir sokakları* (poss.) 'city streets' as well as the possible but optional genitive with place names in expressions like *İstanbul('un) sokakları* 'the streets of Istanbul'). For the other pragmatic factors interacting with reference in determining the accusative/genitive of Turkish nouns, one has to consider such phenomena as different aspects of thematic orders and sentence types, as will be exemplified below. All of the conditions found to be relevant for these two instances of case marking are in accord with the traditional claim that the Turkish accusative and genitive basically make the noun independent of its predicate and head noun, respectively (Grönbech 1936, Mundy 1955, Johanson 1977), as well as they provide varied evidence for the claim made by Nilsson (1985) that both cases mark the semantically (referentially and/or thematically) most independent complements and that both of them are thus associated with high transitivity in sentences and discourse.

Accusative

There are instances where the accusative marking in Turkish is linked not so much to the reference status of the noun as to the speaker's perspective on the role of the direct object relative to the non-linguistic situation described. By the accusative marking, that denoted by the direct object phrase stands out as a separate entity to be considered

by itself in its entirety, which in turn may have effect on the interpretation of the whole predicate phrase. The choice between non-marking and marking in the expression 'read the Koran' (*Kuran/Kuran'ı oku-*) could not be related in the usual way to the contrast between "non-referring" and "referring", since 'Koran' stands for something unique and is therefore in some sense always a referring term, like proper nouns and in distinction to common nouns. Instead the difference in marking is in this case to be connected with such contrasts as typical versus non-typical situations or habitual versus non-habitual activity ("to perform the activity of Koran-reading/-recitation" vs. "to read (all of) the Koran at some particular moment, or in some non-typical manner").

A "non-referential" noun noting concept without introducing any referent can also be marked with the accusative. Again, the object is highlighted as a separate entity, usually in relation to some additional, new information. In the following utterance (from Nilsson 1985, 39), *balığı* (acc.) is as much as the preceding non-marked *balık* a non-referential, descriptive term (for the activity of fishing), however, unlike *balık* it is presented as something already known, or given, as against the following *yapayalnız*, which appears as the main information of this sentence:

[8] *Keyfim, yalnız balık tutmaktır.*
my pleasure alone fish it is to catch
Balığ-ı yapayalnız tutmaktır.
fish-ACC completely alone

'My pleasure is to go fishing on my own.
That is, to go fishing completely alone.'

Since new information is normally put immediately in front of the verb (see the section on word order), which is otherwise the regular direct object position, such instances of "given" non-referential objects are mostly found non-preverbally. Non-preverbal direct objects are obligatorily in the accusative, and it may seem as if such positions neutralize the semantic function of the accusative and make it into a purely syntactic case marker, as has also been argued by many linguists (e.g. Dede 1986[a], Erguvanlı 1984, Ivanov 1975, Johanson 1977 and Tura 1973). However, the generally recognized affinity between discourse conditions like "known" and "given" and reference features,

such as "definite" (see e.g. the comments in Johanson 1977 and Nilsson 1979[a]), would not be captured by an explanation which makes a sharp distinction between, on the one hand, syntactically governed non-preverbal accusative marking, which would be, at the most, indirectly connected with the information structure of sentences through word order, and, on the other hand, semantically significant preverbal accusative marking signalling referentiality. Both types of features may interact in varying degrees as regards the marking of both preverbal and non-preverbal direct objects. There can be found non-preverbal direct objects that are not marked, probably because of weak referentiality with the object noun (see Nilsson 1979[a], 130ff. and 1985, 61ff.). Moreover, there occur accusative marked non-referential objects in the preverbal position. One such example from the modern Turkish literature is cited in Nilsson (1985, 67):

[9] *kimisi şapkayı giymiş, kimisinin başında daha fes var ve biz fesin mi, şapkanın mı insana daha çok yakıştığını tartışıyorduk.*

'some had hats on, some still had fezes on their heads and we debated the question as to whether the fez or the hat suits man the most.'

The accusative on the preverbal *şapkayı*, which is non-referential noting type of headgear, may be due to the fact that "what is denoted by the direct object is involved in the immediately surrounding context and is central to the main theme of the discourse" (*ibid.*, 68). Examples like this indicate that accusative marking in Turkish is after all rather intimately related to thematic orders and can be so not only non-preverbally but even preverbally. The marking of indefinite direct objects (*bir kitap* 'a book', *kimse* 'anybody' etc.), which are normally non-marked in the preverbal position, also appears to be quite sensitive to "thematic prominence" (*ibid.*, 66ff.), in addition to features of specificness.

Genitive

The genitive marking is obligatory with all types of referential "possessor" nouns including indefinite ones (cf. *bir şehrin/*bir şehir sokakları* 'the streets of a/some city', *kimsenin/*kimse parası* 'anybody's money'), except in nominalized sentences, where referentially weak in-

definite subjects may be and are often non–marked. Nilsson (1985) discusses the reference status and subjecthood of indefinite NPs noting the existent in existential sentences (like *bir kız* 'a girl' in *yanında bir kız vardı* 'there was a girl by his side') and concludes that such NPs are referentially weak the existence of the referent being asserted/denied/questioned rather than presupposed. Existential sentences of this type normally do not get the genitive marking when nominalized:

[10] *Yanında bir kız-ø ol-duğ-u-nu gördüler.*
by his side a girl be-PTCL-POSS3-ACC they saw
'They saw that there was a girl by his side.'

In this respect they, significantly enough, behave like other types of sentences, which could be characterized as semantically subjectless or impersonal. Compare the non–marked *konuşmam* in [12] with *bir kız* in [10]:

[11] *O adam ile konuşmam gerekir.*
that man with my talking it is necessary
'I have to talk to that man.'

[12] *O adam ile konuşmam-ø gerek-tiğ-i-ni söyledim.*
-PTCL-POSS3-ACC I said
'I said that I had to talk to that man.'

Referentiality is also relevant for the choice of participles in Turkish "relative" structures. This topic has been discussed from a syntactic point of view by among others Underhill (1972), Hankamer (1973), Hankamer & Knecht (1976), Knecht (1979) and, more pragmatically, by Dede (1978*a*, *b*), Erdal (1981), Nilsson (1985) and Zimmer (1987). The "object" participles modifying an original object (like *ev* 'house' in the following example) form possessive nominalizations with the embedded subject in the genitive (e.g. *hırsızın* (gen.) *gir-diğ-i* (V-ptcl.-poss.) *ev* 'the house that the thief entered'). The so–called "subject" participles, which do not provide possessive structures enabling genitive marking (cf. *gel-en* (V-ptcl.) *kadın* 'the woman who is coming'), also appear before non–subjects, when the relativized sentence is impersonal ([13]–[14]) or contains a referentially weak subject ([15]):

[13] *gir-il-en ev*
enter-PASS-PTCL house
'the house entered'

[14] *konuşmam gerek-en adam*
my talking be necessary-PTCL man
'the man that I have to talk to'

[15] *hırsız gir-en ev*
thief enter-PTCL house
'(a) "thief–entered" house'

The general rule is, thus, that nominalized possessive structures with the genitive occur in sentences with referentially strong subjects, whereas in relative sentences with weak or no subjects the noun and the following verb (*konuşmam gerek-, hırsız gir-* etc.) are treated as one unit in the same fashion as simple intransitive verbs. At the same time, just as was noted for the accusative above, other discourse features concerning the thematic prominence of the relative clause and its subject may interact with the referentiality feature of the subject NP in determining the choice of participle (cf. Nilsson 1985, 81ff. and Zimmer 1987). By consequence, there are instances where one and the same constituent structure could be nominalized either way, given different contexts. This holds in the first place for relative constructions with formally indefinite subjects, the reference status of which is neither nil (non–referential, descriptive) nor definite (providing referent identifiability) but may range from non–specific through specific/existential (cf. the discussion in the preceding paragraph) and specific/non-agentive to specific/agentive. The non–possessive construction in [16], taken from Underhill (1972, 90, ex.18), where this particular construction is explained as conditioned by the indefiniteness and the demotion of the subject bir *kuş*, could be changed into a possessive one ([17]):

[16] *Üzerinde bir kuş otur-an ağaç*
on it a/one bird sit-PTCL tree
'the tree that a bird is sitting on'

[17] *Üzerinde bir kuş-un otur-duğ-u ağaç*
-GEN -PTCL-POSS3

The choice between [16] and [17] would depend on such factors as the type of quantification (emphatic 'one' vs the indefinite article 'a') and the thematic role of the referent to 'a bird' in the discourse. The verb *otur-* 'sit' has a strong locational/existential component and makes the referent of the subject a rather passive participant. With a more agentive verb (another feature which, besides specificness, adds to the transitivity of the clause, cf. Hopper & Thompson 1980), the possessive construction would probably be preferred (+):

[18] *Üzerinde bir kuş sek-en / +bir kuş-un sek-tiğ-i ağaç*
hop-
'the tree that a bird is hopping on'

Local cases

The three primary local cases in Turkish –locative, allative (traditionally called dative) and ablative– relate very generally to the basic features of location and direction (see e.g. Bastuji 1976). In Nilsson (1985), these features are discussed from a textual point of view, in line with the pragmatic approach chosen. With a set of "mental reaction verbs", like *emin* '(be) sure', *kork-* '(be) afraid', *sevin-* '(be) happy' and *üzül-* '(be) sorry', which provide a choice between the allative and the ablative, it is shown, for example, that the features 'to' and 'from' signalled by these two cases need not only relate to the meaning of the predicate (reaction "towards" or "because of") but may as well be connected with wider ranging properties of the context (*ibid.*, 115ff.). Due to the semantic nature of the local features involved, the allative for 'to' indicates a more directed orientation (towards a specific goal) than the ablative for 'from' (orientation away, in one or the other direction). In certain contexts this difference may be linked mainly to temporal distinctions, such as one single (finished or future) event [19a] versus repeated instances ([19b]) or states ([20]):

[19] *Öyle* (a) *yap-acağ-ı-n-a /* (b) *yapacağın-dan eminim.*
thus do-PTCL-POSS3-ALL -ABL I'm sure
'I'm sure he will (a) do/settle it / (b) do it/act in this way.'

[20] **Arkadaşım-a / Arkadaşım-dan eminim.*
my friend-ALL -ABL
'I'm certain about my friend.'

Causatives and the case hierarchy

Some of the case characteristics discussed above –'to' for the allative as the marker of a highly specified relation (goal orientation) and the "prominence" feature with the accusative– may also shed some light on the object marking in Turkish causative constructions.

The treatment of causative objects in Turkish adheres quite nicely to the "case hierarchy" established by Keenan and Comrie (cf. Comrie 1976) for the restructuring of grammatical relations as a result of different syntactic operations, among them causativization, or "predicate/verb raising", as it has also been called (Aissen 1974, Dede 1986[b] and others; for alternative analyses, see Aissen & Hankamer 1980, Gibson & Özkaragöz 1981 and Knecht 1986[a]); when a non–causative clause is embedded in a causative sentence, its subject is demoted to the direct object position, or if there was already such an object with the original verb, to the indirect object or an oblique object position. The latter step is somewhat complicated. The basic principle of the case hierarchy is that the presence of an indirect object makes the demoted subject into an oblique object. However, this may be dependent on whether the indirect object is an original indirect object or a derived one. The case hierarchy holds in the first place for derived indirect objects. Thus, the second causative object of a double causative formed on a transitive verb in Turkish ("make sb have sb else do sth") is marked oblique by a postposition, such as *taraf-ı-n-dan* (side-poss.-abl.) 'by', the marker of passive agents, or *vasıta-si-yle* (means-poss.-"with") 'by means of' (syn. *aracılığ-ı-yle*):

[21] *Ahmet mektub-u Hasan-a*
letter-ACC Hasan-ALL
Ayşe tarafından/vasıtasiyle/aracılığiyle imzala-t-tır-dı.
sign-CAUS-CAUS-PAST

'Ahmet had the letter signed by Hasan through Ayse.'

Now, certain exceptions to this order indicate that there is more semantics to the case marking of causative objects than is shown by the case hierarchy, which mainly ascribes to cases a "distinguishing", or "discriminatory", function, i.e. a function of making a distinction between the different syntactic positions of arguments within one and the same syntagm. The marking of the objects in a Turkish causative construc-

tion appears to be sensitive to the semantics of the verb (agentive/non-agentive) and, consequently, the role of the embedded subject and, furthermore, the relationship between the causative object and the primary object of the original non-causative verb.

Zimmer (1976) discusses briefly double causatives from intransitive verbs (*öldürt-* 'make kill', *çalıştırt-* 'make work' etc.) and states that the second causative object, which according to the case hierarchy is to be marked with the allative (like *Hasan'a* in [22] below, = ex. [45] from Zimmer 1976, 410), is at least for some Turkish speakers preferably marked oblique, when the most embedded object (*bizi* in [23]) is an agent:

[22] *Ahmet Hasan-a rakib-i-ni öl-dür-t-tü.*
Hasan-ALL rival-POSS-ACC die-CAUS-CAUS-PAST
'Ahmet made Hasan kill his rival.'

[23] *Ahmet Hasan vasıtasiyle biz-i çalış-tır-t-tı.*
we-ACC work-CAUS-CAUS-PAST
'With the help of Hasan Ahmet made us work.'

One difference between these two sentences is that *Hasan* in [22] is the main actor, the one who carries out the action affecting the patient of *öl-* 'die', i.e. the action is concentrated to *Hasan* (=goal), whereas in [23] *Hasan* is just a "helper" bringing about the activity finally performed by the agent of *çalış-* 'work'. With reference to these examples Zimmer (1976) comments that the allative (or "dative") might be more suitable for "centrally affected causes" ([22]) than for "peripherally involved" ones ([23]).

Further exceptions to the case hierarchy are provided by verbs with their primary object in the allative, such as *bak-* 'take care of'/'look (at)', *başla-* 'start' and *inan-* 'believe in'. Since the direct object slot is not employed by these verbs, they can have their lowest subject in the accusative when causative (cf. *çocuk/çocuğu* in [24] and [25] below, from Erguvanlı 1979).

[24] *Çocuk* (a) *okul-a* (b) *ders-e başladı.*
child shool-ALL lesson-ALL it started
'The child started (a) school / (b) the lesson.'

[25] *Çocuğ-u* (a) *okula* (b) *derse başla-t-tı-k.*
child-ACC start-CAUS-PAST-1pl
'We had the child start (a) school / (b) the lesson.'

Some verbs from this group allow for another order. An alternative to [25b] is:

[26] *Çocuğ-a ders-i başlattık.*
child-ALL lesson-ACC

Özkaragöz (1980) suggests that verbs with this flexibility denote more "intense–directed actions" than other verbs, which also take their primary object in the allative (e.g. *güven-* 'trust', *kavuş-* 'meet') but which do not permit this type of alternation. Erguvanlı (1979) draws attention to the thematic roles of the embedded subject and the primary object. She states that the referent of the embedded subject in alternative formulations like [26] must be human (and thus a potential agent) and that the promotion of the originally allative object to direct object is a means of topicalization. In other words, the object would be given greater prominence and could as such be interpreted more easily as "totally affected" (e.g. the lesson was in fact initiated by the child in [26], cf. Dede 1981). Erguvanlı does not develop this point but compares the acceptability of [26] above (or rather, the order *dersi çocuğa başlattık*) with the unacceptability of [27] as an alternative to [25a]:

[27] **Okul-u çocuğ-a başlattık.*
school-ACC child-ALL

In distinction to 'lesson', 'school' cannot be a totally affected object and thought of as something started by the child. This would then be the reason why [27] is not acceptable.

All of the observations reported here are very interesting and merit further investigation for a still better understanding of the semantics of the causative verb itself (a good survey of recent works is given in Schlögel (1985); as to the relationship of causatives to passives, reflexives and reciprocals, see also Babby (1983), Johanson (1974), Lees (1973), and Zimmer (1976)) as well as the semantics of case marking.

Word Order

Despite its image of being a canonical and quite rigid SOV language with the predicate left at the very end of the sentence, Turkish allows for much word order variation. A lot of important work has been done to analyze the principles of Turkish word order.

Erguvanlı (1984) identifies three sentence positions, which are claimed to have specific pragmatic functions. They are the sentence initial position for "topicalization", the immediately preverbal position for "focusing" and the postpredicate position for "backgrounding". Topics are typically definite. Depending on the type of predicate (verbal/nonverbal, transitive/intransitive etc.) and the animacy feature, indefinite NPs are more or less strongly avoided sentence initially (cf. Erguvanlı-Taylan 1987[b] and Tura 1986[a]). Focus is the information peak and, therefore, in distinction to topic, typically an indefinite or non-referential constituent. It is normally the intonation center of the sentence and carries either normal, unmarked stress or emphatic stress.

Anaphoric processes in Turkish present special problems in the analysis of information structures. Subject pronouns in topic position are syntactically optional. In their absence they would then be "covert" topics. Overt subjects are generally held to be markers of contrast. Enç (1986) expands this idea and states that, besides contrasts concerning either referents (e.g. 'you', not 'him') or propositional content (e.g., *Ekmeğimiz yok. Ben gidip alırım.* 'We don't have any bread. I'll go and buy some.' (*ibid.*, 205), where the fulfillment of the action predicted in the second sentence would make the state described in the first one invalid), a subject pronoun may also signal topical contrast (or "topic switching"), as in *Ali yarın Ankara'ya gidiyor. O bu günlerde cok dalgın.* 'Ali is going to Ankara tomorrow. He's been very absent-minded lately.' (*ibid.*, 199), where *o* does not change referents but indicates a change of subject matter. The omission of oblique pronouns (e.g., *Ali'ye hediyeyi verdin mi? Evet, verdim.* 'Did you give the present to Ali? Yes, I gave (it to him).') is more restricted (cf. the discussion below, see further Erguvanlı-Taylan 1986[a]).

Backgrounding

Word order variation resulting in "inverted sentences" with the predicate in nonfinal position, which is not uncommon in more casual Turkish (conversation, fiction, newspaper columns etc.), has often been char-

acterized as optional and due to stylistic factors with little or no significance for the semantic interpretation of the sentence. The third sentence in the following example contains a postverbal, or backgrounded, element, *ona*:

[28] *Ali'ye gittim. Bir şeyler götürüyordum.*
Annem de, benimle bir hediye göndermişti ona.
'I went to Ali. I brought some things along.
My mother had also sent a present with me to him.'

Backgrounding is defined by Erguvanlı (1984), not just as a stylistic device, but as a method for distinguishing between, on the one hand, prominent information, the foreground, consisting of the predicate alone, alternatively the predicate with a topic and/or a focus, and, on the other hand, less prominent information –either something introduced or indicated earlier in the discourse or some supplementary information to what is communicated in the former part of the sentence (cf. Mundy 1955). Backgrounded material may consist of adverbial expressions, NPs or parts of NPs, mostly then possessive constructions including embedded sentences (cf. Tietze 1958), as well as other types of embedded sentences or parts thereof. As far as NPs are concerned, they cannot be indefinite (except in imperative clauses), stressed or interrogative, which features are strongly connected with new or focused content. Now, this does not mean that backgrounded material is necessarily something already known or, for that matter, deletable. Erguvanlı states that backgrounding may sometimes be the most appropriate order (thus pragmatically not just optional) and that postpredicate elements may even be indispensable, either syntactically or from a communicative point of view. Probably she would prefer the inverted order in [28] with the argument that a preverbal *ona* (*Annem de, benimle ona bir hediye göndermişti.*) would get too much attention and could, for instance, be given a contrastive reading, which is not motivated in this context. Neither would it be felicitous to omit the pronoun, due to the subcategorization of the verb *gönder-* 'send', which normally takes an indirect object, and the distance to the latest mention of the referent *Ali* to this object.

Backgrounding corresponds to but is apparently broader than the notion of "activation" in Erkü (1986, based on Erkü 1983). Activated language material (called "activated topics" in Erkü 1982) is defined as something present in the addressee's consciousness at the time of

the utterance and assumed to be the only type of material allowed to occur in postpredicate position in Turkish. Given this interpretation, "activation" would not comprise the idea of supplementary and in some sense new information proposed by Erguvanlı (1984) in her explication of backgrounding (cf. *...dışarı gidiyor Bulgaristan'a* 'He is going abroad..., to Bulgaria', *ibid.*, 58).

Zimmer (1986) initiates greater differentiation among Turkish postpredicate elements, which according to him are typically backgrounded, as argued by Erguvanlı (1984), but which may also serve other functions, such as to modify sentence intonation and to provide "emphasis without contrast", both of which would help reinforce the current topic.

One special device for the inversion of complex SOV sentences to SVO (or intransitive SV structures to VS) is the particle *ki* introducing a finite complement clause to the preceding main predicate (see [4] above, another example: *Biliyoruz ki, Ayşe de gelecek.* 'We know that Ayse is also coming.', cf. *Ayse'nin* ('Ayse's') *de geleceğini* ('her future coming') *biliyoruz.*). The same particle may be used to put a sentence dominated by an NP after the rest of that NP, in which case it corresponds to a relative pronoun in languages like English (e.g. *İnsanlar vardır ki, bunu yaparlar.* 'There are people who do this.', cf. *Bunu yapan* (V-ptcl.) *insanlar vardır.*). The pragmatics of such inverted orders has not yet been subject to any deeper investigation. However, valuable data and comments on the heavy restrictions on *ki*–constructions and their semantic peculiarities have been provided by Erguvanlı (1981; cf. Bainbridge 1987, Johanson 1975 and Kuruoğlu 1986[a]).

Concluding Remarks

The studies presented in this chapter provide a good basis for future research in Turkish semantics and neighboring fields. Although they belong to different linguistic traditions, from structuralism to transformational grammar and pragmatics, they bring forth fruitful insights in Turkish and are as such precious data sources. The observations presented and discussed in Johanson (1971) are of great significance for the continued work on the Turkish verb suffixes for tense, aspect, and modality, which will probably be still more devoted to narrative structures and spoken language (like the Boğaziçi University project announced in Erguvanlı-Taylan 1987[a]). The semantic features defined by Johanson, albeit very abstract and complex by themselves, seem

in fact to correspond quite well to findings in psycholinguistic studies on the acquisition and processing of these verb suffixes (see e.g. Aksu 1988).

Case marking in Turkish has been shown to be intimately related to pragmatic notions, such as reference, thematic prominence and spatial/temporal orientation. As regards the accusative and the genitive, the most distinct contrast between non–marking and case marking appears in phrases consisting of a single, unmodified ("bare") noun and a verb or possessive noun (*kitap/kitabı oku-* etc.), where the reference status of the noun may be altered solely through the case marking. Both the semantic and the syntactic behavior of such non–marked nouns make them resemble incorporated nouns (Cochrane 1975, Dede 1978[a], Knecht 1986[a], Mithun 1984, Tura 1973 et al.). The bare noun is tightly knit to its head and is a semantic extension to the following verb or noun rather than a referentially independent entity. Such compounding displays a great variety of semantic relations (for a classification of possessive phrases, see Majzel' 1953, 1957), as well as a tendency towards semantic specialization and idiomaticization, but is at the same time to be described as a productive syntactic process in Turkish. Verbal compounds of this type seem to be "detransitivized" with respect to certain syntactic operations (cf. the comments to *hırsız gir-* in (15) above), although in other respects they remain transitive, even when strongly idiomaticized (Nilsson 1986). Further study on this topic would increase our knowledge about the syntax and semantics of Turkish compounding as well as the language universal phenomenon of noun incorporation.

Word order research has so far been concentrated on the information structure of sentences. The pragmatic significance of the topic, focus, and "background" positions is by now a well attested fact, even though there may still be made new interesting discoveries in this field, not least with topicalization. Topics in Turkish are always syntactically bound to the rest of the sentence, even so–called "strong" topics (Erguvanlı 1984) marked with a particle, like *ise* (copula + conditional; note the accusative in *Arkadaşım-ı* (acc.) *ise orada bulamadım.* 'My friend (, on the other hand,) I could not find there.'), at the same time as they naturally show greater independence towards the main predicate than focused and backgrounded elements. In the future there may possibly also develop a still more expansive discourse semantics, where the predicate and nominal semantics reviewed in the earlier sections of this chapter would be integrated with studies on textual orders beyond

the sentence, such as anaphoric processes, the speaker–hearer relation, the speaker's attitude (as to the notion of "empathy" and the use of *kendi(si)* with varying degrees of reflexivity, see Nilsson 1978, Özsoy 1983, and Sezer 1980), and a great many other pragmatic conditions.

ACQUISITION OF TURKISH IN A MONO- AND BILINGUAL SETTING

BY LUDO VERHOEVEN

INTRODUCTION

A fundamental problem of linguistics is to explain how a person can acquire knowledge of language. In the tradition of generative grammar an attempt has been made to solve the problem of language acquisition by studying the abstract principles in the complex syntax of adult grammar. In explaining language acquisition it is supposed that the language ability of human beings is constrained by a universal grammar. Such grammar is defined as a set of language- specific principles, which contains some sort of language acquisition device: a neural mechanism tailored to the specific task of language acquisition. It is also assumed that language acquisition is a genetically transmitted process, and that the basic structures which make language acquisition possible are uniquely linguistic. As such, the neural substrats of linguistic ability are seen as independent from those structuring human cognitive ability.

There are several problems with the generative approach of language acquisition. First of all, the factor time is totally ignored. While explaining its apparent ease, rapidity and uniformity, language acquisition is seen as an instantaneous phenomenon, idealizing it to a situation in which the child has at his disposal all of the principles and parameters of universal grammar and all linguistic data necessary to fix those parameters (cf. Roeper & Williams 1987). As such, it is by no means clear how and in what order linguistic parameters are set, nor is it clear how apparent delays which characterize the developmental process can be explained. In order to understand the process of language acquisition an interaction of maturational, lexical and grammatical factors must be taken into account. With regard to maturation, it seems reasonable that not all of the principles of universal grammar are available at the initial state. As has been proposed by Felix (1986), the emergence of principles most likely follows a maturational schedule. With respect to the lexicon, it can be assumed that there are

certain grammatical developments which are dependent on the learning of lexical properties. Given the fact that lexical entries displaying such features as argument structure and subcategorization restrictions must be learned one-by-one, language acquisition can only be seen as a time-consuming process.

A more fundamental problem of the generative approach concerns the unique nature of linguistic structures. Though the assumption that innate mechanisms underlie human language ability seems quite valid, the conception of a localized language organ is not consistent with modern biological theory. Lieberman (1985) has argued that the neural substrats underlying human linguistic ability do not appear to be disjoint from other aspects of human cognitive ability. Thus, it can be assumed that the process of language acquisition must represent an interaction between universal grammar and other cognitive functions. If it is true that there are no autonomous formal linguistic principles underlying language acquisition, it can be questioned how children acquire rules which relate syntactic forms and semantic functions. On the basis of an extensive series of cross- linguistic studies Slobin (1985) has proposed a set of universal operational principles for the construction of language. In their initial form these are believed to exist prior to the child's experience with language. In the course of applying such principles to perceived speech and associated perception of objects and events, a basic child grammar will evolve, corresponding to the internal organization and storage of linguistic structures.

A final concern is the role of external constraints in the process of language acquisition. Sociolinguistic studies have shown that environmental factors, such as the child's social background, and the social and physical situation in which language behavior takes place may lead to differences not only in rate of development but also in characteristic patterns of use (cf. Wells, 1986).

In the present section the acquisition of Turkish is dealt with. In the first part, research evidence on the acquisition of Turkish in a monolingual setting is summarized. The second part goes into the structural and functional properties which underlie the acquisition of Turkish in a bilingual setting. The section ends with some concluding remarks.

Acquisition of Turkish in a Monolingual Setting

As we know from an earlier review by Aksu-Koç & Slobin (1985), a substantial number of studies have addressed the acquisition of Turkish in a monolingual setting. A distinction can be made between studies focussing on morphosyntactic features and those focussing on semantic features of language acquisition. After the presentation of the major findings in these two research domains the question of acquisitional constraints will be dealt with.

Morphosyntactic features

In a series of studies, Ekmekçi has analyzed various aspects of morphosyntactic development of Turkish. In a study she conducted in 1979, she followed the acquisition of the inflectional system by a girl from high socio-economic status (SES) from the age of 1;3 to 2;4. She found that the agglutinative morphology is acquired very early. As early as the age of 1;3 typical utterances consisted of single roots accompanied by one or two morphemes. By that age the utterances were phonologically constrained in that words were limited to three syllables. However, morphonological adjustments for vowel harmony and voicing assimilation were correctly expressed. Productivity of morphological rules was indicated by expressions such as *ayağı* ('his foot') in which the stop preceding the final vowel is voiced and not elided as in adult speech. Such examples made it clear that suffixation cannot be the result of simple rote learning. By the age of 2;4 utterances generally consisted of two to five words with as many as five inflectional suffixes attached to word stems. Noun inflections for dative, accusative, ablative, possessive and instrumental case and number, as well as verb inflections for tense, aspect, person, negation and interrogation were mastered by that age. Moreover, the order of inflections was never violated. At this stage, there were only a few overgeneralizations, such as the expression of *bebekin* instead of *bebeğin* as the genitive case of *bebek* 'baby'.

In a follow-up study Ekmekçi (1986[a]) examined the significance of word order in the acquisition of Turkish by the same child from the age of 1;7 to 2;4. She found no evidence of contextually inappropriate use of word order. In a number of contrastive uses word order turned out to be semantically or pragmatically motivated. First of all, word order was correctly varied in order to make a distinction between the

attributive ([1]) and predicative ([2]) use of adjectives:

[1] *Soğuk su* (1;7)
'Cold water' (when asking for cold water)

[2] *Balon-umuz kocaman.* (1;10)
balloon-POSS1pl big
'Our balloon is big.' (WHILE DESCRIBING HER BALLOON)

Word order was also correctly used in noun phrases with unmarked direct objects and subjects. The child strictly applied the rule that indefinite or nonreferential objects occur right before the verb and cannot be removed, such as in [3].

[3] *Tolga'ya sosis alacağım.* (1;10)
Tolga-DAT hotdog buy-FUT-1sg
'I will buy hotdogs for Tolga.'

Moreover, the rule that an indefinite subject comes immediately before the verb was applied:

[4] *Oradan avcı geç-iyor-muş.* (2;0)
there-ABL hunter pass-PROG-REP
'A hunter was passing by that place.'

In the case of definite direct objects and subjects word order was varied. In general, there was a tendency to place new information before the verb and given or predictable information after the verb. The child's recognition of this pragmatic preference is illustrated in the following subsequent utterances:

[5] *Üç kardeş var-mış.* (2;0)
three sister there is-REP:PAST-
'There were three sisters.'

Bir-i büyüğ-ümüş kardeş-in.
one-POSS3 big-REP:PAST sister-GEN
'One of the sisters was big.'

Finally, there were cases in which the child seems to initialize the verb in order to emphasize the action expressed by the predicate as in [6]:

[6] *Çek bu ayağ-ın-ı.* (2;0)
pull this foot-POSS2sg-ACC
'Pull back your foot.'

In a cross-sectional study with 60 children in the age range between 2;0 and 5;0 Ekmekçi (1986[b]) found that morphosyntactic errors typically occur in later stages of language development. Among the 2-year-olds she found several instances of incomplete verbs, such as the expression of *al-ami* (take-inability) while deleting the obligatory markers for present progressive and person (= *al-am-ıyor-um*). There was also some evidence for the inadequate patterning of question particles. From examples such as [7] it was clear that children generalize the rule for third person that the question particle is always suffixed to the end of the verb.

[7] *Ben seni döv-er-im mi?* (2;10)
I you-ACC beat-AOR-1sg-QU
'Will I beat you?'

At the age of three, several children had difficulty with the use of adverbial expressions denoting time, place or quantity. For instance, the adverbs *dün* 'yesterday' and *yarın* 'tomorrow' were often used interchangeably. They also had difficulty in using possessive pronouns in constructions, such as the comparative:

[8] *Benim top-um sen-den büyük.* (3;0)
my ball-POSS1sg you-ABL big
'My ball is bigger than yours.'

In this example the genitive marker and the pronoun inflection of the possessive (= *sen-in-kin-den*) are left out. However, most errors were found in the speech of the 4-year-olds. Common errors concerned the reduplication of the possessive marker in a genitive construction (e.g. *bu-nun dolab-ı-sı* 'its cupboard'), the specific case marking of verbs (e.g. *Abi kıskanıyor bana* (= *beni*) 'The elder brother is jealous of me') and the indication of plurality in reciprocal pronouns (e.g. *Birbir-im-le kavga ettik* (= *birbirimizle...*)) 'We quarreled with each other'. Many errors were made in the syntax and morphology of complex constructions requiring the insertion of nominalized verb forms into sentences.

Before age 4, children preferred to combine clauses by simple juxtaposition of clauses or by using connectives which don't require nominalizations. Young children found it easy to nominalize the verb that indicates a specific action. However, they tended to utilize the subject of that action in the nominative form instead of using the genitive form referring to the subject as the modifier of the verbal noun:

[9] *Çocuk-lar* *ye-diğ-i-ni* *gör-dü-m.* (2;0)
child-PL eat-VN-POSS3-ACC see-PAST-1sg
'I saw the children eating.'

As the use of various participial forms increased with age, a variety of errors was found in the speech of the 4-year-olds. In some cases, children tended to leave out the case marker required by the specific verb of the main sentence ([10]).

[10] *Sen gülmek mi seviyorsun yoksa ağlamak mı?* (4;11)
you laugh-INF-QU like-PROG-2sg or cry-INF-QU
'Do you like laughing or crying.'

In other cases the nominalization suffix is used in specific adverbial constructions, such as in [11] in which the suffix *-IncE* is required.

[11] *Ben* *gel-me-m-e kadar* *öyle* *duracak.* (4;2)
I come-VN-POSS1sg-DAT till like that stay-FUT
'It will stay like that till I come.'

Relativization appeared very difficult. Even at the age of 5;0 children seem to avoid it, as in [12] in response to the question 'Who is Kemal bey?'

[12] *Yan-da-ki* *oturuyor* *ya!* (5;0)
side-LOC-*ki* *live*-PROG
'He lives next door, ...!'

In order to arrive at a better understanding of the suffixation process Ekmekçi (1987) analyzed the lexical innovations made by children in the age range 3;0-6;0. She found that in creating new words children acquire the most productive suffix first and then apply it in place of other less productive suffixes which serve the same function, such as in [13] and [14]:

[13] *Öğretmen-ci-lik yap-acağ-ım.*
teacher-*CIlIk* do-FUT-1sg
'I will play for teacher.'

[14] *Saldır-ıcı-ydı.*
attack-ADJ-PAST
'He was aggressive.'

However, children failed to recognize exceptions to the rules as is evident in 15 and 16:

[15] *Biz para-cılık oyna-ma-yacağ-ız.*
we money-*CIlIk* play-NEG-FUT-1pl
'We will play banking.'

[16] *Sar-ış-alım.*
wrap-RECIPR-SUGG1pl
'Let's embrace each other.'

The application of the most productive suffixes was also preempted in loan words, such as in *bakkal-cı* and *berber-ci.*

Verhoeven (1989[a]) studied the acquisition of clause linking. He reports how Turkish children from small villages in central Anatolia in the age range from 5 to 7 learn to master grammatical devices for the linkage of clauses. Foley & Van Valin's Role and Reference Grammar was taken as a starting point for the description of clause chaining in Turkish. The results showed that the syntactic features of dependence and embeddedness influence the developmental process in a significant way. The linking of independent clauses turned out to be easier than that of dependent clauses. In its turn, the linking of dependent clauses was easier than that of embedded clauses. The two syntactic devices seem to pose children for different problems. In order to link dependent clauses children must be able to distinguish finite from nonfinite verb forms. At the same time they must learn to deal with the notion of coreferentiality of subjects in subsequent clauses and with the scope of operators in the predicates involved. In order to link embedded clauses, on the other hand, children must see that verbs can loose their characteristic verbal morphology and that subjects can be marked with a nonstandard genitive.

In a number of studies the acquisition of Turkish grammar was

studied from a cross-linguistic point of view. Ammon & Slobin (1978) analyzed the comprehension of sentences expressing instigative causation of children speaking English, Italian, Serbo-Croatian and Turkish in the age range 2;0-4;4. The children's processing of such constructions turned out to be guided by the morphological devices (causative particle, case inflection) and syntactic devices (periphrasis, word order) in the languages under investigation. It was found that children learning a language marking the direct object of causation with an inflection (Turkish, Serbo-Croatian) performed better than the children learning a language marking this case by word order alone (English, Italian). The overall performance of Turkish children was better than that of the speakers of the other three languages. This finding could be explained by the fact that Turkish causative sentences follow normal SOV word order and require only the insertion of a particle into the verb to carry out the causative function, whereas the other languages use periphrastic constructions to carry out this function.

Slobin & Bever (1982) examined children's sensitivity to the canonical sentence form and to word order and inflectional perceptual strategies for comprehending simple transitive sentences. They selected children in the age range 2;0-4;4 from four different language backgrounds: English (i.e. ordered, uninflectional), Italian (weakly ordered, weakly inflectional), Serbo-Croatian (weakly ordered, inflectional) and Turkish (minimally ordered, inflectional). The results showed that children generally fail to respond systematically to sequences which violate the canonical sentence form of their particular language. They developed distinct word order and inflectional strategies appropriate to the regularities of their language. It was found that Turkish children perform extremely accurately on all of the grammatical sentences even at the youngest age level. They were consistently sensitive to inflection, regardless of word order. There was no marked difference between the types of grammatical sentence forms (i.e. NVN, NNV, VNN) in their sensitivity to inflections. It was suggested that Turkish presents the child with a unique and morphologically simple inflectional marker which always indicates the object, whereas English and Italian depend entirely on word order for the assignment of semantic relation and Serbo-Croatian utilizes both kinds of syntactic cues.

Slobin (1985) compared the use of relative clauses in the speech samples of 57 English and Turkish children in the age range 1;0-4;8. All relative clauses occurring in the adult-child interactions were extracted. The occurrence of relative clauses turned out to be rare in

both languages and was not found before the age of 2;4. However, they were twice as frequent in English as in Turkish. The same asymmetric pattern was evidenced in the adult speech to the children. Moreover, it was found that the acquisition of relative clauses is much faster in English than in Turkish. In many cases Turkish children seemed to avoid relative clauses by using *hani* and *ya* (='well'). An example of such paraphrase is given in [17].

[17] ADULT: *O odada yatak var mı?*
that room-LOC bed there-is-QU
'Is there a bed in that room?'

CHILD (3;0): *Var.* **Hani** *sizin evde büyük yatağınız var* **ya**, *onun gibi.*
'There is. **Well**, in your house you have a big bed; like that one.'

The relative difficulty in Turkish relative clauses was explained from the deformation of the embedded clause which loses the finite verb and normal case inflections of a canonical main clause.

Semantic features

In a number of studies a link has been laid between the language acquisition process and cognitive development by analyzing semantic parameters. The following domains can be distinguished, and will be subsequently reviewed below: reference to entities, spatial reference, temporal reference and causal reference.

With respect to REFERENCE TO ENTITIES, the acquisition of pronominal reference was studied by Slobin & Talay (1986). Their subjects were nine children in the age range 2;0-4;8. They analyzed the utterances with a subject expressed by pronoun or verb inflection alone. For the youngest children, subject agreement was correctly marked on verbs across a range of tenses. Pronominal reference occurred with null, preposed and postposed pronouns. The three options used seemed to express a variety of pragmatic functions. As such, subject pronouns were not simply used redundantly. From an adult point of view, the early use of subject pronouns was neither anomalous nor deviant. In the speech of the oldest children pronouns incidentally indicated topic switch in

short narratives. Development went from isolated child utterances and adult-child sequences to more extended conversations. In addition, the use of pronominal reference was analyzed in terms of an interaction between the sort of speech act performed (response, declaration of intention or need, offering of information) and the cognitive-affective mode of expression used (neutral, assertive, expansive). Compliance and assertion appeared to be major determinants of early pronoun use. Only gradually, was there a development in the use of pronouns to organize and direct more sustained verbal interactions in continuing dialogues. Pronouns in preverbal position were used when the subject is at issue, in drawing a contrast with the subject of a previous utterance, and in marking a neutral report of a past action. An example of the first case mentioned is given in [18].

[18] ADULT: *Kim temizliyor yerleri?*
who clean-PROG-3sg floors-ACC
'Who cleans the floors?'

CHILD (2;0): *Ben temizlemiyorum; annem temizliyor.*
I clean-NEG-PROG-1sg my mother clean-PROG-3sg
'I don't clean [it]; my mother cleans [it].'

Pronouns in postverbal position were used when the verb or the object is in focus and the continuing subject is presupposed, as in [19].

[19] ADULT: *Sen resim yapıyor musun?*
you picture make-PROG-INT-2sg
'Are you making a picture?'

CHILD (2;8): *Yapmam ben resim.*
make-NEG-AOR-1sg I picture
'I don't make a picture.'

No subject pronoun is used in response to a yes/no question, in the case of a contrasting subject theme, and in neutral declaratives.

Slobin (1988) studied the development of clause chaining in the narratives of children at age 3, 5 and 9, and of adults. He found that the gerund suffixes *-(y)Ip*, *-(y)IncE* and *-()rkEn* appear at a very young age, while the suffix *-(y)ErEk* did not appear until age 9, and the con-

junction *ve* was only used by adults. The differences in developmental patterns of these clause chaining devices was explained in terms of the underlying semantic functions. Both *-(y)ErEk* and *ve* require the relation of two phases of situation in the construction of a coherent event. As such, they seem to constitute a complex category which is neither fully temporal nor causal in traditional terms, but rather temporal in terms of the narrative context.The discourse semantic analysis of the devices under consideration was supported by additional evidence from their use in newspapers and fiction.

In a study by Verhoeven (1990[a]) the devices for anchoring discourse cohesion in narrative production of 5- and 7-year-old children were explored. The narrative production of the younger group turned out to be highly composed of deictic markers referring to the extralinguistic context. Moreover, they mostly matched protagonists in the story with a demonstrative pronoun or with agreement on the verb, irrespective of whether these characters are introduced to the narrative or reference to these characters is maintained. The narrative production of the older children turned out to be much more constrained with respect to the intralinguistic context. Their stories were marked by a predominance of nominal forms for reference switching and anaphoric forms for reference maintenance. In addition, the study of spontaneous repairs showed that at age 7 children are able to monitor their narrative production at the intersentential level. They use such strategies as the signalling of episode bounderies and the marking of referents as nonthematic. Another developmental feature of the children's discourse processing was the use of connective markers. Both age groups under consideration used pragmatic devices to relate utterances. However, the older children used relatively more subordination and embedding of clauses. From the study it was concluded that the development of discourse cohesion involves the elaboration of linguistic devices so that independently represented entries in memory form a system. Moreover, a control process must be created which will guide and constrain the production of discourse markers across a span of related sentences.

In a follow-up study Verhoeven (1990[b]) examined how the same groups of Turkish children learn to use temporal devices for the organization of narratives in picture telling. It was found that at age 5, some children almost exclusively use the progressive *-Iyor* to describe both states and events. However, most children described the narrative in terms of the suffixes *-mIş* and *-Iyor*, referring to states and events, respectively. A prototypical example of the use of the two forms is

given in [20].

[20] *Aslan hazırla***mış**, *sofraya götür***üyor**.
'The lion has prepared the food, and brings it to the table.'

At age 7, all children used a system of verb marking sharply distinguishing between states and events. Besides *-mIş*, *-DI* turned out to be a second marker of past reference. In the vast majority of cases it is used in order to refer to events which have taken place in pictures earlier described. The form *-mIş*, on the other hand, is strictly used in case of a change of affairs, when only the result of a previous action and not its starting point can be perceived. The description given in [21] gives an example of the temporal distinctions children make while using the two forms in opposition to *-Iyor*.

[21]

Aslan da kalktı/kalkmış.	'And the lion rose/has risen.
Kuş ta gitti.	And the bird went away.
Kalkmış gidiyor.	He (lion) has risen and goes away.
Bu adamın evine girmiş.	He has entered the house of this man.
Bu adamı uyandırdı.	He awakened this man.
Sonra o da kalkmış.	Then he has also risen.
Adam minderde oturuyor.	The man is sitting on the cushion.'

By making reference to preceding events in the story the use of the suffix *-DI* can be motivated in the light of discourse coherence in that it marks the plot-line connecting the successive pictures in the story.

The acquisition of SPATIAL REFERENCE was investigated by Johnston & Slobin (1979). In a pseudo-longitudinal study they analyzed the ability of children in the age range 2;0-4;8 to produce locative pre- or postpositions in English, Italian, Serbo-Croatian and Turkish. They used a locative elicitation measure in which a small and unoriented object was placed in relation to a reference object. The child was encouraged to give specific locative responses. There were considerable differences in degree of lexical diversity in the four languages under consideration. English and Serbo-Croatian showed a great range of possible responses, whereas Italian and Turkish were much closer to a one-to-one relation between locative and surface expression. Across

languages a general order of development was found. 'In', 'on', 'under' and 'beside' were acquired first, followed by 'back' (objects with back-front orientation), followed by 'front' (objects with back-front orientation) and 'between', followed by 'back' (unoriented objects) and finally 'front' (unoriented objects). Thus, the order of development for locative expressions in Turkish was found to be similar to that in Indo-European languages. Moreover, this order perfectly matched the order which was predicted from conceptual development (Piaget & Inhelder 1967). Slight language-specific differences in the course of spatial development were found as well. From the longitudinal data-base it was found that Italian and Turkish children learned the locatives under investigation more quickly and at an earlier age than their English- and Serbo-Croatian-speaking peers. They commanded a larger repertoire, made fewer substitution errors and learned more locative terms.

Verhoeven (1987[a]) examined the use of devices for spatial reference in the Turkish speech of older children. He found that children in the age range from 5 to 7 tend to express themselves more explicitly, gradually lessening their use of deictic terms. In nominal expressions they demonstrated fewer cases of pronominal reference to the extralinguistic context, while in locative expressions the use of adverbs decreased. Furthermore, it was found that the children's use of deictic terms had a negative correlation with their global language proficiency. With respect to the use of demonstratives incorporating distance features, children showed a clear preference for *o*, to a lesser degree for *bu*, and to a still lesser degree for *şu*. The children were more or less consistent in their use of distance features in pronominals and in adverbs of place. They used a two- step demonstrative system: *bu* was used as the unmarked case, *o* for reference to (non-agent) persons, or for the expression of a contrast of views in discourse, as in [22].

[22] **Bu** *ağacın altında oturuyor.* '**This one** is sitting under the tree.
O *dondurma yiyor.* **That one** is eating icecream.'

Incidentally, they used a three-step demonstrative system. If they did so, *şu* was mostly used in order to mark an object outside the speaker's domain, but within the visual field, or to mark a contrast of views in discourse.

In a number of studies the question of TEMPORAL REFERENCE was addressed. Aksu(-Koç) (1978[a], 1988) examined aspect and modality in

children's development of past tense. She investigated the order of acquisition of past tense forms by analyzing longitudinal data from three children in the age range 1;9-2;6 and cross-sectional data from children between 3;0 and 6;4. She found that at the age of 1;9 children used the progressive *-Iyor* for marking durational events in the present and the past *-dI* for the expression of the final result of changes of state occurring in the past. As such, the two inflections marked aspect rather than tense. Starting at the age of 2;0, children generalized the meaning of past tense *-dI* from completion to past tense. Moreover, they began using the evidential past *-mIş*. This inflection was first used to mark stative aspect without carrying an inferential connotation as is demonstrated in [23].

[23] (during picture description) (2;3):

Her taraf *pis* *ol-muş*
every side dirty become-REP:PAST
'Everywhere got dirty'

Bak *uçağa* *bin-di*
look-IMP plane-DIR board-PAST
'Look it got into the plane'

The *-mIş* inflection is used for description of a stative condition, whereas *-dI* is used for reference to a dynamic state. For several months *-mIş* was used as a past tense marker of indirect experience, describing events inferred from their end state. Finally, the differentiation of inferential–evidential modality was acquired, going from early grammatical marking of inference from perceptual experience to later encoding of hearsay.

Slobin & Aksu (1982) discussed the underlying cognitive processes in the child's acquisition of tense and modality in detail. They argued that the cognitive processes in the acquisition of *-dI* and *-mIş* are similar: both imply the transition from a current state to inference of the preceding process. The fact that the *-mIş* form emerges about 3 months later than the *-dI* form is explained from the notion that making an inference about a past process is more complex than the construction of a process from memory on the basis of its observable end results. Furthermore, they claimed that the extension of reference of the two forms to events in the nonimmediate, non–witnessed past requires cognitive

skills, such as the distinction between direct and indirect experience, the recognition of the informational perspective of the speaker and the ability to identify assertions of indirect information.

Aksu–Koç (1986) focussed on the acquisition of linguistic means for past reference in relation to its function for discourse organization. Starting at age 1;11 she found children describing only foregrounded events. The background of utterances of children turned out to be limited to the situational context in the immediate present. At age 2;5 the background constituted argumentative expressions, such as requests and justifications of actions, or expressions recounting past events. At this stage the scope of reference was extended to distant past events. Starting at age 3;0 children were able to produce complex propositions while organizing backgrounded and foregrounded information in terms of coherent narrative structures. The mastery of more complex linguistic structures also enabled children to approach actions and processes from different perspectives.

Savaşır (1983) examined the use of future reference in three 2–year–old children in the light of intention and interaction. The children used the future tense *-(y)EcEk* for the expression of their own intentions to act and the results of their actions. Gradually, they learned to distinguish intentions and consequences while using different linguistic forms. For the expression of actions to be carried out by the children, firstperson future tense was used. In interactions where future actions were jointly planned, the optative was used, expressing a coincidence of the children's plans and the approval of the adult. The results of the children's actions were described by the aorist *(-()r)*.

Boeschoten (1987) studied the acquisition of modality in Turkish in 5- and 7-year-old children. He analyzed the children's responses to three pictures serving to express modality. The data confirmed the earlier results on the acquisition of modality in European languages. He found that the formal means for the expression of deontic and epistemic modality were developed with ongoing age. The 'weaker' types of modality emerged early, expressed by the aorist–base and the future marker *-(y)EcEk* and its elaborations. An example of the latter is given in [24].

[24] *Tavşan arı yakalıyacak oluyor.*
rabbit bee catch-FUT become-PRES-3sg
'The rabbit is going to catch a bee.'

The acquisition of CAUSAL REFERENCE was investigated by Aksu (1978[b]). She analyzed speech samples of 26 children in the age range 2;0-4;6, together with longitudinal data of 3 children in the age range 1;9-2;4. Causation was defined as a relationship between two or more distinct states of affairs which are encoded in entire propositions. All spontaneous or elicited responses encoding a cause-effect relation were examined. She found evidence for four acquisitional stages in the expression of cause-effect relations. In the age range 2;0-2;4 causal relations were primarily expressed by simple juxtapositions of two propositions without the use of any explicit morphosyntactic means of connection. Cause-effect ordering of propositions was used for the expression of empirical (temporally ordered) causal relationships between events. The reverse order was used for expressing motivational relations between intentions and acts. In the next stage (2;4-3;0) children used context-dependent connectives which do not require nominalizations. Such connectives construct relations at the discourse level through deixis, ellipsis and anaphora. *İşte* and *de* were used first. The anaphorical use of *işte* is demonstrated in [25].

[25] ADULT: *Köpekler niye içer?*
dog-PL why drink-AOR
'Why do the dogs drink?'

CHILD (2;8): *İçer işte, çocuklar içer.*
drink-AOR just so child-PL drink-AOR
'They just drink, children drink'

Later on the connectives *ondan* and *onun için* were acquired, both expressing cause-effect relations in a more explicit way, without the need of sequential notions. However, the two forms still have just anaphoric functions in discourse, treating two causal propositions as independent clauses. In the third stage (starting at age 3;0) children began to use context independent connectives. *Diye* and *-(y)IncE* were expressed relatively early, probably because these forms do not require children to make a clear distinction between causal and temporal sequences. Later on expressions of causal relations were found which require nominalization of the verb, i.e. *-dIğI için* and *-mEk için*. Finally, the conjunction *çünkü* was expressed (see [26]).

[26] *Anne, bir daha A.'la konuşmıyacağım,*
çünkü *o benimle yarış yapıyor.*

'Mother, I won't talk to A. again,
because he races with me'

Given the fact that this form requires the reversal of the temporal order of events, it calls for an explicit syntactic differentiation of causal from temporal relations. The overall conclusion of Aksu was that the primary determinant of the order of acquisition of devices for causal reference is conceptual complexity.

Clancy, Jacobson & Silva (1976) examined the acquisition of devices for temporal and causal reference from a cross-linguistic point of view. In a pseudo-longitudinal design they analyzed speech samples of Turkish, English, Italian and German children in the age range 1;2-4;8. For the language under consideration they found a high degree of similarity as regards the order of acquisition of conjunction types. First, the notions of symmetric coordination, antithesis, sequence and causality were expressed, followed by conditional notions in response to simple directives. In the second stage, 'when' statements were used in both conditional and temporal sense. In all cases the expression of sequence of states preceded the expression of overlapping states. Finally, 'before' and 'after' were used in subordinated clauses. Given the consistency of the pattern of acquisition in the four languages, an underlying conceptual basis for the order of emergence was supposed.

Acquisitional constraints

The studies on the acquisition of Turkish give evidence of the essential steps that are involved in the elaboration and reorganization of the linguistic system towards the adult norm. On the morphosyntactic level, children must learn the inflectional strategies for comprehending and producing simple sentences. Moreover, they have to master the pragmatic strategies related to word order. With respect to complex sentences, children must learn to use a variety of complex constructions which require the insertion of nonfinite verb forms. From a semantic point of view, children must learn to match the right linguistic forms to preestablished meanings.

An emergent question in the field of language acquisition is how the child succeeds in progressing from being a nonlinguistic individual to a creative language user in a relatively short period of time. Many theo-

retical and empirical attempts have been made to answer this question. The basic approach has been to formulate constraints which limit the possible routes of development while ensuring rapid progress. A distinction can be made between internal and external constraints, focussing on the child and on the environment respectively. Turkish developmental data have also been analyzed in terms of constraints. However, data referring to the role of the environment in the acquisition of Turkish are scarce.

In two studies the language input to the child was analyzed. After comparing the use of language input in different languages, Slobin (1975) concluded that in the case of Turkish, word order was highly varied. Although SOV is the dominant word order in Turkish, only half of the adult utterances to children conformed to this word order. As such, the induction of pragmatic word order rules for children was found to be facilitated. A similar conclusion was arrived at by Slobin & Bever (1982).

No attempt has been made to study the role of contextual variation in the acquisition of Turkish. Nor has the effect of social class differences been examined. Though the interaction patterns in families with different socio-economic status were found to be different (Gürkaynak, 1980), the influence of such differences on language development has not been analyzed. In all studies on language acquisition reported on, samples of informants have been as much as possible equated on sociolinguistic grounds. In most cases, the children's parents were urban professionals, of whom at least one had a college degree.

With respect to internal constraints, the study on Turkish has shown many parallels between features of language and conceptual development. The studies on the acquisition of reference to pronouns, location, time and cause clearly suggest that particular aspects of conceptual development constitute a basis for grammatical marking. Within each of these referential domains the order of emergence of form-function mapping devices was found to be based on conceptual development. Moreover, the numerous cross-linguistic studies in which Turkish was one of the target languages gave evidence for the existence of a central conceptually based organization unit for grammatical marking in the various languages. Another sort of internal constraint involves the limitations on the kinds and amount of information children can utilize during the process of language acquisition. Slobin (1973, 1982, 1985) has brought forward the notion of OPERATING PRINCIPLES. Such principles are defined as strategies for the perception, production and anal-

ysis of speech. They are supposed to be part of the initial equipment of language acquisition and are phrased as 'self-instructions'. With reference to the acquisition of Turkish, Aksu-Koç & Slobin (1985) have suggested that the following operating principles are relevant:

1. Pay attention to word ends.
2. Find local cues overtly marking underlying semantic relations.
3. Apply the strategies for processing simple sentences to complex sentences.
4. Mark semantic relations overtly and clearly.
5. Rely on situational support.
   The first three principles mentioned apply to speech reception, the two others to speech production.

A final issue concerns the relative ease with which children seem to master the rules for the comprehension and production of simple sentences in Turkish. Aksu-Koç & Slobin propose three principles which may account for the relative transparancy of Turkish in this respect. First, the relation between semantic elements and surface forms is highly transparant in that the mapping comes close to 1:1. Second, grammatical functors have limited and consistent semantic functions. Third, there is a preference to order conjoined clauses on semantic grounds.

Acquisition of Turkish in a Bilingual Setting

In this section studies on the acquisition of Turkish in a second language environment will be summarized. First, the structural features in acquisitional processes are dealt with. In addition, the phenomena of borrowing and code-switching in the speech of Turkish children are outlined. Finally, the question of acquisitional constraints is discussed. Given the fact that most research in other countries is lacking or still in progress, research findings on the acquisition of Turkish in the Netherlands are emphasized.

Evidence on stagnation

From various reports it can be concluded that the mother tongue development of Turkish children in Western European countries is weakened at an early stage. Both Öktem & Öktem (1986) in Germany and

Boeschoten & Verhoeven (1986) in the Netherlands have come to the conclusion that there is evidence to be found for stagnated acquisition of Turkish among children of Turkish migrants in some structural domains.

In studying distinct subskills of Turkish children in the Netherlands and in Turkey, Verhoeven & Boeschoten (1986) found some evidence that in addition to temporal differences, structural differences in mother tongue development also occurred. They tested lexical, morphosyntactic and pragmatic abilities in Turkish among 4- to 8- year-old children in the Netherlands and 5- and 7-year-old children in Turkey. Lexical skills were measured with a productive vocabulary task along with a count of content word types in 75 utterances of spontaneous speech. In order to assess morphosyntactic abilities a sentence imitation task was administered and two spontaneous speech measures were computed: mean length of utterances (MLU) and the number of nonfinite verb forms over 100 utterances. On the pragmatic level, the percentages correct responses to wh-questions were computed along with a coefficient expressing the degree of pronominal reference in discourse. On all measures assessed there was no attrition of first language abilities of children in the Netherlands: from 4 to 8 years there was a gradual progress of abilities.

	Children in Turkey	Children in the Netherlands	
	Factor 1	Factor 1	Factor 2
Productive vocabulary	.86	.01	.94
Content word types	.84	.66	.27
MLU	.87	.37	.38
Nonfinite verb forms	.82	.38	.57
Wh-questions	.52	.67	.19
Deixicality	-.54	-.63	.02

TABLE 1. Outcomes of factor analyses on linguistic parameters assessed with children in Turkey and in the Netherlands.

However, progress in Turkish language abilities was markedly slower than that of monolingual peers in Turkey. At the morphosyntactic level, there was a strong divergence as regards the acquisitional pattern of nonfinite verb forms. It seemed that the use of complex constructions requiring nominalized verb forms is extremely difficult for the children in the Netherlands. In addition, the interrelatedness of

language parameters in the two acquisitional contexts was studied. A factor analysis was carried out on both groups of children to compare the underlying dimensions in language proficiency. The results are displayed in Table 1.

Whereas mother tongue proficiency for the children in Turkey showed the characteristics of a one-dimensional construct, for the children in the Netherlands this proficiency could be interpreted in terms of two underlying factors: Factor 1 primarily related to discourse parameters, Factor 2 to competence parameters. Apparently, the children in the Netherlands not only have a lower level of mother tongue competence, but also have problems applying the knowledge of their mother tongue they have developed.

Morphosyntactic features

For the present purpose, the typical grammatical errors made by the same group of children in the Netherlands were analyzed. For the 4- and 5-year-old children the number of errors turned out to be relatively small. Moreover, their errors seemed to go along with the expansion of the children's linguistic repertoire. Along with the introduction of new functors, children appear to start out with uninflected forms. While learning to apply the regular inflectional endings, they tend to overgeneralize such endings to forms that should not take them (e.g. the use of *koşiyan* instead of *koşan* 'running'. In this stage children also tend to be redundant in the marking of causative (e.g. *götürttü* 'he brought'), or potentiality (e.g. *konuşabilmez* 'she was not able to talk'). Complex linguistic structures initially appear to be acquired as unanalyzed units. Gradually, children learn to discover the elements of which these forms are composed, along with the rules according to which these elements are combined. As is clear from the children's use of the pronominal suffix *-ki*, such discovery goes along with the occurrence of both uninflected forms (e.g. *öte çoraplar* 'the socks over there') and overextended forms (e.g. *şuradaki oturan* 'the one who is sitting over there'). Similar cases of underextensions and overextensions of formal principles occurred in the children's initial trials of clause linking. In [27] the conjugation of the verb in the initial clause is obligatory, while in [28] it is redundant.

[27] *Türkiye'ye gitmek için buraya hiç gelemiyeceğim.*
Turkey-DAT go-INF because here-DAT ever come-POSSIB:NEG-FUT1sg
'Because I go to Turkey I'll not be able to come here at all'

[28] *Annesine* *bakmasına* *götürüyor.*
mother-POSS3sg-DAT look-VN-POSS3sg-DAT bring-PROG-3sg
(instead of: *baksın diye*)
'He is bringing it in order to take care for his mother.'

In the age range from 6 to 8 the number of grammatical errors occurred in a larger number and with a greater variety. There were some problems in the domain of lexical semantics: children often failed to distinguish accomplishment verbs from activity verbs (e.g. *kaçıran adam*, instead of *kaçan adam* 'the man who ran off'), or from achievement verbs (e.g. *tavşanı uyardı*, instead of *tavşanı uyandırdı* 'he woke the rabbit up'). With respect to word formation, children often displayed difficulty in finding the right expression of the realities and distinctions they encounter. There were many examples of illegitimate innovations, such as *güldürüşlü film* 'laughter-with film'. Besides, word formation suffixes were quite often overgeneralized, for instance *öğretmen-ci* 'teacher-AGENT', and *temiz-li* 'clean-ADJ'.

Furthermore, there were many errors in the expression of grammatical relations in simple clauses. First of all, in building constituents children often displayed cases of incomplete marking (e.g. *Osman'ı arabası* 'Osman's car', *buraya çıkmak* 'here-DAT come out') or cases of erroneous marking (e.g. *evisi* 'house-POSS-POSS', *çantayası* 'bag-?DAT-POSS'). Second, there were many errors on plural marking, such as in *bir tane arkadaşlarım var* 'I have one friend-PLUR', *bir sürü çocuklar* 'a group of children'. Third, there were errors on case assignment, e.g. *ayakkabıları bakıyor* 'he is looking at shoes-ACC', *bana dövüyor* 'he is striking me-DAT'. Fourth, reduplication of causative particles occurred, such as in *bak-tır-t-ıyor* 'look-CAUS-CAUS-PROG-3sg', or *otur-t-tur-t-du* 'sit-CAUS-CAUS-CAUS-PROG-3sg'. Fifth, overgeneralizations occurred with respect to the use of *kendi* (self), for example in *aslan kendine geliyor* 'the lion self-DAT come-PROG-3sg'. Finally, there were many errors with respect to the children's linking of clauses. It seems that the counterfactual *-sE* and the conditional *ise* were overgeneralized in order to express temporal links between clauses. [29] and [30] are cases in point.

[29] *Kim bilirse* *o parayı verecek.*
who know-AOR-COND he money-ACC give-FUT
(instead of *kim bilir*)
'Who knows he will give the money.'

[30] *Babam gelse babamın peşine gidiyor.*
my father come-irr my father-GEN back-POSS3sg-DAT go-PROG-3
'When my father comes he will run after my father.'

Finally, the marking of syntactic roles in object participles turned out to be difficult, as is exemplified in [31].

[31] *Bir gemi varmış o adamın öldürdüğünü.*
a boat there-is--REP that man-GEN kill-VN-POSS3-ACC
'There was a boat that has killed that man.'

In this case the genitive marker is attached to the object of the verb 'kill' instead of to the agent of the same verb.

In a study by Verhoeven (1989[a]) the use of clause linking devices by 6- to 8-year-old children in the Netherlands was compared with that of peers in Turkey (cf. p.119). A gradual progression in the linkage of independent clauses was found as children grow older. At age 8, the use of such devices turned out to be quite common. For dependent and embedded clauses, however, the situation was very different. Among the 6-year-olds the linkage of dependent or embedded clauses was very uncommon, while there is no clear progress as children grow older. Less than half of the 8-year-old children used any of the devices in which dependence is involved. For embedded clauses the situation was even worse. A clear stagnation in the use of clause linking devices by the children in the Netherlands as a consequence of restricted Turkish input was concluded. There was also evidence that the children in the Netherlands use some compensatory devices for the linkage of clauses. First, many of the children in the Netherlands just form juxtapositions of simple clauses in order to express a more complex train of thought. Second, they often use additive conjunctions (*ama, fakat*) in order to mark temporal and causal connections between two or more events, whereas the children in Turkey rarely do. Finally, they quite often use the conditional in order to link two clauses temporally. In Turkish, the conditional base *ise* takes part of verb morphology which makes

it a relatively easy way of clause linking. However, in the picture description task employed conditional sentences are not very obvious.

A relatively large number of grammatical errors was also reported by Pfaff (forthc.) analyzing the use of a variety of morpho-syntactic features in 6- to 8-year-old Turkish children in West Germany. They found the inflectional morphology for case and number to be intact, the derivational morphology to be relatively weak. For instance, the use of *-lI* was incorrectly extended to the head noun, as in *yeşil İndianer'li* ('green indian'). Furthermore, devices for complex sentence formation appeared quite late in the children's speech. The function of sentential modification turned out to be carried out by other paraphrases available, such as the suffix *-ki*, cf. [32].

[32] *Ayaktaki* *aşağıdan* *kollarını* *kaldırdı*
foot-LOC-*ki* below-ABL arm-PL-POSS3-ACC lift-PAST3sg
'The standing one raised its arms from the bottom.'

Finally, there was some evidence that there is a shift in first and second pronominal use from German to Turkish.

The sharp increase in number of grammatical errors in a more advanced phase of acquisition corresponds to Ekmekçi's report (1986[b]) on the acquisition of Turkish in a first language context. The phenomenon can tentatively be explained in terms of the model of language acquisition brought forward by Karmiloff-Smith (1983). According to Karmiloff-Smith, children proceed from a procedural phase during which the behavioral output is generated by predominantly top-down control processes. Unlike the success- oriented procedures of phase 1, in phase 2 organization-oriented procedures are followed by the child which may initially result in a regression in linguistic proficiency. However, given the fact that the increase in number of errors was much larger among the children in the Netherlands, it can be concluded that the impact of this regression is much greater in an L2 environment than in an L1 environment.

Semantic features

In a number of studies semantic features of Turkish language development among Turkish children in a second language environment have been examined. Pfaff (1985) focussed on the pluriform features of the

nominal reference system in Turkish and German of school-aged Turkish children in Germany. For Turkish, the production and comprehension of definite and indefinite forms varying in number and case was studied with the help of elicitation tests. As regards production, all children used definite markers in most of the appropriate contexts. However, one third of the children used no indefinite forms. From the instances occurring, there was evidence for the primacy of the numeral function over the nonspecific reference to one of a larger set. This fact was especially clear in reference to unique items (e.g. *bir tane helikopter* 'one helikopter'), or with an adjective specifying one of three similar toys (e.g. *bir tane yeşil topu* 'the one green ball'). For comprehension, it was found that the definite forms were correctly interpreted with very few exceptions. However, indefinite forms were frequently misinterpreted. Again, the primacy of the numeral over the indefinite article function was found. Given the fact that the same finding appeared in the children's use of German, the primacy of the numeral function was explained in terms of underlying conceptual categories.

Verhoeven (1987[a]) compared the use of devices for spatial reference in the Turkish speech of 4- to 8-year-old children in the Netherlands with that of their peers in Turkey (cf. p.123). He found that the use of spatial markers of children in the Netherlands was more or less constant with progression of age. Their use of postpositional constructions was highly constrained by the conceptually-based order of acquisition found by Johnston & Slobin (1979). Furthermore, it was found that the children's use of deictic terms had a negative correlation with their global language proficiency. As regards the distance features of pronominals, children mostly used *o*, to a lesser degree *bu*, and to a still lesser degree *şu*. However, with respect to adverbs of place they preferred the use of *şura* over *ora*. Individual children did not show much variation in their use of distance features. They predominantly made use of *bu* or *o* with some additional instances of *şu*. Though their use of demonstratives was not very consistent, there were several instances pointing to a growing awareness of the distance principles in Turkish demonstratives (see [33]) and [34].)

[33] *Burada* *yatıyor.* *Şu neydi?*
here sleep-PROG3sg that what-PAST3sg
'He is sleeping here. What is that?'

[34] *Kuş da bunun şeyin/ şu dumanın orada bu da yatıyor*
bird also this thing that smoke there this also sleep
-GEN -GEN -GEN -PROG3sg
'And the bird of this/is sleeping in that smoke over there'

In [34] the reference to something outside the domain of the speaker is emphasized by the use of *şu*, whereas in [34] a contrast between the domains of *bu* and *şu* is complemented with reference to something outside the visual field, expressed by *ora*.

In two small-scale studies Verhoeven studied the devices for anchoring discourse cohesion in narrative production by 7- and 8-year-old Turkish children in the Netherlands. Verhoeven (1990[a]) found that the referential devices used by the children in the Netherlands highly correspond to those used by the 5-year-olds in Turkey (cf. p.123). The first introduction of characters occurred by means of full NP's in less than two third of the cases. In many cases a deictic form was used to introduce a protagonist in the story. For the reintroduction of a protagonist a full NP was used in only one third of the cases. In the vast majority of cases a protagonist was reintroduced by using a deictic pronomen or agreement on the verb. In order to maintain reference to a character, verb agreement was the pattern predominantly used. However, the 7-year-olds still quite often used pronouns along with paralinguistic gestures denoting their deictic nature. Just like the stories of the 5-year-olds in Turkey, the stories of the children in the Netherlands can be characterized as series of juxtaposed utterances which are not so much linguistically related. With respect to the use of temporal markers for anchoring discourse structure, Verhoeven (1990[b]) found that the use of *-mIş* for referring to states in the children's narratives was rather underdifferentiated. Instead, most children seemed to use *-DI* as the general form for past reference. Closer inspection of the forms used shows that in a number of cases the use of *-DI* can be seen to have the function of maintaining the story-line. A large number of occurrences of *ondan sonra* support this point of view. However, there was clear evidence that in many cases the form has the function of reference to state, where *-mIş* would be more appropriate. The general conclusion for both studies was that for children in the Netherlands there is a stagnation in the development of strategies for discourse cohesion in Turkish narratives.

Using the same group of informants, Boeschoten (1987) studied the acquisition of modality by analyzing the children's responses to three pictures serving to express modality. He found weaker types of modality, as depicted by the aorist-base and the future marker to emerge early. Examples are given in [35] and [36].

[35] ADULT: *Neden uçuyor?*
why fly-PROG3sg
'Why is it flying?'

CHILD (5;5): *Bunu alamıyor ki*
this-ACC catch-POSSIB:NEG-PROG3sg *ki*
'She just can't catch it'

[36] ADULT: *Kız ne yapıyor?*
girl what do-PROG3sg
'What is the girl doing?'

CHILD (4;8): *O tutacak şapkayı*
she catch-FUT3sg cap-ACC
'She will catch the cap'

The acquisition of the formal means for the expression of deontic and epistemic modality was found to be stagnated. After the age of 6, the modal system entered a new stage of development. At this stage the weak modality form *-(y)Ebil-* becomes fully established in opposition to the aorist, as can be seen in [37].

[37] *"Binebilir miyim?", diyor* (8;7)
get in-PERM-AOR-QU-1sg say-PROG-3sg
'May I get in, he says'

Even at age 8, the children as a rule did not develop any hypotactic constructions such as *-mEyE uğraş=* or *-mEk için.* On the other hand, they use the construction *-mEk iste=* as in [38].

[38] *Tavuğu tutmak istiyor* (7;5)
chicken catch-INF want-PROG3sg
'He wants to catch the chicken'

However, in such cases this form was slightly inappropriate, because no action was described.

Boeschoten (1990) examined the acquisition of Turkish by 4- to 6-year-old children in the Netherlands in more detail. Within this age range he uncovered both a diversification of word-formation devices and a development of more complex NP structures. Development over time was clearly in evidence when semantic categories were taken as a basis for the analysis of subsystems of grammar. This was most notably the case with modality marking, complex temporal reference and conjunction. In each case the extension of the complexity of the children's linguistic system parallelled their cognitive development. Some striking characteristics emerged from the spontaneous speech samples of the children in the Netherlands. First, the development of relative clauses turned out to be really stagnated. In addition, a number of patterns were overgeneralized in one way or another:
* *-gil* as a marker of personal names, even if only a single person without his entourage was referred to;
* *hep* as a sort of totality operator was overgeneralized to cases in which the adverb was put in AdjP slots;
* the form *-DIydI* was exclusively used in order to express pluperfect meaning;
* *diye* was taken as the general conjunction for the expression of subordinate clauses of purpose and reason.
All of these patterns provide evidence of a strong inclination towards unifunctionality: out of many formal devices to express certain meanings one is chosen which is relatively easy to process or was earlier acquired to express a closely related meaning. None of the cases pointed in any way to possible transfer of Dutch structures.

Borrowing and code-switching

Borrowing and code-switching can be seen as language-mixing phenomena which may result from the alternate use of Turkish and other languages by Turkish migrants. Traditionally, the term borrowing is used for items which are phonologically and morphologically adapted to the

language being spoken, whereas code-switching is used for unadapted items. The incorporation of Dutch elements into the Turkish speech of 4- to 8-year-old Turkish children in the Netherlands was studied by Boeschoten & Verhoeven (1985, 1987[b]). The results will be summarized along with the presentation of new examples. The incorporation of Dutch elements into the children's speech occurred in about one per cent of the utterances. By far most of the elements were nouns (72%). The additional word classes were adjectives (9%), adverbs (3%), prepositions (2%), verbs (9%), conjunctions (3%) and interjections (3%). The occurrence of mixing types turned out to be related with certain verbal and communicative strategies. Some of these strategies could be explained in terms of the lack of availability of a word in Turkish. First, lexical gaps were filled if the Turkish ideolect being spoken did not include the word in its vocabulary, such as *pepernoten* (a kind of candy) and *diepvries* ('deep-freeze'). Second, equivalents of a word were used in the two languages to express the specific identity of its referent as in *kahve/koffie*, consecutively referring to Turkish and Dutch coffee (see [39]).

[39] ADULT: *Size misafir gelince ne ikram ediyorsunuz?*
('What do you offer guests when they come?')

CHILD (6;10): *Ya kahve- bazıları kahve yapıyok,*
('Well, sometimes we make kahve,)
bazıları koffie yapıyok.
(sometimes we make coffee.')

Third, in some cases the child simply had not learned the word in Turkish as is demonstrated in [40].

[40] CHILD (7;8): *O zaman da şey – neydi?*
('And then eeh – what was it?)
Zeehondun Türkçesinin ismi neydi?
(What was the name for seal in Turkish?')

Fourth, there were cases in which the child knew a word in both languages, but used the one in the second language because of its higher availability. This phenomenon was most likely to occur when a particular topic is habitually discussed in Dutch (e.g. school practice, holidays). An example is given in [41].

[41] ADULT: *Seviyor musun burada okulu?*
('Do you like school here?')

CHILD (7;6): *He.* ('Yes.')

ADULT: *Neden?* ('Why?')

CHILD: *Juffrouw diyor ki rekenen yap diyor.*
('The teacher says: start your math.')

ADULT: *Başka ne seviyorsun?*
('What else do you like?')

CHILD: *Schrijven da seviyorum.*
('I like writing as well.')

ADULT: *Türkçesi nasıl denir?*
('What is that called in Turkish?')

CHILD: *Yazıyom.* ('I am writing.')

In addition to these instances referring to the availability of words in Turkish, evidence for the use of communicative strategies was found. In some cases mixing types served as discourse markers in order to acquire and keep the attention of the listener, such as *ja* ('yes'), *jezus* ('jesus') and *je zegt mij* ('you told me'). The attraction of the attention of the listener was also aimed at in some cases of intrasentential code-switching.

[42] *Kitaplar var, veel olacak diyor* (5;11)
('There are books: there will be many of it, she says')

[43] *Kocaman sallangıca geldik.* (6;9)
('We came at a huge swing.)
Öğretmen dedi ki "bu çok veilig" dedi.
(The teacher said that it was quite safe')

Furthermore, there were cases of code-switching which could be explained in terms of giving emphasis. Examples are given in [44] and [45].

[44] *Gemi şöyle şey oluyor - hani op de kop -* (7;8)
('The boat became like that - well, top down -)
hani böyle yanüstü
(well, top down like that')

[45] *Nils da diyor ki "ik wil groot -* (7;4)
('And Nils said: "I want big -
ben büyük olmak istiyom" diyor
(I want to become big')

Finally, some mixing types seemed to occur in order to give focus, such as in [46] and [47]. In the latter case the focus is on the ethnicity of the individual who is being discussed.

[46] ADULT: *Hangi kağıt varmış?*
('What kind of sign could that be?')

CHILD (8;4): *Belkit de "pas op voor de hondje" yazıyor.*
('Perhaps it says: "beware of the doggie"')

[47] CHILD (8;7): *Ondan sonra dedi ki "jullie mogen niet".*
('Then he said: "you are not allowed to!"')

The data did not indicate a clear developmental sequence. However, the use of language-mixing as a stylistic device was not very common among the youngest children. In particular, the cases of emphasis and focus did not occur until the age of seven. From a structural point of view, the constraints on grammatical integration as formulated by Poplack (1980) were tested. From several studies in which the linguistic background of informants is typified by a more or less symmetrical use of two typologically related languages (i.e. Spanish/English), Poplack proposed two general constraint rules. The first is the free morpheme constraint stating that a switch cannot occur between a lexical form and a bound morpheme unless the former has been phonologically adapted into the language of the latter. The second is the equivalence constraint which states that the word order immediately before or after the switching point should exist in the two languages to make it possible for a switch to take place. Referring to the latter constraint it is generally assumed that code-mixing involves the juxtaposition of chunks of speech with each chunk having a place in one of the two

languages, whereas the mixing remains confined to the boundaries of chunks (so called 'switching point'). The question was whether the constraints claimed so far could be generalized to speech communities with a quite different linguistic background, such as that of Turks in Western Europe.

The use of Dutch language in Turkish speech by Turkish children in the Netherlands could not be adequately described in terms of the above mentioned constraint rules. For several reasons the free morpheme constraint could not be generalized. First, the overall morphological treatment of Dutch nouns and Turkish nouns was more or less alike. Second, Turkish word forming suffixes freely occurred after Dutch nouns, such as the use of *-CI* after *ijs* (= icecream) indicating a vendor of icecream (*ijs-çi*). Third, it was found that Dutch nouns were morphologically treated just like Turkish ones, irrespective of the phonological shape they were in. Thus, the former suffixation of the Dutch noun *ijs* occurred irrespective of their pronunciation of it according to Dutch phonology ([ɛis]), Turkish phonology ([ayş]), or mixed phonology ([ɛiş], [ays], etc.). Variable rules for lexical representation were even found in one and the same child.

From the instances of mixing involving more than one item in a Dutch phrase the lack of validity of the 'equivalence constraint' was also suggested. Mixings of the type [N postp]$_{pp}$ occurred in spite of the surface form conflict predicted by the equivalence constraint. An example is given in [48].

[48] *Op juf* *yapıştırdım.*
On teacher glue-PAST-1sg
'I have glued it on the teacher.'

In the present case the determiner before the noun is lacking which would be required to make the PP acceptable in Dutch. Another inadequacy concerned the notion of switching point. There were clear instances in which the domains of rules of the two languages interacted in a much more intricate manner than is assumed by the definition of switching point. In [49] the penetration of a Turkish rule into a Dutch clause is evidenced.

[49] *Op oog* *gözlük var.*
On eye spectacles there-is
'She is wearing spectacles (on her eye).'

The prepositional phrase containing exclusively Dutch elements exhibits a Turkish syntactic feature. Whereas in Dutch *op oog* is not grammatical because the determiner is lacking, in Turkish the bare noun *oog* in itself can carry the semantic features of specificity and individuality.

Acquisitional constraints

From the review of studies on the acquisition of Turkish in a second language context it is clear that the submersion in a second language environment may result in a stagnation of their Turkish language skills. Due to restricted first language input, these children not only have a lower level of mother tongue competence, they also seem to have problems applying the knowledge of mother tongue competence they have developed. Though a stagnation of Turkish language skills was evidenced, there was ample evidence that, in acquiring Turkish, children in a first and second language environment rely on highly comparable intralingual strategies. In the speech of Turkish children in a second language environment there was no clear evidence of interlingual patterns of language use. The structural constraints summarized on p.129ff. seem to apply to the acquisition of Turkish in a second language context as well. Given the intralingual nature of Turkish language acquisition in a second language environment, the role of external constraints explaining the individual variation in the rate of acquisition must be regarded. As such, the role of sociolinguistic factors on Turkish language development in a second language environment is under consideration.

From a sociolinguistic point of view, the linguistic network in migrant children's homes and in the wider community can be seen as a strong determinant of the degree to which they will develop the mother tongue. Lack of reinforcement of accepted norms in the community and exclusion from exposure to the standard language can be responsible for weakening first language development. As Tosi (1984) has pointed out the linguistic input in the case of first generation migrant children can often be characterized by a favourable position of L1. Its development may originally benefit from a rich infrastructure within the family depending on the attitudes of parents towards first and second language acquisition. However, later on the conditions of exposure to the first language may become very poor. At school the mother tongue is often

banned; at best it constitutes only a minimal portion of the curriculum. Accordingly, the tendency to shift to the majority language may grow stronger.

In some studies on the acquisition of the mother tongue by Turkish children in the Netherlands the influence of sociolinguistic factors was evidenced. In Verhoeven & Boeschoten (1986) there was some evidence for the influence of the introduction of Turkish lessons for some hours a week on the pattern of acquisition of Turkish. For each of the separate language skills assessed there was a tendency for the scores of children to level off, or even diminish, by age 6 or 7, as well as a tendency for scores to increase again by age 8. It seems that the children under consideration benefited considerably from Turkish lessons in school. The stagnation of Turkish language skills before age 7 could be interpreted as a result of one-sided second language instruction in school. However, the fact that the Turkish language proficiency of the children in the Netherlands could be described in terms of two underlying factors seems to indicate that the Turkish lessons resulted in higher levels of language competence without increasing opportunities to use the language.

	proficiency in Turkish
Contact with Turkish in the family	.08
Parent attitudes toward Turkish folklore	.11
Parent cultural behaviour	.27**
Parent attitudes towards Turkish education	.14
Child's contact with Turkish at school	.09
Child attitudes towards Turkish life-style	.25*
Child attitudes towards Turkish folklore	.20*
	* $p<.05$
	** $p<.01$

TABLE 2. Correlations between sociocultural variables and children's proficiency of Turkish.

Verhoeven (1989[b]) examined the extent to which socio-cultural factors which are related to the opportunity to use Turkish are relevant

predictors of the Turkish language development of 6–year–old Turkish children in the Netherlands. A multiple indicator approach was followed in operationalizing the children's socio-cultural background. Factors related to the family were distinguished from child related factors. Moreover, sociocultural data were collected using three types of informants: parents, teachers and children. The correlations between the sociocultural factors under investigation on the one hand, and the children's level of Turkish proficiency is presented in Table 2.

All correlations were positive. However, only for three measures were the correlations significant. It is remarkable that contact factors are less related to the children's proficiency in Turkish than attitudinal factors. Apparently, for the present sample of children the variation in contact with Turkish showed too little variation to influence the Turkish proficiency level.

The question of language shift was addressed in Verhoeven (1987). In a longitudinal study the development of lexical knowledge in Turkish and Dutch was assessed. It was expected that as a consequence of the L2 submersion context at school, children would gradually display relative progress in the development of the Dutch lexicon. It was found that in the age range from 6 to 8 children made fair progress in lexical development in both Turkish and Dutch. Although there was a tendency towards a relative increase in lexical knowledge in Dutch as the child gets older, lexical knowledge in Turkish was dominant at all moments of measurement. Only for productive lexical knowledge was there a significant interaction between age and language. Apparently, the low amount of Turkish input in school was sufficient for Turkish lexical skills to more or less keep pace with similar skills in Dutch.

Sociolinguistic factors also seem to influence the occurrence of foreign elements in the Turkish of migrant children. In Boeschoten & Verhoeven (1987[b]) it was found that as the topic to be dealt with was more related to the process of secondary socialization of children, the number of mixing types increased. The highest incidence of mixing types occurred in a structured interview discussing several aspects of sociocultural life in the Netherlands. To a lesser degree mixing types occurred in the picture description of a Turkish market place, referring to a typical Dutch situation which, however, is normally dealt with by Turks in the family circle. The lowest number of mixing types occurred in the picture description referring to Turkish family life. Berber (1985) examined the occurrence of code-switching in the speech of Turkish children in Germany in relation to the participants of the conversation.

He found that both Turkish and German could fulfil the role of intimate language depending on the participants in the conversation. Turkish fulfilled the role of 'we-code' for Turkish children speaking among German peers, whereas German fulfilled the same role in the neighborhood of parents.

Concluding Remarks

The present body of research gives us some understanding of the acquisition of Turkish in a first and second language environment. Thanks to the great efforts by Dan Slobin and Ayhan Aksu, we have good insight into the operating principles which underlie the rapid acquisition of inflectional morphology and the slow acquisition of conjunctions in Turkish.

It is interesting to note that some of the present findings can also be accounted for in terms of Government-Binding theory. Chomsky (1982) makes a distinction between the core grammar, resulting from fixing the set of parameters at one of the configurations, and the peripheral grammar, referring to ideosyncratic features of a language. The core-periphery distinction makes clear that children start out with the phrase structure rules which are related to complements that take part of the core grammar, i.e. canonical sentential constructions. Peripheral aspects of complementation, such as the adhering of tense to clausal complements, will then be acquired later. The finding that the acquisition of simple clauses in Turkish is relatively easy can be explained from the fact that in Turkish inflection is a core property, whereas in many other languages, such as English or Dutch, it is a peripheral property.

Another interesting phenomenon is that some of the findings on language acquisition have clear parallels in diachronic patterns of language change. Slobin & Aksu (1981) show that the historical development of the function of *-mIş*, following the order of aspect —> tense —> evidential, also emerged in the acquisition of Turkish. Furthermore, Slobin (1986) discussed the relative difficulty of acquiring conjunctions in Turkish as compared to Indo-European languages. He points out that in the past millenium the devices for clause chaining in Turkish have constantly been subject to restructuring, whereas in Indo- European languages such devices have remained more or less stable.

The study on the acquisition of Turkish in a second language context is just in a nascent state. From the studies so far it is clear that the particulars of language acquisition are primarily determined by the relative complexity of the linguistic devices under consideration, and that the language input and cultural orientation influence the overall rate with which such devices are acquired. The study on structural features can be deepened by analyzing the process of early bilingualism in preschool children. In the process of early bilingual development children have at their disposal all of the principles and parameters of universal grammar and two sets of input data necessary to fix those parameters.

The crucial question is then how universal principles will lead to two separate grammars and what the role of environmental factors is in this process. From the present findings it is clear that among the Turkish people living in the diaspora there is a gradual language shift taking place. There is clear evidence that the children forming the second generation of Turkish migrants do not reach native-like proficiency levels. However, the relatively low incidence of the loss of Turkish linguistic features shows that such shift proceeds rather slowly. The question to what peculiar structural varieties the restricted channels of input of Turkish for Turkish children in the diaspora will lead is open to future research. The answer to this question is highly valuable for both turkology and general linguistics. From a turkological point of view, processes of synchronic language change can be compared with the outcome of earlier contact situations of Turkic languages with Indo-European languages. From a linguistic point of view, the features of new structural varieties can be compared with the range of expressions children use in language acquisition.

ASPECTS OF LANGUAGE VARIATION

BY HENDRIK BOESCHOTEN

INTRODUCTION

The study of sociolinguistic aspects of Turkish has remained confined to the traditional discipline of dialectology (i.e., the study of regional language variation) and to the more or less public debate on the issues raised by the ongoing republican Language Reform (*Dil Devrimi*). Both of these fields of investigation will be dealt with in the present chapter. With regard to dialectology, an attempt is made at establishing a global pattern of the regional dialects by drawing a map of isoglosses based on Kral (1980). Moreover, the distributional map of one lexical item based on the entries to be found in *Derleme Sözlüğü* is discussed in order to assess the value of this dialect dictionary for the purpose of dialect geography. The section on the Language Reform aims at a description of the latest socio-political developments and at defining relevant sociolinguistic research questions. Detailed historical accounts on the developments up to the seventies can be found in Heyd (1954) and İmer (1976). The author's views on the relationship between Ottoman and Republican Turkish are expressed in the Introduction (Chapter 1).

DIALECTOLOGY

State of the art

A lot of work has been done in the field of Turkish dialectology[1] in terms of fieldwork and monographic descriptions, but till this day Kowalski (1929/30) remains the main attempt at formulating research methods

[1] The term "dialect" is fraught with inconsistencies in the literature. In Turkish, the term *dialekt* is more or less obsolete nowadays. *Şive* closely corresponds to "accent". Many scholars still carry on the strange practice of using the term *lehçe* for the different Turkic languages. At the same time, Aksan (1982) uses the term *lehçebilim* as an equivalent of "dialectology". This means, that *ağız* is the only term used to designate regional language varieties. Cf. also Tekin (1978).

so far. It is a noteworthy contribution for several reasons. First of all, Kowalski formulated a number of requirements to be met in field work. He also stressed (perhaps even over–stressed) the importance of the multilingual situations to be encountered everywhere in the republic. Finally, he offered a list of variables he thought to be important for overall classification.

But even today a classification of Anatolian dialects is still sadly lacking. Indeed, Caferoğlu (1959, 239) offered such a classification, but failed to corroborate it in any way. This renders it difficult to assess the value of his Fundamenta-article. However, considering the tremendous experience Caferoğlu has had as a field-worker everywhere in Turkey, his provisional classification should prove to be more or less to the point. He distinguishes the following dialect areas:

1. Southwestern dialects (spoken in an area from Bandırma to the Antalya region).
2. Centralanatolian dialects (widely spread from Afyon Karahisar up to Erzurum und Elazığ)
3. Eastern dialects (East of Erzurum and Elazığ up to the border, with close similarities with Azerbaijani).
4. The dialects from the North (Trabzon and Rize),
5. Rumelian (Balkan-Turkish) dialects.
6. The Southeastern dialects (Gaziantep, Adana, Antalya and surroundings).
7. The Kastamonu dialect, including dialects spoken by the Karamanlı and other tribes.

Whereas Caferoğlu's approach is a synchronic one, Korkmaz (1975/76, 164-66) calls to attention the diachronic dimension. Moreover, she calls for a comprehensive survey program to be implemented shortly, because the modern means of transport and mass-communication cause the dialects to crumble; besides, most of the descriptive studies extant show serious methodological and technical shortcomings, and cannot be therefore fully exploited for theoretical purposes. While Korkmaz conceeds that some regional characteristics do exist, she assumes a massive variability even on a small geographic scale. She thinks that the explanation for this situation has to be sought in terms of the settlement history of Anatolia: At first, there were "the 23 Oghuz tribes

out of 24 who settled in Anatolia"; later on, apart from the continuing high rate of internal migration, the arrival immigrant groups speaking other Turkic languages are assumed to have caused further diversification. It is assumed that newcomers (e.g., groups which arrived in Anatolia during the last two centuries) from Central Asia, the Caucasus, the Crimea and the Balkans have formed language islands (termed *Göçmen ağızları*, "migrants' dialects"). Korkmaz thinks a special data collection program is needed for these groups. A classification must be made, but this, nor the drawing of an atlas of the dialects can be achieved because of the paucity and nature of the data available at this moment.

As compared with Kowalski's article, the preoccupation with the ethnic composition of local populations from centuries ago as an explanatory deus ex machina remains intact; only this time, not one word is spent on the non-Turkish-speaking groups. In the same vein of reasoning, Németh (1956) explained the resemblances between Western Balkan dialects and the Northeastern Anatolian varieties by assuming a direct ethnic (tribal) link at the time of settlement. All of this remains pure speculation, however. In one instance, Korkmaz (1963) herself has researched the history of settlement of one specific dialect area (Nevşehir). But in her book two sections (one on the phonetics of the dialect, one on the history of the region) remain strangely apart as no interpretative argumentation is linking them. The connection she constructs in another publication (Korkmaz 1964) between some dialect features (e.g. the 2nd pers. copula suffixes *-sIy* and *-sIyIz*) and Kipchak-Turkic varieties is unconvincing, exactly because the possibility of autonomous development is not considered at all. For a presentation of her view on the ethnic make-up of the Anatolian dialect, see also Korkmaz (1971).

Hazai (1978, Ch. 3), too, is mainly concerned with comparative and historical aspects. Rejecting mechanistic interpretations like the one offered by Németh mentioned above, he thinks that in the end interpretations should be sought in a broader "Western Oghuz" perspective.

Obviously, the possible autonomous developments in the history of Anotolian Turkish has received scant attention in the literature so far (maybe with the exception of the chapter on dialectology in Aksan 1982, 141-7). The importance of political and socio-economic structures, traderoutes etc. for the spread of linguistic features have been recognised, however, during the last decades in general dialectology. In

the present section I will attempt to show that a rough classification of the Anatolian dialects is possible at this stage. It will be demonstrated that kernal dialect areas can be determined by drawing isogloss lines. Besides, I will venture some speculations on how some of the isoglossic patterns in Anatolia may have developed historically. In addition, I will analyse the distribution of one lexical item, mainly as an exemplary exercise to find out how useful the *Derleme Sözlüğü* is for such an undertaking, and to prove at the same time that the distribution of such an item can geographically be quite uniform, and should certainly not be expected to vary "from one village to the other" in general.

A provisional isogloss map

Unsatisfactory as it may be, an overall areal picture of the Anatolian dialects can still only be gained from an extensive comparative study of the monographs available; this material may in certain cases be supplemented by data from the *Derleme Sözlüğü* (henceforth: DS). That such an undertaking is feasible at all is by the way a big improvement on the pre-war situation, cf. Kowalski (1929/30, 271): "Daß man unter solchen Umständen keine Isoglossen zeichnen und über dialektologische Einteilung unseres Sprachgebietes nichts Bestimmtes sagen kann, liegt auf der Hand". A lot of work in this direction has in fact been done by a student of Turkology at Leyde University, Piet Kral, while writing his master's thesis (Kral 1980). But the way in which it was published and the language (Dutch) it was written in created the danger that his monumental contribution will go unnoticed even by the few specialists in the field. The description of the Anatolian dialect situation offered below is nothing but an interpretative rearrangement of the main results obtained by Kral and an effort to disseminate them.

As a first step naturally I will offer a synopsis of the method used by Kral. He chose a number of phonetic and morphological variables and evaluated them ploughing through the first ten volumes (comprising A to T) of DS and 26 monographs selected in such a way that all the provinces of the Turkish Republic on which sufficient material was available were covered.[2] The boundaries of the provinces, then,

[2]Caferoğlu (1940, 1941, 1942, 1943, 1944, 1945, 1946, 1948, 1951, 1955, 1958, 1959, 1963, 1964, 1967, 1972), Eckmann (1962), Kürkçüoğlu (1945), Gemalmaz (1978), Günay (1978), Korkmaz (1956, 1963), Olcay (1976) and Beysanoğlu (1966); Aksoy (1945), Buluç (1974), Caferoğlu (1950) and Korkmaz (1964) were only used to study morphological parameters. Cf. Kral (1980, 75).

provided Kral with a rough and ready areal linguistic grid. Next, using this grid, he drew 53 maps in which he presented the variation he found on the phonetic and morphological variables studied by him, and 8 more on some lexical items (mainly terms of family relationship). Finally, after studying the different parameters, Kral isolated those which showed interregional variation; the others, such as cases of metathesis, consonant dissimilation, word-initial voicing and some lexically bound features turned out to have a more or less uniform distribution in Anatolia, contrasting with the standard language. On the 18 significant parameters Kral based a dialect classification ; besides the Rumeli dialect area he discerns 13 Anatolian dialect groups, one of which is hypothetical for lack of data (the Marmara area). This division he also presented in the form of a map (Kral 1980, 316).

In order to present Kral's results, I offer two tables: in Table 1 his parameters are compared with the list of parameters proposed by Kowalski (1929/30) as a basis for a research program; in Table 2 Kral's classification is summarized.

param. no.	Kral (1980, 303-4)	map no.	Kowalski (1929/30,272-6)	param. no.
1	standard Tk. *k-* before back vowels: (a) *k-*; (b) *g-*	17	"Stimmverhältnisse im Anlaut..." example: *guyu*	17e
2	standard Tk. *-k-* and *-k* in back vocalic environment: (a) *k*; (b) *x*	18-19	"Spirantisierung des Hinterzungen-*q* im In- und Auslaut	12
3	standard Tk. *k-* before front vowels: (a) *k-*; (b) *ç*	20	"*k* ausgesprochen als *t'* (Gegend von Trapezund)"	15
4	standard Tk. *g-* before front vowels: (a) *g-*; (b) *c-*	23	"*g* ausgesprochen als *d'* (Gegend von Trapezund)"	15
5	*k-* in *küçük* "small": (a) *k-*; (b) *g-*	22	[cf. no. 1]	17e

TABLE 1. Parameters of classificatory significance after Kral (1980) and Kowalski (1929/30).

(table 1, continued)

6	standard Tk. *-ğ-* and *-ğ̈*: (a) *γ* preserved throughout; (b) *γ* lost (with or without vowel-lengthening); (c) occasionally *γ* in back environment;	26	"Grad der Erhaltung der Hinterzungenspirante"	9
7	standard Tk. *ɪ* in second syllable following *a* in the first: (a) *ɪ*; (b) *u*	27	["Vorhandensein bzw. Nichtvorhandensein von runden Vokalen in Ableitungssilben"]	[4]
8	velarisation of *ö* and *ü* in first syllable: (a) *[ö]*, *[ü]*; (b) *[o]* ~ *[ȯ]*, *[u]* ~ *[u̇]*	28	"Aussprache der vorderen runden Vokalen..."	1
9	standard Tk. */aCu/* (C=*b,m,v*): (a) *[aCu]*; (b) *[aCɪ]*	29	[cf. no. 7]	[4]
10	standard Tk. *yukarɪ* "up": (a) *yukarɪ*; (b) *yokarɪ*	43	["Ablaut *ö* > *ü*, *o* > *u*"]	[2]
11	representation of **η*: (a) *n*; (b) *η*	45-47	"Erhaltung des velaren *ñ*, bzw. des palatalen *n̈*"	10
12	copula suffix 1sg.: (a) *-ʸIm*; (b) *-ʸIn*; (c) *-ʸEm*	44	"*-n* statt *-m* in der Personalendung der 1.Person Sg."	30
13	copula 2sg. (following *+Iyor*): (a) *-siη*; (b) *-sin* ~ *-sun*; (c) *-siy*; (d) *-(i)η*; (e) *-(i)n*; (f) *-sEn*	45	"Beeinflussung des Konjugationstypus *-im*, *-sin*, *ø*, *-iz* durch den Typus *-m*, *-η*, *-ø*, *-k/q*"	31
14	copula 2sg. (following *+ʸEcEk*): the same as in no. 13, except for (c) *-siy*, which is lacking	46		
15	copula 1pl. (with tense markers): (a) *-ʸIz*, *-(I)z*; (b) *-ʸIk* ~ *-ʸIx*, *-(I)k* ~ *-(I)x*	48		
16	voluntative 1st pl.: (a) *-ʸElIm*; (b) *-ʸElUm*; (c) *-ʸelum*; (d) *-ʸEk*; (e) *-ʸax*; (f) *-ʸEm*; (g) *-ʸElImI/Un*; (h) *-ʸElImIη*; (i) *-ʸa:mɪη*	49	—	
17	progressive tense marker: (a) *-Iyo*; (b) *-Iyor*; (c) *-Iyoru*; (d) *Iyorur*; (e) *-iyir*; (f) *-ir*; (g) *-iye*; (h) *-iyi* ~ *-iyu*; (i) *-iy(i)*; (j) *-ɪy* ~ *-iy*; (k) *-iy* ~ *-i*; (l) *-iy*; (m) *-ɪ*; (n) *-i*	53	"Abweichungen in der Bildung der Präsensform auf *-yor*" [cf. also: "...eventueller Schwund des auslautenden *-r*, oder dessen teilweise Spirantisierung (*-rʿ*)"]	32 [13]
18	converb (standard Tk.) *-ʸken*: (a) *-ʸken/-(i)ken* ~ *-(ɪ)kan* ~ *-(i)han*; (b) *-ʸkene/-ʸkene* ~ *-ʸkana* ~ *-ʸhana*; (c) *-ʸkE*	54	—	

dialect group	parameters (cf. Table 1)																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. RUMELIAN: Edirne	a	a	a	a	x	b	a	a	b	x	a	a	b	e	a	a	i	b
2. MARMARA (hypothetical)	——— no data ———																	
3. WESTERN: Afyon, Antalya, Aydın, Balıkesir, Burdur, Denizli, Eskişehir, Isparta, İzmir, Manisa, Muğla, Uşak	b	a	a	a	b	c	a	a	b	b	b	b	d	d	a	f	a	b
a. deviations in Balıkesir:											a	a	e	e		a		
b. deviations in Antalya:											a	x	x	x				
4. CENTRAL: Ankara, İçel, Kayseri, Kırşehir, Konya, Nevşehir, Niğde, Yozgat	b	b	a	a	b	c	a	b	b	b	b	a	d	a	b	a	a	b
a. deviations in Konya & Niğde:												b		d			d	
b. deviation in Kayseri, Kırşehir & Yozgat:																d		
5. Amasya, Çankırı & Çorum	b	b	a	a	b	c	b	b	a	x	b	a	d	a	b	a	a	b
a. deviation in Çankırı:												b						
6. Sıvas & Tokat	b	b	a	a	b	c	b	b	a	b	b	a	d	a	b	d	a	a
7. Elazığ, Malatya & Tunceli	b	b	a	a	b	a	a	a	a	b	b	a	a	a	b	d	k	a
a. deviations in Malatya:											a		b	b			i	
8. Antep, Hatay & Maraş	b	b	a	a	b	c	a	a	b	b	b	b	d	d	b	d	l	a
9. EASTERN: Bitlis, Diyarbakır, Muş Erzurum, Kars, Urfa & Van	b	b	a	a	a	a	a	a	b	a	a	c	f	f	b	e	n	a
a. dev. in Diyarbakır & Urfa:	a																	
b. deviation in Erzurum:																	f	
c. deviations in Kars:																d	f	
10. Erzıncan	b	b	x	x	x	x	x	x	x	x	x	c	f	x	b	x	l	x
11. WESTERN BLACK SEA: Bolu,Kastamonu & Zonguldak	b	a	a	a	b	c	b	b	a	b	b	b	d	a	a	b	g	a
a. deviations in Bolu:									b							a		b
b. deviation in Zonguldak:																a		
12. CENTRAL BLACK SEA: Giresun, Ordu & Samsun	b	a	a	a	b	c	b	a	a	b	b	a	a	a	b	c	h	b
a. deviations in Ordu:											a		e	b		b		c
b. deviations in Samsun:		b										b	d	x		x	m	
13. Rize & Trabzon	b	a	b	b	x	c	b	a	a	b	b	a	b	a	b	c	e	a
a. deviations in Rize:											a			b				
14. Artvin	b	b	a	a	a	a	b	a	a	a	a	a	x	x	x	d	e	a

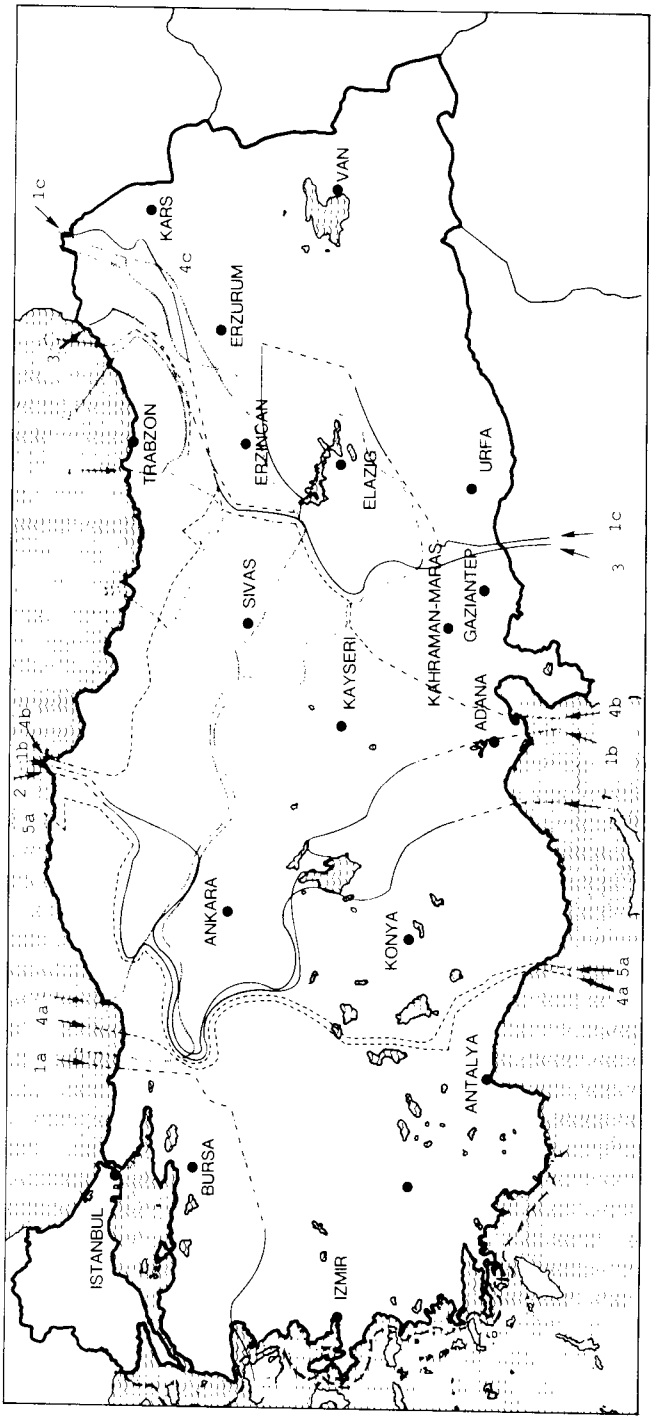
TABLE 2. Kral's classification (after Kral 1980, 315).

A comparison of the list of variables in Table 1 with those proposed by Kowalski (1929/30) yields the following correspondences and differences: In general, Kowalski's list includes the parameters characteristic of the distinctions to be made in the Rumeli area, such as the (Macedonian) neutral /i/ (Kowalski 1929/30, 272 ff., no.6), prothetic /y-/ (no. 16b) and occurrence of the converb *-dIynAn* (no. 34b). For that reason, they were not included in Kral's study. Secondly, Kowalski could not make the distinction between variables without classificatory significance (to be more precise, those variables which only distinguish Rumelian from Anatolian dialects) and the significant ones. In fact, some of the variables mentioned by Kowalski were studied by Kral and found by him to have uniform distributions in the Anatolian area, e.g., parameters like the dissimilation /-sg-/ (/-sk-/ in the standard language, Kral 1980, 203), the devoicing of /t, p/ in anlaut (idem, 222, 228), voicing of /k-/ before back vowels (idem, 230), *böyük* instead of standard Turkish *büyük* (idem, 253). The distribution of others are of the "scattered block" type (Gluth, Lompa & Smolka 1982, 490 and Weijnen 1977), for instance, metathesised forms are common in (parts of) the Eastern (Azeri) area, but many of them can be encountered, too, in some Southwestern provinces, and some in Rize (but not in Trabzon) and some central provinces (Kral 1980, 206-216). Finally, Kowalski did not concern himself with characteristics defining the Azeri area, but Kral naturally did.

In general, Kral's survey is much more complete on the level of phonology than on morphology (morphophonetics). At least some of his omissions resulted from conscious self-restriction; the most important ones on the level of phonology, according to himself, are: the distribution of the closed /ė/-sound (on this sound many of his sources, esp. the DS, must have been very incomplete and unreliable at that), the distribution of the patterns of vowel harmony and a systematic comparison of sound-systems, e.g., a structural approach in general.

Nevertheless, it was shown that on the basis of a limited number of carefully selected phonological and morphological parameters a global insight into the geographical structure of the Anatolian dialects can be gained. By using the province boundaries as an areal grid Kral actually turned a major weakness in the approach of many monographs into strength to a certain extent.

MAP 1. Provisional isogloss map.



As has been mentioned before, Kral grouped the provinces in a total of 14 separate dialect areas, summarised in table 2 (cf. Kral 1980, 316). It has, however, for a long time been agreed among dialectologists that a procedure demarcating separate "dialects" in this fashion is not the best way to represent the facts. In particular, as in Kral's case, the dialect groupings are defined by his particular choice of parameters; another choice will lead to another classification and an extension of his set of parameters will automatically lead to still further subdivisions of his 14 dialect areas. Instead, in this case the drawing of isogloss lines recommends itself. In map 1 the isoglosses are drawn of seven parameters[3] yielding smooth isoglossic lines ("smooth" here means: no isoglosses yielding areas of the "scattered block" type and the like, cf. Gluth et al. 1982). It should be noted that the set of parameters used for map 1 is a heuristic result in itself: I will try to show below that they give a global picture of the dialect situation in Anatolia. To take one example of a parameter with a less clearcut distribution: the present tense marker *-Iyor*, while being highly characteristic, yields a distribution of a completely different nature (Gülensoy 1985).

Besides from a certain (unavoidable) arbitariness in the selection of parameters discussed by Kral, two other intrinsic weaknesses of the source material are reflected in the results (cf. the interpolated sections of the isoglosses on map 1). Firstly, out of the 67 provinces of the Turkish Republic only 49 can be included in the (province based) dialect classification; on 13 provinces no data are available at all. What is worse: most of the white spots caused by these provinces are situated in such places as to make the drawing of isoglossic boundaries impossible even on Kral's rough grid. Especially the lack of data from the Marmara area is troublesome, because the expansion from Istanbul which has to be assumed cannot be assessed. Other important white spots are Sinop and Adana-İçel (for some parameters). Naturally, the very size of this province makes Konya a problematic case using Kral's approach (cf. discussion below).

[3]The shift /k-, g-/ > [t'-, d'-] (isogloss no.6) allows for some lexical exceptions which seem to be connected with distributions in the dialects of /k-/ and /g-/ which deviate from the standard language, cf. Kral (1980, 233-240).

The distribution of the labialised high vowel in the second syllable (isoglosses no.7 and no.8) were assessed on the basis of twenty odd stems each (idem, 244, 249). The analysis of the velarisation phenomenon of high rounded vowels in first syllable (isogloss no.4) was also based on a number (40 odd) of individual stems (idem, 246).

The layout of map 1 can be described in the following terms:

- To the East, Turkish and Azeri are demarcated by a bundle of isoglosses from the Central Anatolian varieties; in map 1 the following parameters are represented:
  a. Copula-suffix 1st sg.: *-(y)Em*, 2nd sg.: *-sEn*;
  b. */γ/ in back-vocalic environment generally produced as a stop;
  c. */ü, ö/ are realised as [u̇, o̱] ~ [u, o]; this is also characteristic of the Rize-Trabzon area.

  The boundary runs between Gaziantep and Urfa and to the East of Diyarbakır and Erzurum. Artvin, Erzincan, Malatya and Elazığ are transitional areas; most unclear is the situation in Tunceli, Bingöl and Adıyaman. In any case, the lack of data from these provinces is no accident: the use of Turkish there is certainly restricted; as the rural Turkish–speaking population can assumed to be marginal, their varieties of Turkish can only be profitably studied in relation with varieties of Kurdish.
  Besides by the features a and b, the Azeri dialects are demarcated from the Rize-Trabzon area by:
  d. /u/ in second syllable following /a/ (in the Rize-Trabzon area).
- To the West, the Southwestern dialect area forms a solid block; characteristic features are:
  a. Copula-suffix 1st sg.: *-(y)-In*;
  b. copula-suffix 1st pl.: *-(y)Iz*;
  c. intervocalic */k/ is preserved.

  The Northwestern area around Kastamonu and Bolu has these features in common with this area. Besides, however, it shares the /u/ in second syllable following /a/ with the Rize-Trabzon dialect; especially characteristic is the /y/ (*/η/) in the 2nd person copula-suffixes.
- The Trabzon-Rize area has for long been recognised as a special case; among the interesting features are the concentric isoglossic lines surrounding it (indicated in red in map 1). They sometimes run as far south as to include Sıvas, and as far west as to include Bolu.

- The Central Anatolian dialect area remains clearly discernable; the central block is formed by the provinces of Eskişehir, Ankara, Yozgat, Kayseri, Kırşehir and Nevşehir. The other provinces, e.g. the more or less peripheral ones, have features in common with the other areas. Especially noteworthy is the broad fan we can, on the basis of map 1, assume to exist in Konya-Niğde, more precisely: the map definitely suggests the existence of such a fan ("Fächer", cf. Gluth et al. 1982, 491), but any precise drawing of the isoglossic lines in fan-formation is impossible to achieve using Kral's results (Another fan-formation presumably demarcates the transition from the Trabzon-Rize area to Azeri in the Northeast).

Summing up the results obtained so far, it is clear that the data used can only serve to get a very globalistic overall impression of the geography of Turkish dialects. Nevertheless, I think that the parameters used in map 1 have been established as the ones which are most relevant for establishing regional demarcations. Also, the layout of map 1 clearly suggests directions for historical dialect research:

- The map strongly indicates that in former centuries a "Trabzonian expansion" must have taken place. To my mind the system of cyclic isoglosses surrounding the kernal area (the provinces of Trabzon and Rize) gives sufficient proof of this. Cf. Gluth et al. (1982, 489) and Weijnen (1977) for a discussion of this pattern.
- Another interesting configuration of the map is the pattern west of Eskişehir. Here the Central Anatolian and the Marmara areas seem to have broken through an original Western Anatolian area and meet along a main trading route. It should be noticed, however, that the varieties of the NW region around Kastamonu, while having a lot in common with the SW dialects, also show differences. The existence of a Marmara area, more or less closely linked with Eastern Rumeli dialects, is a speculative assumption; a considerable influence of Istanbul varieties in this region has to be assumed.
- The Azeri boundary is quite sharply demarcated by a bundle of isoglosses.

- We can distinguish five (or six) kernal areas of dialect types: Azeri; Rize-Trabzon; Central; Southwest; (problematic:) Northwest (could be treated as a periphery of the South Western areal?); (hypothetical:) Marmara

As we see, the classification proposed by Caferoğlu (1959) has been substantiated by the present analysis; two differences with the classification proposed here remain: Firstly, off-hand I see no reason to assume a Southeastern areal separate from the Central group (e.g., the former is probably best treated as a periphery of the latter). Secondly, the relation of a (possibly) separate Northwestern area with the Southwestern one remains problematic.

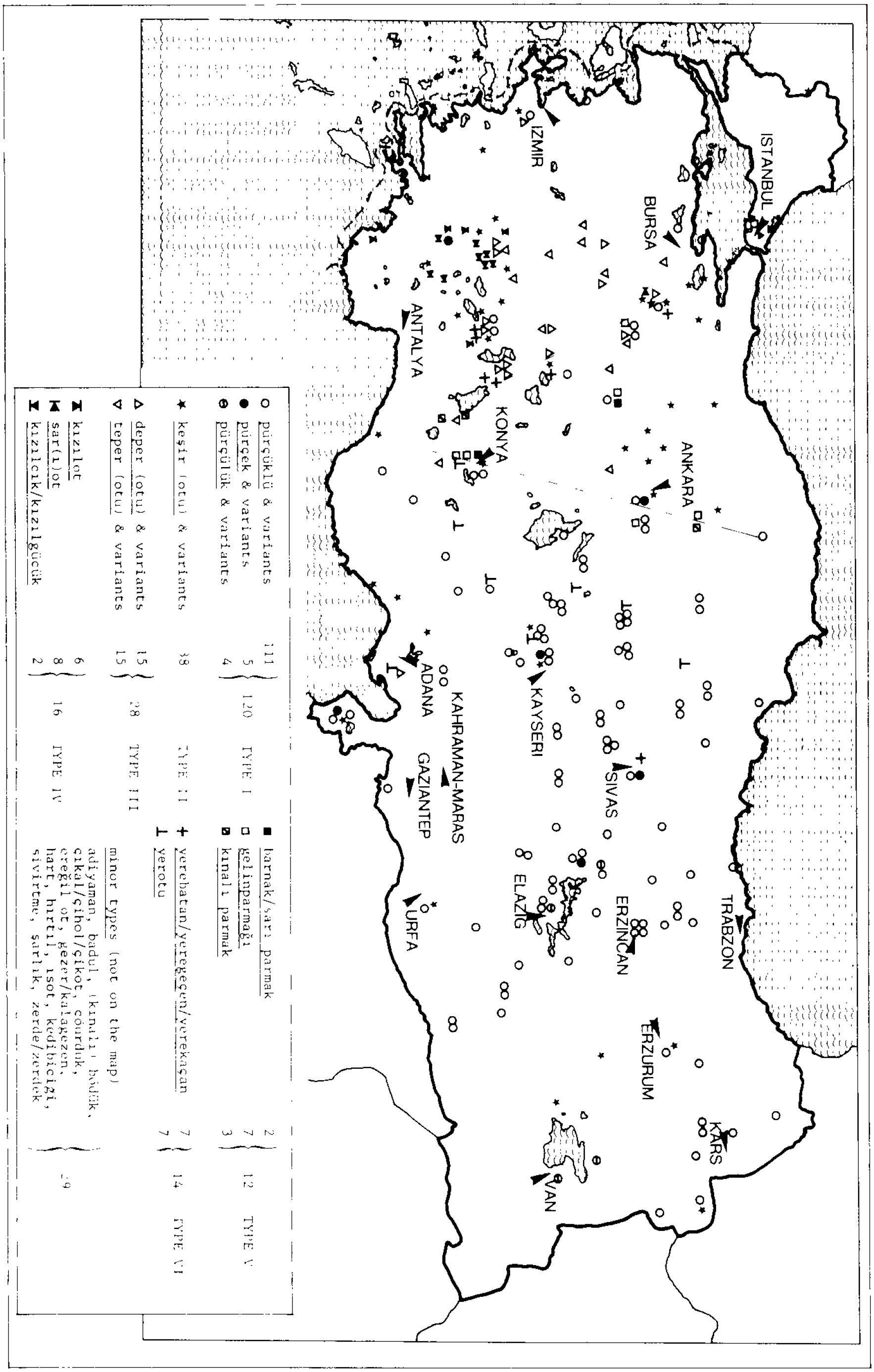
A lexical item

In order to assess the usefulness of the dialect dictionary (DS) for such an undertaking, one word map was drawn for the exemplary item "carrot", e.g., those forms in DS which are translated with standard Turkish *havuç*.[4] This item recommends itself for a number of reasons: A fair amount of data on it is available from DS, a number of independent types can be discerned, and no prohibitive difficulties are caused by homonomic reference to other agricultural products (cf. Oğuz 1976, 426-7). The five main types encountered are represented in map 2. The following variants of the basic forms indicated in the legenda of this map are to be found in DS:

For Type I, apart from *pürçüklü*, many other phonetic variants are to be found: *bürçekli, bürcüklü, pırçikli, pörçüyxlü* and others (DS, 824, 3497, 4656). Besides *pürçük, piçek* and *pürçek* are on record; the variants *piçelik, purçuluk* and *purçalıx* were classified together with *pürçülük*. Type II forms are, besides *keşir*: *keşirotu, keşşir, keşür and kişir* (DS, 2771). Besides *teper(otu)* (Type III), *deber(otu)* does occur (DS, 1428); variants of *teperotu* are *teberotu* and *tepelotu* (DS, 3883).

[4]The form havuç probably derives ultimately from Arabic *ḥawā'ic* "necessities"; cf. the secondary meaning in Redhouse (1890): ...2."pot-herbs" and Tarama Sözlüğü p. 1903: *havıç* "ete katılan sebze". Armenian may have been an intermediary language, cf. *hawič* "herbs in food" in this language. The shift /ı/ > /u/ in second syllable following /-av-/ is of course regular in standard Turkish, cf. isogloss no.8 in map 1. Denotations of the carrot have a history in linguistic literature as examples of typical regionalisms. Already the famous 17th century traveller Evliyâ Çelebi includes the item in his wordlists illustrating Anatolian Turkish dialects; forms noted by him are: *pürçükli/pürçüzli* (Bolu/Dörtdivan, Diyarbakır), *yer sapı, kızıl ağaç* (Bolu/Dörtdivan). Cf. Eren (1975).

MAP 2. Denotations of "carrot" to be found in the Derleme Sözlüğü.



Of these types, *keşir* is the one which has the oldest attested history in the Turkic languages, cf. Clauson (1972, 754). Type I, *pürçüklü* etc., etymologically must be connected with **bürçek* "curl of hair" (cf. Clauson 1972, 357 and TTS, 3207). The semantic connection has to be sought in the curly tuft of foliage the carrot has. While the Type IV and Type V forms are etymologically transparant, Type III is not so easy. To what Oğuz (1976, 426) has to say on the matter, a possible connection with *teper aşağı/ teper üstü* "headlong" (DS, 3883) may be added.

The distributional pattern obtained can be described as follows: To the east of Ankara and Konya, e.g. in Central Anatolia and the eastern (Azeri) area, type I variants are predominant. Occurrences of type II are to be found in the western half of Ankara province and to the west of it, and also in an area in the southwest, around Denizli. In the latter region, besides *keşir*, *deper/teper* (type III) is frequently employed. The area of the latter extends to the north. The situation in the southwestern area is furthermore complicated by the occurrence of forms based on colour terms, like *kızılot* "red herb" and *sarıot* "yellow herb" (type IV).

Probably the most interesting feature of map 2 is the way the other two, somewhat more heterogeneous, main types are distributed. Type V forms (based on *parmak* "finger") are mostly found along the boundary between the type I and type II areas. This boundary is roughly indicated by a straight line almost connecting Konya and Ankara. For this type of "snake-like" distribution (Cf. the example in Weijnen 1977, 15-16) two quite different interpretations can be invoked. In the first place, it could be that an old form (which would be type V in this case) was squeezed in between two expanding innovations (in this case: type I and type II). In our case, however, it seems certain that type V forms are the newer ones (cf. the entries of *keşür* in TTS, 2457, and above). Now, innovations are known to come into existence on the borderline of two disjoint areas in cases where confusion is enhanced by the polysemy of one or both of the existing denotations. Especially the form *pürçüklü* seems to offer possibilities here, but the material on record in DS (cf. pp. 824, 3497, 4656) seems insufficient to substantiate such a claim.

Somewhat more to the east of the line Ankara-Konya the form *yerotu* "earth herb" (type VI) is concentrated; the other forms classified as type VI (*yerebatan* etc.) on the other hand are to be found along the other straight line which is meant to roughly indicate the boundary between type II and type III forms (except in the southwest).

As is apparant from map 2, DS has very few entries for "carrot" from the coastal regions. In all probability, variants of standard Turkish *havuç* are predominant there. In this way a fatal weakness of a dialect dictionary like the *Derleme Sözlüğü* comes to light. Because forms occurring in the standard language were systematically discarded from it, we are unable to assess the geographical distribution of those forms. Of course, we can guess that a standard form is predominant in those regions for which no regional variants are to be found in DS. But at the same time it is obvious that a standard form like *havuç* cannot be totally wanting in the Turkish spoken in those places for which dialect forms are on record. Rather, standard forms and local forms can be expected to form some sort of complementary distribution. Therefore we remain in the dark as to the exact value (e.g., the precise use characteristics) of the "provincialisms" exactly because no data on the standard forms are available, and this circumstance has to be considered, in my opinion, as the severest limitation on the usefulness of DS for linguistic purposes.

The "Language Reform"

Historical synopsis

The Turkish Language Reform (henceforth: TLR) has been a highly effective cultural revolution. Only a negligibly small group of specialists nowadays is able to read pre-1928 publications in Arabic script and even well-educated youngsters will find the newspapers of some fifty years ago difficult reading. Indeed, the rendering of Turkish *dil inkılâbı/devrimi* in English is problematic; the rendering with "Language Reform" is prompted by the fact that the "Language Revolution" has turned into a process which has been going on for more than half a century. Therefore the suddenness commonly associated with a "revolution" is lacking, and the rendering with "reform" is felt to be more appropriate. Also, while few writers on the matter deny the

necessity of some turkification of the language, especially in retrospect, the moderate reformers and the conservatives among them think more in terms of "reform", the radicals more in terms of "revolution". The ambiguity is inherent in the Atatürkist reforms/revolutions in general, or rather, the interpretation of them offered by persons and parties of different political inclinations. In a newspaper article (TERC. 30-3-1981) the late Prof. Dr. Faruk K. Timurtaş, great osmanist and exponent of the conservative party in matters concerning TLR, goes as far as to deny any semantic connection between the words *inkılâp* and *devrim*. According to him, the latter, meaning "revolution", should be equated to *ihtilâl* and the former only means "reform".

From the beginning, attitudes adopted by Turkish intellectuals in matters of language reform have been complex. The 19th century language reform movement originated from the growing realisation that for a modernisation of the Ottoman Empire the spread of literacy was of prime importance. This aim could hardly been achieved, it was thought, when the public institutions and newspapers continued to use a highly conventional and eleborate style. As the style characteristics under attack were closely related with the (terminological) vocabulary of foreign origin, demands to trim this subsystem down were a logical corollary of any simplification program.

But gradually the utilitarian arguments against the use of part of the foreign elements in the language were supplemented with, and eventually superseded by, ideological considerations. The disintegration of the empire led to the rise of Turkish nationalism. The purification of the language from foreign elements was increasingly felt to be a matter of national self-esteem; at the same time, the foreign elements became associated with the decay and the "backwardness" of the Ottoman Empire.

Finally, as it is the case of each standard language, individual elements of the language, both existing "foreign" forms and new creations, became subject to judgements of individual speakers as to their formal "correctness", their esthetic acceptability and their use characteristics (e.g., the time-honoured question of "Lehnwort" vs "Fremdwort" was raised). According to the attitudes adopted on these three points, several brands of Turkish purism can be distinguished. An early wave of purism is best termed "Ottoman purism". It was concerned with the "correct" use of the lexical subsystem of Arabic and Persian origin, cf. the admirable account by Foy (1898). For reasons which will appear the 19th century discussion is still referred to in the public discussion of

the language today. In the years before world war I two programs were put forward functioning as the poles of discussion of the TLR till this day. The most radical stand was taken by those who simply advocated a complete abolition of all foreign elements. This program became known as *tasfiyecilik* (lit.: "purism"). More influential in those years, however, were the views put forward by Ziya Gökalp and his followers in their magazin *Genç Kalemler*. They formulated more moderate ideas which, together, were termed the *Yeni Lisan* ("New Language") program. The tenets of this program reflect the existing purist trends: it calls for the abolishment of infrequent loanwords, while the retention of the common ones is recommended. But on the other hand, the wholesome abolishment of foreign rules for wordformation and flexion is demanded, i.e., these rules should be restricted to lexicalised items (cf. Heyd 1953, 17; İmer 1976, 73 ff.). This last demand which has won general exceptance has proven to be of decisive importance for the development of written standard Turkish, because its implementation effectively blocked any extension of terminology based on the Arabo-Persian subsystem in the lexicon.

In the Republic, language reform figured among the Atatürkist revolutions which aimed at the modernisation and westernisation of Turkish society. The reform program took off with the alphabet reform in 1928. In the years thereafter the language reform movement gathered momentum; in 1932 the Turkish Linguistic Society (Türk Dil Kurumu[5], henceforth: TDK) was founded to which the task of purifying the language from foreign elements was entrusted. It is a well documented fact that Atatürk himself took a very active interest in the search for new words; also, there can be little doubt that, as it was the case with his other "revolutions", at least during the first years, he took a radical stand in matters of the purification of the Turkish language, too. By 1935, however, it had become clear that the purification of the language from all foreign elements could not be achieved on short notice, and the program was slowed down (see especially Lewis 1984). Also during 1935, the "Sun Language Theory" (*Güneş-Dil Teorisi*) was launched in TDK circles, according to which Turkish has to be considered the mother of all languages. Most authors today tend to agree that this "theory" was not an expression of an extremist nationalist attitude, but rather served to justify the retention of loanwords in Turkish (Heyd 1953, 33 ff., İmer 1976, 90-91). However, Vardar (1977, 14 ff.) argues

[5]Originally the society was called Türk Dili Tetkik Cemiyeti.

against this view, claming that Atatürk continued to take an active interest in the creation of new words also in his last years.

After Atatürk's death İsmet İnönü became the new president of the republic. Through his impulses a new wave of creation of neologisms and their propagation occurred during the late thirties and the forties. During the late forties the reformist norms were codified in the first edition of the standard dictionary *Türkçe Sözlük* and in a series of terminological wordlists.

By then, the TDK and its policies had become firmly associated with the Republican People's Party (CHP) and its policies. After the defeat of this party at the general elections in 1949 by Adnan Menderes' Democratic Party (DP) the public role of the Linguistic Society was greatly reduced. The fifties saw a reaction against the Atatürkist reforms in many fields of public life and, once more, language figured prominently among them. This trend is strongly reflected in an appraisal of the written language by Steuerwald (1963-66) who is pessimistic about the future of many newly created wordforms which eventually were to gain widespread usage in the sixties and seventies. However, the linguistic outlook of most intellectuals remained modernistic; this is especially true for large groups of school teachers. As a result, in the fifties the purification of the written language, although slowed down, was not halted. This is reflected in the slight increase of "pure Turkish" vocabulary in the newspaper language (İmer 1976, 93).

After the 1961 coup by progressive military officers naturally the reform program gathered momentum once again, and the linguistic society recovered much of its prominence in linguistic matters. The correlation of linguistic and political attitudes had undergone an important change by now: advocating language purification no longer was a matter of nationalism, but rather a concern of leftish-progressist ideology. Most significantly, during the seventies adherents of the ultra-right nationalist MHP (Nationalist Action Party) regularly took stand against neologetic forms in the press, as it is apparent from the materials in Kreiser (1983). After the latest military coup in 1980 a reaction against the reform program has set in once again. These latest developments will be reviewed in §4 below. But first, in the next two paragraphs some of the formal and use characteristics of neologetic forms, and the linguistic arguments connected with these will be discussed.

The formalism of the Turkish Language Reform

Political developments in the Republican era and the important symbolic function the TLR and its products always has had in this connection has led to a situation today in which pragmatic considerations have been pushed very much into the background. As Korkmaz (1972, 106-8) states, the public and linguistic debate is dominated by the views expressed by two parties at the extreme ends of the scale of attitudes. The conservatives still think that the TLR was completely unnecessary and that the language should have been allowed to evolve "in a natural fashion". The radical reformists go on to create new forms at will, she says; it is left to the linguists to describe the rules crystalising spontaneously in retrospect. Of course, this is the approach adopted by the Linguistic Society from the thirties onwards: offer new forms (often several ones for one denotation) to the public and see how it reacts. From the seventies, however, the discussion is not so much about recently created forms, but rather about the acceptability of a more or less clearly defined corpus of neologisms on the one hand, and of their Arabo-Persian (or French) counterparts on the other. Essentially, this *Öz Türkçe* corpus has been fixed in the *Özleştirme Kılavuzu* ("Purification Guide"), edited by the Linguistic Society in 1978 to replace earlier wordlists of a similar nature.

The disinterest in descriptive approaches is shared by both conservative and purist authors; a natural consequence of the normative attitudes on both sides. In other words, everybody is trying to define to his own taste which wordforms are acceptable or even recommendable, and which forms should be rejected; for this no precise data on actual language use are felt to be required. Rather, all opinions are sustained by arguments concerning the formal (morphological) structure of individual forms.

The new vocabulary introduced by the reformers basically were taken from two sources (cf. İmer 1976, 97 ff.): In the first place, wordforms with genuine Turkic etymology were revived which had become extinct in written Ottoman Turkish; in many cases these forms have lived on in the regional dialects. Likewise, forms from the spoken language with more or less regional backgrounds were introduced in the written language, often with special terminological meaning. The scope of eligible forms sometimes was enlarged to other Turkic languages, as for instance was the case for the form *birey* "individual".

Secondly, entirely new forms were created on the basis of patterns of analogy:

1. The distributional range of existing wordformation suffixes was greatly enlarged; to cite one example: one of the most fertile suffixes in this connection is the deverbal derivation with *-(I)m*.
2. New derivational suffixes were borrowed from parent, i.e. Turkic, languages; a well-known example is the Wolga-Tatar infinitive suffix *-(E)v*, as in *işlev* "function".
3. The scope of borrowing was still further enlarged by not only including classical Mongolian into the circle of related languages (this resulted in exotic forms like *Danıştay* "Council of State"), but also European languages as source for the newly created analogy patterns; not surprisingly the high tide of this procedure was the era of the "Sun Language Theory". Probably the most successful device having originated in this fashion is the pattern of derivation for relational adjectives using the suffix *-(A)l* which in its turn intra-linguistically developed into a Turkish suffix *-sAl* under circumstances which characteristically never have been properly researched (some materials on this problem can be found in Steuerwald 1966, 9ff.). So much is clear that the original form *-(A)l* was introduced analogically on the basis of French forms like *financiel, culturel* (first Turkicized phonologically and in spelling to *finansal, kültürel)*; subsequently this form developed into *-sAl*; a "false" analogy on the basis of individual forms derived from stems ending in /-s/.
4. With the creation of many neologisms accidental and ad hoc analogy and/or association has played a role: The new word for "school", *okul*, at the same time recalls French *école* and Turkish *oku=* "to read, study"; *bilim* "science" formally is derived from *bil=* "to know", but at the same time is strongly reminiscent of the form *ilim* it was meant to replace.

As many of the new derivational patterns and individual forms have a somewhat eccentric background it is small wonder that arguments brought against them are first and foremost of an etymological nature. At the same time the validity of the etymological approach was implicitly acknowledged by the reformers not only by the introduction of the "Sun Language Theory", but also in individual cases, like when they

tried to prove that the derivational suffix *-(A)l/-sAl* should be considered a "productive" Turkish suffix on the basis of two or three suspect instances, or to legitimize the loanword *terim* "term" by formally deriving it from Old-Turkish *ter=* "to collect" (corresponding to modern Turkish *der=*!). In order to illustrate the central points of the ongoing debate I will discuss a few concepts frequently invoked by one or both sides taking part in it.

First of all, one notion which figures prominently in almost every contribution on the subject is that of "Living Turkish" (*Yaşayan Türkçe*) as being the issue at stake; an important outlet for conservative views is the rubric appearing under this heading in the daily newspaper Tercüman. Conservative authors conceive of "Living Turkish" not necessarily as a descriptive concept; rather, in typical 19th century fashion they think of the language as a living organism which should be, and should have been, allowed to have its own "natural development" (*doğal gelişim*). This means that some characteristics of actual language use must be considered as symptoms of illness or decadence. With more confidence than, say, twenty years ago the reformist authors nowadays challenge this call for a "Living Turkish" by pointing out that many of the "unnatural" neologisms are being generally used nowadays, and therefore appear to be very much alive. Their concept of a "Living Language" is clearly an essentially different one.

Neologetic forms which are considered in this sense to be "unnatural" and "un-Turkish" are commonly labelled as *uydurma* "fake" by the conservatives. Those of them which have gained wide circulation are termed *galat-ı meşhur* "common error", and thus are directly equated to the pseudo-loans sanctioned with misgivings by the 19th century Ottoman purists for the same reason. But the reformists, too, go on to refer to these time-honoured bastard forms. They have mockingly invented the term *uydurmasyon* on the basis of the conservatives' *uydurma* and use it for both the old "common errors" and for the bastard-French forms used by conservative writers instead of the neologisms they abhor: forms like *redakte et=* "to redigate" (while no such form as *redacté* does exist in French; cf. a series of articles by Coşkun Üçok in CUMH., april 20-23, 1986). The link with the state of the discussion in the beginning of this century, and the inherent continuity of the most extreme positions is also emphasised by the fact that conservative authors go on to characterise the radical views with *tasfiyecilik*, the denomination of the first radical program.

A central formal issue is that of the "productive" (*işlek*) against "im-

productive" wordformation suffixes. The idea is that the application of "productive" suffixes results in well-formed neologisms, while "improductive" suffixes should better be avoided. As a result, a discussion arises about which suffixes are "productive" and which ones are not. The issue is, formulated in this way, badly conceived from the start. First it must be noted that suffixes which are freely productive, like *-CI*, *-lI* or *-lIk* (cf. Lewis 1967) of course never entered the discussion at all. The actual discussion is not about fully productive suffixes, but about derivations, e.g. analogy patterns which before the language reform program was started had a greater or smaller (in some cases, zero) distribution in the vocabulary. If one were to formulate judgements on the admissibility of this or that form, criteria should have been developed on the basis of the frequency of the suffix in the vocabulary as a whole and the semantics involved. "Productive", "improductive" or "a little productive" are terms which seem to lack precision.

Finally, two constraint rules are advocated by the conservative party which defy linguistic discussion, because they are normative and lack a descriptive basis, although naturally they appear to be correlated to some extent with the common "Sprachgefühl". Firstly, neologetic derivations, it is said, should be confined to Turkish stems on principal: forms like *hukuk-sal* "juridic", etc. should be avoided. This view is strongly put forward by Timurtaş (1979). The constraint constitutes the reversal of the barring of Turkish stems with "foreign" derivational affixes advocated by the *Yeni Lisan* group at the turn of the century and stresses the special place of the Arabo-Persian vocabulary in a paradoxical way. A second normative constraint is concerned with the semantics of the new forms. If new forms are to be allowed at all, it is argued, they should offer new possibilities as compared to the existing loans; either they should refer to new concepts, or else they should serve to disambiguate old forms, e.g. help to resolve polysemy. The standard example for this constraint is the form *kuşku* "suspicion", which, one is told, should not be confused with *şüphe* "doubt".

The Turkish Language Reform and language use

Thus, the linguistic discussion is almost exclusively confined to the formal characteristics of the vocabulary. Sociolinguistic investigations into standard language use in writing and speech are sourly lacking, apart from estimates of the (diminishing) global percentages of loanwords still used in newspaper language (İmer 1976, 92 ff.).

One particular aspect of language use seems to be of paramount importance for the further evolution of standard Turkish, and therefore recommends itself especially as a research subject: Individuals are judged on the basis of their language use as to their political sympathies. A person striving to use "pure Turkish" forms only is classified as a leftist; on the other hand, a person who goes on to use many older forms is viewed as a conservative. Naturally, most people do not like it to be classified either way, and therefore most journalists, teachers and other intellectuals will develop neutralisation strategies (for a personal account of a university teacher, see Cüceloğlu & Slobin 1978). Significantly, the intermingling of "pure Turkish" elements and loanwords is considered bad style, but any written text which is not purposefully purified will contain more mixed clauses than etymologically uniform ones. What stylistic rules have to been followed exactly seems to be very unclear at that. Aksoy (1980,106) confines his criticism to a few examples were "old" and "new" forms are used adjacent. This may be merely accidental; in any case it is difficult to see why adjacency should be a decisive criterion. The evolution of standard Turkish and the stage reached today can only be assessed on the basis of a thorough analysis of language use. Only then the way in which the different external factors have influenced this evolution, and are still influencing it, can be analysed, and only then pragmatic considerations will have any chance of gaining prominence.

The Turkish Language Reform in the Eighties

The developments since the military coup in September 1980 are dominated by an effort by the conservative party to recover the ground lost during the sixties and seventies. During the last years three major events have unleashed a stream of polemic publications in the press: the linguistic seminar organised by the Foundation for Political and Social Studies (SİSAV) shortly after the coup, the preparations for the institution of an Academy for the Humanities, and the regulation issued by the director of the national broadcasting organisation TRT forbidding the personal the use of a number of neologetic forms.

In the SİSAV seminar (26-27 December 1980) practically all prominent turkologists, and others, who had expressed more or less conservative views took part. The seminar was apparently well prepared and extensively covered by the conservative daily newspaper Tercüman. Although the military rulers kept in the background, the leader of the

junta general Evren expressed his sympathies by sending a felicitation telegram. The speakers at the seminar in unison expressed as their view that radical purism is a disease affecting the "living Turkish language", and stressed that loan-relationships between languages are a natural phenomenon to be encountered all over the world.

The SİSAV seminar was the prelude for a virtual take-over of the Linguistic Society by those giving acte de présence at the meeting. This take-over took place in the autumn of 1983 and was prepared for by a new article in the constitution which took effect in august of that year. From then on, both the Linguistic and Historical Societies, while they continued to exist as separate institutions, were placed under one central board, together with two other research institutions, the Atatürk Kültür Merkezi ("Atatürk Center for Culture") and the Atatürk Araştırmaları Merkezi ("Center for Studies on Atatürk"). The new board, named Atatürk Kültür, Dil ve Tarih Yüksek Kurumu ("Atatürk High Council for Culture, Language and History") is placed under direct control of the prime minister, and could well be a first step towards an Academy for the Humanities. The creation of such an institution had been advocated for decades by many conservatives as a means to curtail the radical activities of the Linguistic Society in the field of standard language vocabulary. The conservatives immediately took firm control of the newly formed board of the Linguistic Society (a list of the board's members can be found in Türk Dili 385 (1984), 60-64). This change is also reflected in the names of contributors and the subject matter of the Linguistic Society's monthly journal Türk Dili from December 1983 onwards. It is an ironical coincidence that one of the first deeds of the new board has been to take the latest edition (the seventh, 1983, in two volumes) of the standard dictionary Türkçe Sözlük out of sale, whereas this edition of the dictionary is the first one which is descriptionally adequate, and not merely excessively biased against "old" forms.

Out of the restrictions imposed on the use of (parts of) the new vocabulary in the departments and other public institutions, one has attracted much attention: In February 1985 the board of the national broadcasting organisation TRT issued a regulation forbidding the use on the radio and television networks of certain neologisms specified on a list of some two hundred items (the list has been published in CUMH. February 26, 1985). This regulation, too, carried the signatures of a number of conservative linguists.

From these three highlights from the developments the TLR took in

the eighties it is clear that a coordinated action by a conservative group of linguists has resulted in a situation in which they have taken firm control of key positions. This does not mean, however, that in practice this would result in a campaign to return to, say, the use of the vocabulary of the thirties. If one looks at the language use employed in Türk Dili today it is fair to say that only a slight shift in the use of terminology has taken place. Of course, no articles can be encountered in the journal any longer which are deliberately purified totally. The renouncement of the radical purists' goal - the wholesome abolishment of foreign elements - is an important change of attitude indeed. But, as it was noted before, the Arabo-Persian subsystem in the vocabulary has lost all productivity for many decades, a development also supported by the now "conservatives", and this vacuum has been filled by new means of derivation, which may or may not meet everybody's approval. If one needs new terminology and refutes the neologetic forms, then, the only way out seems to be the wholesome adoption of loans from Western European languages; a tendency to this effect is indeed clearly present in the TRT regulation. But a solution of the controversy by adopting these foreign terms systematically is advocated by no one.

Concluding Remarks

In this chapter two fields of linguistic investigation have been discussed which today are considered to form part of sociolinguistic studies. Both on dialects of Turkish spoken inside the Republic, and on matters of language policy (which are entirely dominated by the issues connected with the Language Reform) a great many publications have appeared to date.

However, dialectological work done has remained mostly confined to descriptions of local varieties. The contributions concerned with the Language Reform, on the other hand, inavoidably are coloured by a strong partisan bias of one sort or the other, and descriptional tasks have been neglected. Studies inspired by modern sociolinguistic research questions and methodology, as have been developed by William Labov and others in the United States and elsewhere, are nonexistent; therefore a survey of patterns of language variation of the sociolectal type to be encountered in Turkey cannot be offered for lack of data. The same holds true for the study of language contact inside of Turkey: this field of study has been effectively been impeached by the political

taboo resting on it.

The lack of interest in language use and the disregard of new insights in the mechanisms of language change also have led to a situation in which certain preconceived notions remain in force unchecked. In the section on dialectology I have tried to show that a geographic-linguistic approach in dialectology leads to interesting results; I fail to see how the historical dialectology of Turkish can get any further without a sound areal-linguistic foundation. In any case, the explanatory relevancy of tribal divisions has yet to be proven, let alone that those divisions could serve as a basis for classificatory purposes. The discussions on the Turkish Language Reform have always had the outlook of a public debate, and strictly linguistic points of view, especially descriptive ones, have been insufficiently developed. The relationship between the modern language and the Ottoman written language, for instance, has been reduced to little more than a myth by those who criticize the use "old-fashioned" vocabulary by labelling it as "Ottoman".

In the meantime, an entirely new field of linguistic investigation has been opened by the arrival of the Turkish immigrants in Western Europe. The special variational patterns of Turkish developing in the new environment until now have received scant attention, as the linguists' attention almost exclusively has been confined to the special features of the immigrants' second languages: German, Dutch, French, etc. But, as mechanisms such as imperfect learning and transfer from the second language(s) will take their toll, varieties of Turkish can be expected to arise in generations to come.

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Abbreviations

AL	Anthropological Linguistics
BLS	Berkeley Linguistic Society
BSOAS	Bulletin of the School for Oriental and African Studies
CUMH.	Cumhuriyet (daily newspaper)
CLS	Chicago Linguistic Society
DS	Derleme Sözlüğü. Ankara: TDK, 1963-1982.
LI	Linguistic Inquiry
OS	Orientalia Suecana
NELS	Proceedings of the ...th Annual Meeting of the North Eastern Linguistic Society
PhTF I	Philologiae Turcicae Fundamenta I. Wiesbaden: Steiner, 1959.
PRCLD	Papers and Reports on Child Language Development
RO	Rocznik Orientalistyczny
TCLP	Travaux du Cercle Linguistique de Prague
TD	Türk Dili
TDAYB	Türk Dili Araştırmaları Yıllığı–Belleten
TDED	Türk Dili ve Edebiyatı Dergisi
TERC.	Tercüman (daily newspaper)
TS	Türkçe Sözlük. 7th enlarged edition. Ankara: TDK, 1983.
TTS	Tanıklariyle Tarama Sözlüğü. Ankara: TDK, 1963-1975.
UAJb	Ural-Altaische Jahrbücher
ZDMG	Zeitschrift der Deutschen Morgenländischen Gesellschaft

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