

Intonation patterns of Turkish interrogatives

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Introduction

Turkish **lexical accent** has been relatively well studied. Nevertheless, the results are not always unanimous among phoneticians. For instance, in two experimental studies, Ahmet K. **Konrot** (1981) and Takahiro **Fukumori** (2004) have affirmed with other researchers that the rising of fundamental frequency (F0) is related significantly with the presence of accent. On the contrary, they do not share their opinion on syllable duration. Konrot pretends that final duration is irrelevant, since at the final position, duration is determined by the rule of “final vowel lengthening”. Its positional character explains also the fact that final duration is not perceived as the presence of accent by Turkish speakers in perception tests.² On the other hand, for Fukumori, final duration belongs to one of the acoustic traits of Turkish accent. Finally, the status of intensity distinguishes Konrot’s position from that of Fukumori. They are all in accordance with the general view that intensity is not related with accent in final position. Konrot postulates however the coexistence of two different accentuations in Turkish, i.e. pitch accent and stress accent. If final syllable does not have pitch accent, F0 falls. When it has pitch accent, F0 shows falling and rising. On the other hand, he has noticed that in Turkish, independently of the existence of accent, intensity is relatively at high level in initial syllables of words. Intensity is significant only if accent plays a contrastive role.

In spite of these recent studies on lexical accent, the correlation between accentuation and intonation in syntagms is of critical importance to investigate the Turkish intonation. We should explicit the prosodic structuring from the smallest accentual unit to the largest intonation unit passing by several syntagmatic prosodic units. In the following lines, an almost total lack of such study on prosodic structuring will oblige us to grope our discussion through in the dark.

1. Intonation and interrogative sentences

The relation between syntactic structure and intonation has been recognized at the beginning of intonation analysis of Turkish. In his first acoustic experiment directed by Pierre Fouché at the Phonetic Institute of the University Paris III, Muzaffer Tansu

¹ The present article is based on the collaboration of three Japanese and Turkish researchers. We should express our sincere gratitude to Jacqueline Vaissière and Mary-Annick Morel who prepared this academic encounter. The final version of this article was translated from the previous French version.

² Turkish has distinctive long vowels especially in Arabic and Persian loan words.

explained in reading and recording himself the poems of Emrah that Turkish intonation consists in the systematic combination of pitch variation. He remarked also that rising at the first part and falling at the end corresponded exactly to the syntactic structure of the poem, representing the relations of question and answer.³ In the following verse *Dedim: inci nedir? dedi: dişimdir*; “I said: what is pearl?, he said: it is my teeth.”, question begins with the pitch peak of *ne* and is followed by the falling in *dir*. A small rising of *dedi* comes after and finally the answer to that question is given with the final falling of *dişimdir*.⁴

First of all, it is probably necessary to emphasize that even if Turkish has at disposal of morphosyntactic markers for interrogatives, we can not leave aside suprasegmental markers, and especially intonation. Concerning the intonation analysis of Turkish interrogative sentences, the typology of Otto von Essen appears traditional but precious. He distinguished six types of interrogative intonation in the texts read by two Turks.

- 1) *MI* question (Entscheidungsfragen): *Benim karım olmak ister misin?*
 - 2) Rhetorical question (rhetorische Frage): *İmaret burası değil mi?*
 - 3) **WH-question** (Ergänzungsfragen): *Nerelisin?*
 - 4) Double question (Doppelfragen): *...evli midir, bekâr mıdır?*
 - 5) Repeated question (Nachfrage): *Akşama mı?*
 - 6) Specific question (Sonderformen): *Demek sade ona razısın?*
- (Essen (1956) 109-113)

A more recent paper of Mustafa Sarıca concerns also the intonation structure of interrogatives. He discerned five types according to **morphosyntactic structure**.

- 1) Interrogative adverb in isolated form: *Niye?*
 - 2) Interrogative adverb in nominal context: *Nasılsın Ayşegül?*
 - 3) Interrogative adverb in verbal context: *Nasıl geçiyor orda hayat?*
 - 4) Interrogative particle in nominal context: *Daha ilerlemesi söz konusu mu?*
 - 5) Interrogative particle in verbal context: *Dersini yaptın mı?*
- (Sarıca (1997) 319-331)

In actual state of research, it would be safe to take these typological studies as our basic model.

2. **Turkish Dialogue Module** as **semi-natural corpus**

³ Muzaffer Tansu (1941) *Türk Dilinin Entonasyonu Tecrübî Etüd*, İdeal Basımevi, Ankara, p.45.

⁴ Tansu, op.cit., p.46: “(...) Bu şekilde bahs ettiğimiz mısraların birinci kısmında sesin «ne» hecesinde davamlı yükselişi ile ifade edilen sorgu, ikinci kısmında yani cevapta sesin inişi ile nihayet bulmaktadır.”

Forty dialogues that we analyzed exhaustively in this paper have been exploited as one of the conversation textbooks in 17 different languages on the Internet. These textbooks are called *Dialogue Modules of TUFs Language Modules*, which have been developed since 2002 in *The 21st Century COE project “Usage-Based Linguistic Informatics”* at the *Graduate School of Area and Culture Studies, Tokyo University of Foreign Studies (TUFs)*, see <http://www.coelang.tufs.ac.jp/modules/tr/dmod/> (in Japanese).

All the dialogues were recorded in the studio at Tokyo University of Foreign Studies, and were played by a master course student born at Mersin and a research student born at Kahraman Maraş. In short, dialogues are not possible to be regarded as natural, because these were played according to the script previously fixed. In this sense, dialogues are semi-natural or semi-artificial, but more or less controlled by informants themselves: relatively normative pronunciation, sometimes didactic accent, rare redundancy in discourses and lack of overlapping, etc. It is no doubt that we must have profited of spoken Turkish corpus if it were available. Nevertheless, our project to construct spoken Turkish corpus has only just begun. In the present paper, we are obliged to be satisfied with this semi-natural corpus of played dialogues.

The intonation analysis was effectuated by *PRAAT*⁵ and its application *Prosogramme*.⁶ Sound sources are all wave files with the sample rate of 44,100 Hz, and the bit depth of 16 bits.

From the morphosyntactic viewpoint, it is traditional to distinguish three major types of Turkish interrogatives.

1. *WH-question* where interrogative adjective or adverb is used.
2. *YES/NO-question* where interrogative particle *-mI*⁷ is used.
3. *Question without morphosyntactic marker* where neither interrogative adjective or adverb, nor particle *-mI* is present.

In the following lines, we will analyze first the intonation pattern of wh-question, then that of yes/no-question, and finally *question without morphosyntactic marker*.

⁵ The speech analyser was developed by Paul Boersma and David Weenink, Institute of Phonetic Sciences, University of Amsterdam, cf. <http://www.praat.org/>

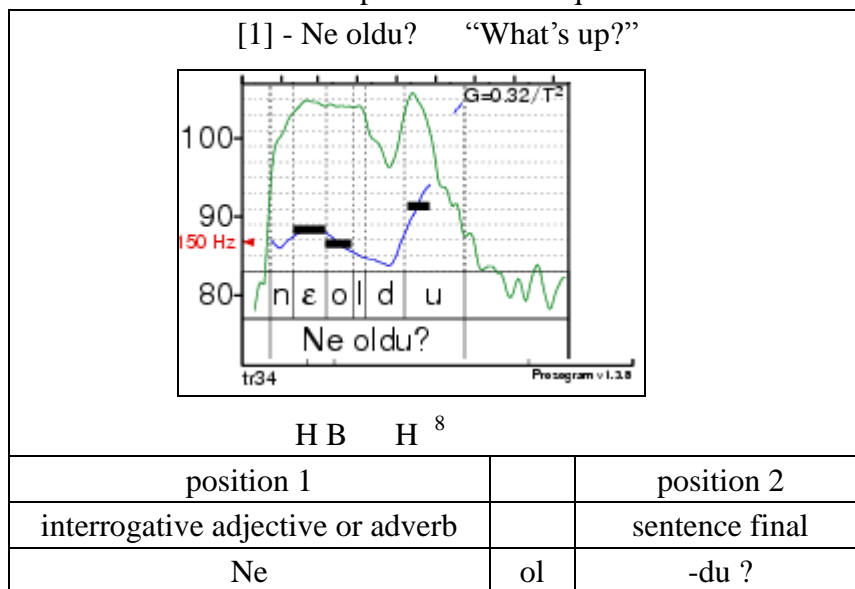
⁶ The most outstanding feature of Prosogramme lies in its stylisation process of pitch variation. In opposition to previous stylisation methods based on the statistical calculation of F0 curve, Prosogramme has adopted tonal perception model, i.e. the simulation of pitch perception. In our analysis, the glissando threshold is $G = 0.32/T^2$ which gives us a stylisation, in Mertens' wording, “very close to the manual notation”. In Prosogramme, pitch is determined only in vowel nucleus. Vowel nucleus corresponds to the voiced part around the intensity peak. In order to eliminate microprosodic perturbations, the voiced part is delimited on left and right respectively by the points of -3dB and -9 dB of the maximum. For the detail, see Mertens (2004) 14-17 and his site, <http://bach.arts.kuleuven.be/pmertens/prosogram/>. We thank Piet Mertens for his kind suggestions about our analysis.

⁷ We follow here the traditional way of transcription for Turkish archiphoneme /I/ in vowel harmony.

3. WH-question

WH-question is the interrogation by means of interrogative adjectives or adverbs like *hangi* “which”, *kaç* “how much”, *nasıl* “how”, *ne* “what”, *nere* “where” or *niçin* “why”. In the example [1] *Ne oldu?* “What’s up?”, as Tansu had already explained it more than a half century ago, the pitch reaches its peak in the interrogative adverb *Ne* and then falls. However, besides this high pitch in *Ne*, there is another important position to interpret the intonation of wh-question. It is the sentence final position. The intonation structure of wh-question is thus composed of two relevant prosodic positions.

Two relevant positions in wh-question



3.1. Intonation pattern of wh-question

To establish more adequate intonation categories of wh-question, it is important to take into consideration the terminal intonation contour of interrogative sentences. And it is well founded on the fact that the predication appears at the end of utterance in Turkish. The terminal contour can be rising or falling. But final rising should be divided into two different categories, i.e. final rising with or without *glissando*. Thus, in our corpus, three terminal intonation patterns are to be differentiated in wh-question, see Table 1.

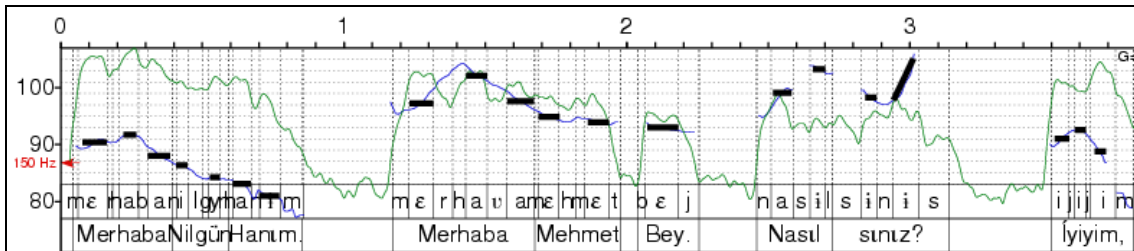
Table 1: Terminal intonation patterns of wh-question

⁸ H = high-flat pitch, B = low-flat pitch.

F0 at the end of utterance	H	↑	B
Occurrences in the corpus	19/39	11/39	9/39

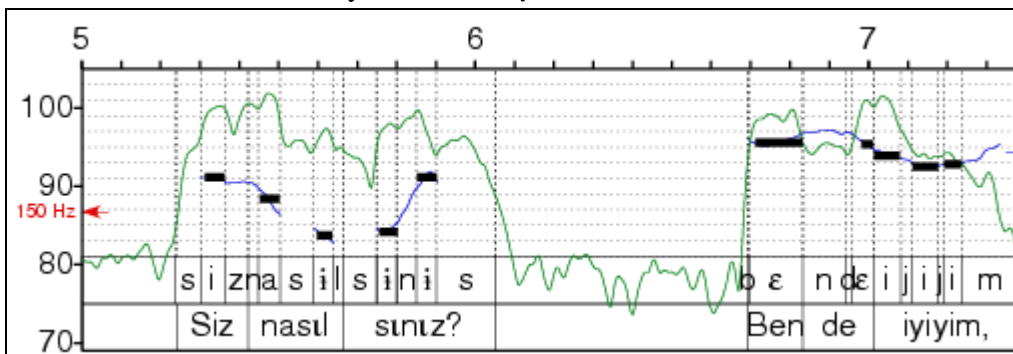
H = high-flat pitch, B = low-flat pitch, ↑ = rising glissando ⁹

[2] - Merhaba Nilgün Hanım. - Merhaba Mehmet Bey. - *Nasılsınız?* - İyiyim,...
 “- Hello Nilgün Hanım. – Hello Mr Mehmet. – *How are you?* – I am fine,...



B H -/

[3] - ... *Siz nasılsınız?* - Ben de iyiyim,...
 “And you, *how are you?* Me too, I am fine,...”



H B H

For wh-question, there is not a single interrogative characterized by a terminal falling **glissando** in our corpus. Otto von Essen noticed a general pitch rising of sixth at the end of wh-question.¹⁰

At morphosyntactic level, two sentences [2] and [3] are separated only by personal pronoun *Siz* “you”, while at discourse level, the opposition seems more complex. In the example [2], interrogative adverb *nasıl* has low-flat pitch at the first syllable and then high-flat pitch at the second. Here the lexical accentuation constitutes probably one of

⁹ Some examples which Prosogramme did not succeed in extracting F0 variation were systematically omitted from the present analysis. In a different framework, especially when high pitch is regarded as referential one, our three intonation patterns will be described as follows: flat pitch (H=), falling pitch (H-) and rising pitch (H+).

¹⁰ “Im Gegensatz zu den Entscheidungsfragen bildet diese Ergänzungsfrage den Schwerpunkt in der Fragepartikel. Der Ton springt auch hier energisch nach oben (Quartsprung); im Nachlauf sinkt die Stimme über c auf F und geht in der letzten Silben um eine kleine Sext wieder hinauf.”, Essen (1956) p.110.

the direct causes of assigning a high-flat pitch to the second syllable of *Nasıl*. On the contrary, the example [3] begins with personal pronoun *Siz* and the presence of this personal pronoun has modified the contour *nasıl*. The answer *Ben de iyiyim* is accompanied with another contrastive personal pronoun *Ben* “Me”. Therefore, the first discourse *Siz nasılsınız?* is in contrast with the second *Ben de iyiyim*. Nacar-Logie interpreted it in the same manner.

(...) en turc, la démarcation du segment initial par la hauteur intonative dépend d’une mise en contraste énonciative, liée au changement de thème ou de propos. En d’autres termes, s’il n’existe pas de changement de thème ou de propos, l’intonation représente une configuration très peu modulée. (Nacar-Logie (1997) 271)

The same effect can be found probably in Sarıca’s intonation analysis, see Sarıca (1997) 338: *Sen ne zaman...* and *Sen nerden...* in the examples 8 and 9.

3.2. Is rising **glissando** relevant?

A striking difference is found in the terminal contour. Rising glissando *-nız* occurs in the example [3]. As far as our corpus is concerned, rising glissando appears generally in the following contexts.

In nominal context, i.e. interrogative adjective followed by a noun.

Hangi bina? “Which building?”, *Ne partisi?* “What party?”,

Başka ne gibi yetenekleriniz var? “What kind of another faculties do you have?”,

Nasıl biri? “What kind of one?”, *Saçı ne renk?* “What color is his hair?”,

Ne renk bir kalem di? “What kind of colour pencil was it?”

Interrogative at final position.

Toplantı salonu nerede? “Where is meeting room?”,

Boyu ne kadar? “How tall is it?”

Ne oldu Özgür? “What’s up, Özgür?”, the sentence with a rising glissando in the word *Özgür*, will be classified as interrogative in nominal context. It must be noted that terminal glissando is realized with relatively long vowel nucleus. In addition, glissando can appear in the following various phonetic environments.

Voiceless consonant + Vowel: [si]

Voiceless consonant + Vowel + Voiced consonant + Voiceless consonant: [rɛnk]

Voiced consonant + Vowel: [ba], [dɛ], [di], [na], [ri]

Voiced consonant + Vowel + Voiceless consonant: [daɾ], [diɾ], [gyɾ], [nis], [vaɾ]

This means that the presence of rising **glissando** is independent of phonetic environments. But we must not neglect the fact that the sentence can occur without any rising glissando in [3]. We will consider this glissando a relevant trait in Turkish interrogatives. But under what conditions does Turkish interrogative sentence realize in high or low pitch with or without glissando? We will investigate the sentences [2] and [3] in more extended contexts.

[2] - Merhaba Nilgün Hanım. - Merhaba Mehmet Bey. - *Nasılsınız?*

- İyiyim, teşekkür ederim. [3] *Siz nasılsınız?* - Ben de iyiyim, teşekkür ederim.

“[2] - Hello Nilgün Hanım. – Hello Mr Mehmet. – How are you?

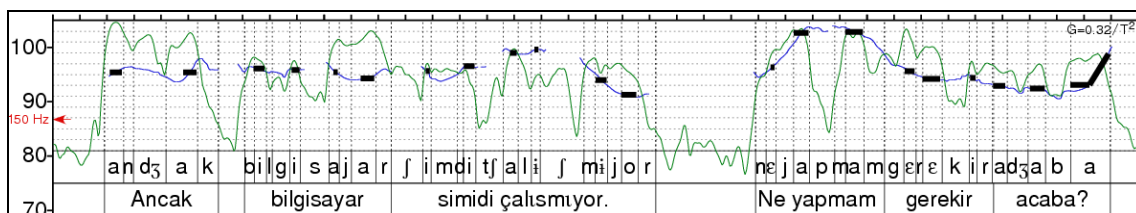
– I am fine, thank you. [3] And how are you? – I am fine, thank you.”

The example [3] shows a distinct discourse character, since it is the second turn of salutation. The speaker puts emphasis on the contrast between *Siz* and *Ben*, pushing the routine question “How are you?” to the background. Here, the presence or absence of rising glissando does depend on the discourse situation, and the type of verbal interaction plays a determinant role in the realization of interrogative intonation. The conclusion of Nash’s intonation analysis seems significant for a better understanding of the conception that Turkish intonation is more strongly influenced by the discourse situation than the **morphosyntactic structure**.

The concept of intonation as system and process rather than as a set of fixed patterns specified by rules for particular kinds of syntactic constructions accounts for the speaker’s interpretations of the message, which can be predicted only within narrow limits. (Nash (1973) 150)

Terminal glissando in [4] derives from the discourse process represented in the adverb of modality *acaba*.

[4] - *Ne yapmam gerekir acaba?* “What should I do, I wonder it?”



The adverb *acaba* is an epistemic modality marker in order to examine the truth value of a given situation. The example [4] is the question with a certain indeterminism about

that situation. In other words, speaker does not understand well what he must do.

3.3. Glissando and discourse situation

Such indeterminism of the speaker is evident when he questions about the things already referred. Generally speaking, in order that communication may go well, interlocutor is obliged to identify the things or subjects that the speaker has introduced in the precedent utterances.¹¹ The following questions [5] to [10] are all concerned with the identification of things or subjects mentioned in the immediately preceding contexts.

[5] - Bak şu karşıdaki yüksek binayı görüyor musun? - *Hangi* bina?

“- Look, do you see that high building at the other side? – *Which* building?”

[6] – Bugün akşamki partiye geliyor musun? – *Ne* partisi?

“- Do you come to tonight’s party? – *What* party?”

[7] – Ne derecede İngilizce biliyorsunuz? – İyi derecede biliyorum efendim. - Fransızcanız *hangi* seviyededir? – Orta seviyededir. – Başka *ne gibi* yetenekleriniz var?

“- At what level do you know English? – I know it at good level. – *At what* level is your French? – At middle level. – *What kind* of faculty do you have otherwise?”

[8] – ... Okulun toplantı salonunda. – Öyle mi? Toplantı salonu *nerede*?

“- In the meeting room at school. – Is it? *Where* is the meeting room?”

[9] – Yeni elemanı gördün mü? İşe bugün başladı. Onu arıyorum. – *Nasıl* biri? – Yirmi beş-otuz yaşlarında. – Boyu *ne kadar*? – Bir metre seksen santim kadar. – Saçı *ne renk*? – Siyah, kısa kıvrıkcık saçlı.

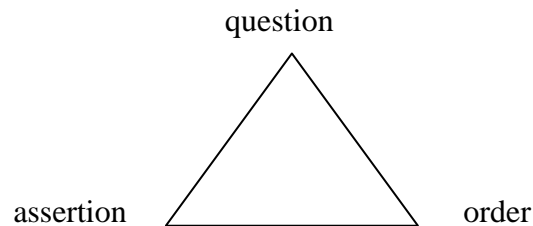
“- Did you see a new comer? He began to work today. I am looking for him. – *How* does he look like? – 25-30 years old. – *How tall* is he? – About 180 cm. – *What* colour is his hair?”

[10] – Aylin kalemimi kaybettim. Gördün mü? – Hayır görmedim. *Ne renk* bir kalemdi?

“- Aylin lost my pencil. Did you see it? – No, I did not. *What* colour was the pencil?”

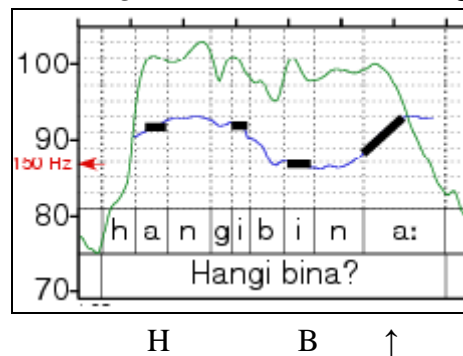
¹¹ Cf. “Cooperative Principle” promulgated by Paul Grice.

Because of the question for identifying things already referred and introduced in a given discourse situation, the question has much illocutionary force to incite the interlocutor to make a reply. According to John Searle's terminology, this kind of question belongs to a subcategory of "directive" like order. Using question form in this case, the speaker has an intention to let the interlocutor make an answer, in other words, to let him accomplish an imposed speech act. It is well known that the question occupies a central position of the three fundamental speech acts, i.e. assertion, question and order.¹²



In the semantic interpretation of the question, there are traditionally three distinct approaches: propositional, epistemic-imperative and categorical approaches.¹³

[5] ... *Hangi bina?* "Which building?"



In the propositional approach, the semantic interpretation of the question brings focus into a close relation between question and assertion. This relation is probably originated from their formal affinity like in French: *Il vient.* vs *Il vient?* In the propositional approach, the question *Hangi bina?*, for example, will be interpreted semantically as follows: Tell me which of the followings is true: It is building A or building B or ... or building X. On the contrary, the epistemic-imperative approach lays emphasis upon the affinity between question and order. In this semantic approach, the question *Hangi bina?* will be paraphrased in the following manner: Bring it about that I know which building it is. We can suppose that the questions [5] to [10] with a

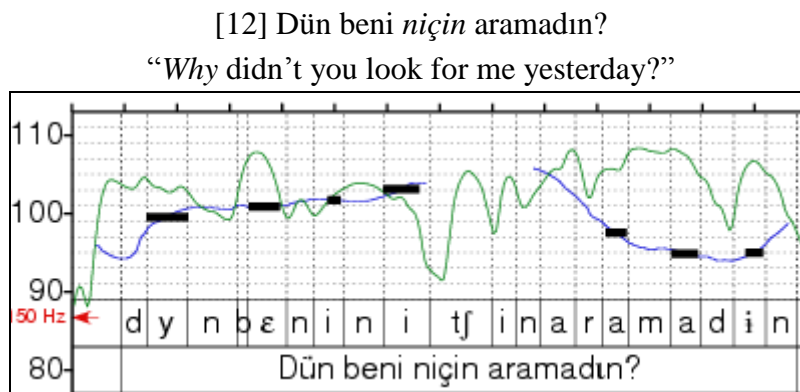
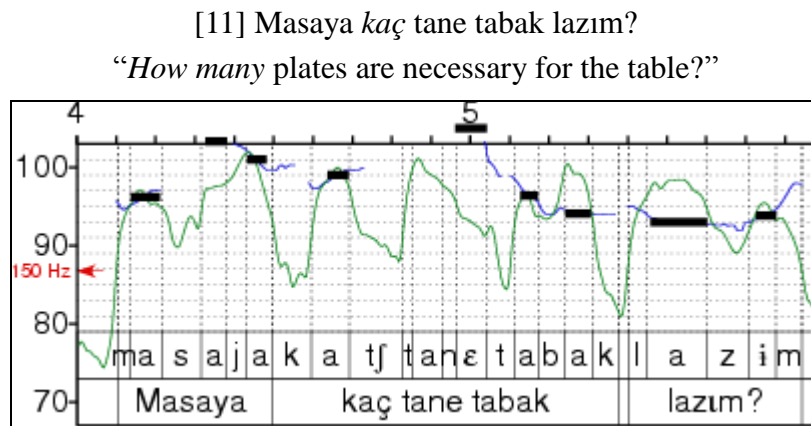
¹² cf. Catherine Kerbrat-Orecchioni (1991) p.6. "Prototypical speech acts" in Givón (1984) p.248.

¹³ cf. Ferenc Kiefer (1983) p.2. In explaining about three universal speech acts, Givón manifested almost the same way of thinking, Givón (1984) pp.248-251.

terminal rising **glissando** will be interpreted as **directive** speech acts where the interlocutor is required more or less imperatively to make his reply.

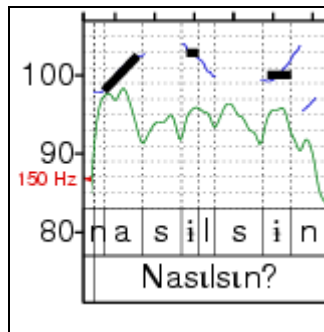
3.4. Terminal low-flat pitch

In our corpus, the low-flat pitch appears in the following examples [11] and [12].



Generally speaking, the terminal low-flat pitch is a typical prosodic trait of **assertive** sentence. We suppose that these questions can be interpreted from propositional viewpoint. In fact, the meaning of [11] and [12] is not a true question, but a quasi-assertion of which semantic content will be evaluated in proportion to the truth value of a given proposition. Consequently, the question [11] is a sentence to affirm the necessity of preparing enough plates for the persons at table. The question [12] has an illocutionary function to confirm the fact that the interlocutor did not look for the speaker the day before. This semantic affinity between question and assertion may assign to the interrogatives [11] and [12] an assertive intonation contour, i.e. low-flat pitch. In the same way, the interrogative sentence [13] *Nasılsın?* can be enunciated as a simple greeting, not to ask really the physical condition of the interlocutor, but rather to confirm his health.

[13] *Nasılsın?* “How are you?”



In recapitulating the intonation patterns of **wh-question**, wh-word constitutes the first relevant prosodic position, which is realized with a high-flat pitch and represents the **morphosyntactic structure** of a given question. The second relevant prosodic position is located at the end of the utterance. And the **pragmatic meaning** of the sentence is owed to the following terminal intonation pattern, see Table 2.

Table 2: Terminal intonation pattern of wh-question

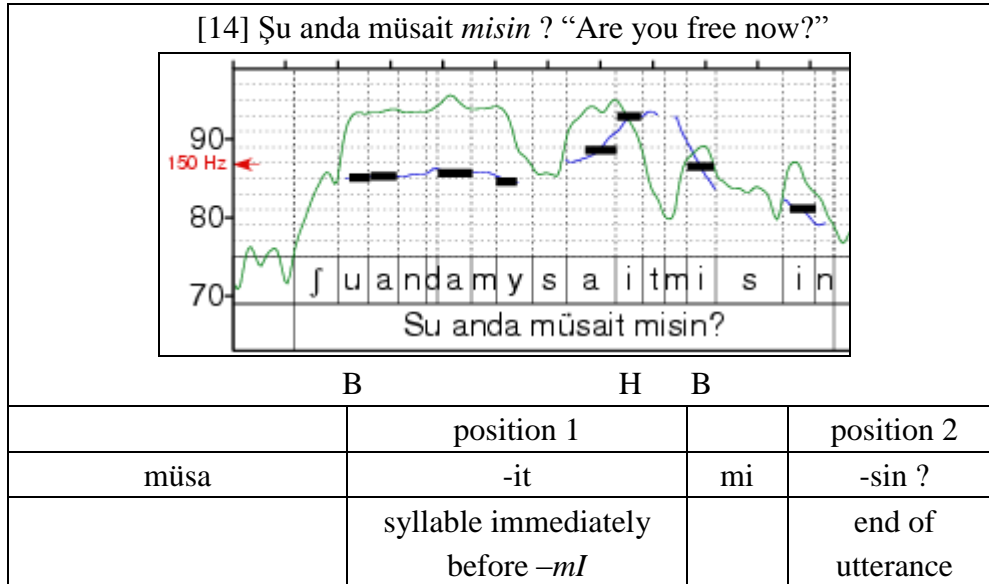
terminal F0	high-flat pitch	rising glissando	low-flat pitch
semantics of question	interrogative	directive	assertive
occurrences in the corpus	19/39	11/39	9/39

Three different intonation patterns are attested in the fundamental frequency variation at the end of a given utterance. These three patterns show distinct pragmatic meanings of the question. It is certain that the interrogative meaning is most frequently found in the corpus, i.e. 19 cases out of 39. It is characterized by a terminal high-flat pitch. Terminal rising glissando has something to do with its directive meaning. The directive question has a tendency to demand an answer from the interlocutor. The directive question is generally enunciated in order to confirm or identify the things referred and introduced in the **discourse situation**, see the examples [5] to [10]. In the third type, the question has a terminal low-flat pitch. Thus, question and assertion share the same intonation pattern. And this type of question is a quasi-assertion or quasi-confirmation of a given proposition, see the examples [11] and [12].

4. **YES/NO-question**

After the manner of wh-question in Turkish, two prosodic positions are supposed to be relevant for the intonation structure of yes/no-question.

Two relevant prosodic positions of yes/no-question



These two relevant positions have the following intonation patterns. We can observe a strong correlation between the prosodic traits of these two positions, see Table 3.

Table 3 : Intonation pattern of *mI*-question ¹⁴

F0 before <i>-mI</i>	H		B		↑
occurrences	28/42		9/42		5/42
F0 at the end of utterance	B	↓	H	↑	B
occurrences	21/42	7/42	7/42	2/42	5/42

H = high-flat pitch, B = low-flat pitch,
 ↑ = rising glissando, ↓ = falling glissando

Pitch patterns oppose each other in these two positions. If the pitch before the interrogative particle *-mI* is high-flat or rising, the terminal pitch must low-flat or falling without any exception. On the other hand, if the pitch before *-mI* is low-flat or falling, the terminal pitch is automatically high-flat or rising.

4.1. Intonation patterns before *-mI*

First, let us start with the rising glissando before *-mI*. Rising glissando is realized in the following five examples. Three of them are the expressions of confirmation such as *değil mi* “isn’t it?” or *tamam mı* “is it OK?”.

[15] Oldukça uzun bir yolculuk oldu, *değil mi* ?

¹⁴ Some examples where the extraction of fundamental frequency had not been successful in Prosogramme were systematically excluded from the present analysis.

[20] Öyle *mi* ? (two examples found)

B H ↓ “Is it so?”

[21] Senay, duydun *mu* ?

H B B H ↓

“Senay, did you hear it?”

[22] Salı günü sizin için uygun *mu* ?

B H ↓

“Tuesday is OK for you?”

[23] Öğleden sonra olur *mu* ?

B H ↓

“Afternoon is OK?”

[24] Benim bilgisayarım sen *mi* kullandın ?

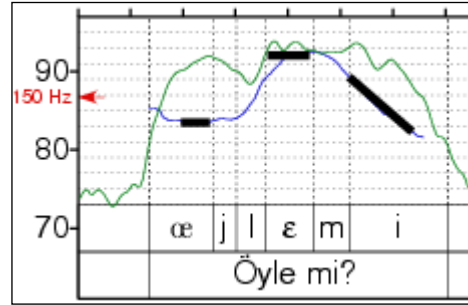
B H B ↓ B

“Is that you who used my computer?”

[25] Yeriniz var *mi* ?

B H ↓

“Do you have a place?”



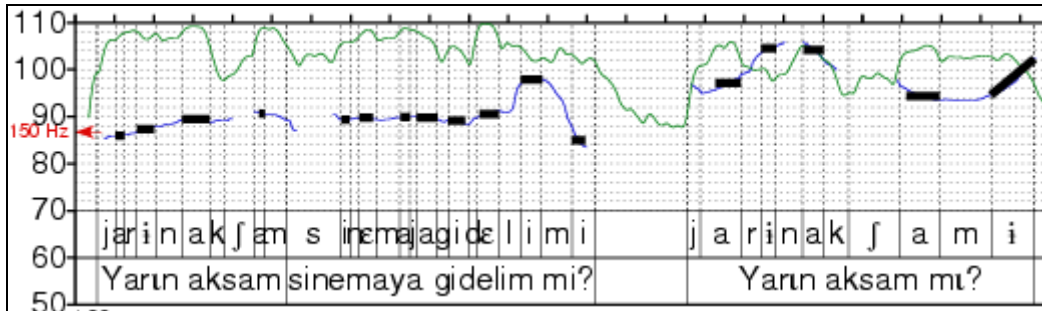
26 cases out of 42 **yes/no-questions** have a low-flat pitch at the sentence final position. If we add falling glissandos in these numbers, the total amounts to 33 cases out of 42 (78,6%). As we have seen it in 3.3, the propositional approach is focused on the formal affinity between yes/no-question and assertion like *Il vient.* versus *Il vient?* in French. The relative high frequency of low pitch at the sentence final position illustrates such affinity between yes/no-question and assertion in Turkish.

The example [20] *Öyle mi?* is very frequent in spoken Turkish. This type of sentence, in which interrogation and exclamation are amalgamated, is used in order to remark the speaker's emotional feeling against a pre-established situation or the words the interlocutor has just spoken. It expresses various emotions like surprise, satisfaction or dissatisfaction, etc. We can postulate that falling glissando is related to such emotional feelings of the speaker.

As for raising glissando, only two examples are attested at the end of yes/no-question.

[26] - Yarın akşam sinemaya gidelim mi ? – *Yarın akşam mi* ?

“- Shall we go to the cinema tomorrow evening? – *Tomorrow evening?*”



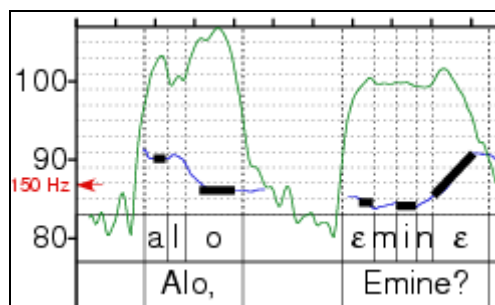
Rising glissando appears at the end of **yes/no-question**. This question has a function to confirm the previous words of his interlocutor, *yarın akşam* “tomorrow evening”. As we have already seen it in 3.3., such a question does have an illocutionary power to demand a reply from the interlocutor. Therefore, question may resemble order. In this **discourse situation**, rising glissando can be realized not only in **wh-question** but also in yes/no-question.

In conclusion, in yes/no-question in Turkish, we can observe regularly the prosodic chiasmus between the pitch immediately before *-mI* and the sentence terminal pitch. If the pitch is high-flat or rising before *-mI*, low-flat or falling pitch is assigned to the sentence terminal position, and vice versa. The majority of cases, i.e. 28 out of 42, have high-flat pitch before *-mI*. So that, according to the rule of Turkish prosodic chiasmus, the pitch pattern will be automatically low-flat at the sentence final position, i.e. 26 out of 42 cases. If we add falling glissandos in these numbers, 33 yes/no-questions out of 42 (78,6%) end with low-flat pitch.

5. Interrogatives without morphosyntactic marker

Interrogatives without morphosyntactic marker are frequently utilized in spoken Turkish. In addition, these interrogative sentences have a tendency to express an exclamatory value, surprise or curiosity, etc. This exclamatory value will be considered as an attenuated variant of directive. Then, the interrogatives evoke solely an attention without expecting necessarily the subsequent speech act of his interlocutor.

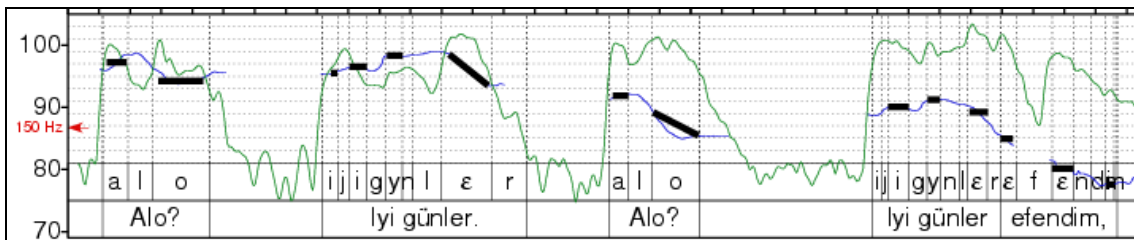
[27] Alo, *Emine* ? “Hello, *Emine*?”



As there is no morphosyntactic marker of interrogation, this type of question has an unique relevant position, i.e. the sentence final position. Rising glissando is realized at the end of utterance in the example [27], where to render this sentence a real question, *Emine* should have meant "Are you there, Emine?", i.e. a question about her presence. In fact, this discourse is not enunciated with the view of confirming the presence of Emine. The sentence can be regarded as a verbal address with an exclamatory value. In other words, calling her name, the speaker evoked only the attention of Emine.

The close analysis of two discourses of *Alo?* seems interesting.¹⁵ A girl is telephoning to a computer company to ask about the trouble of her PC. The first *Alo?* is of its routine use to open her conversation and to ask the presence of the interlocutor: "Are you there?". The second *Alo?* is a corresponding answer. The employee of the computer company could have replied with the same intonation pattern with the first *Alo?*. But it is realized with falling glissando. The second will be interpreted with an **assertive** nuance: "Hello, I can hear you."

[28] - *Alo ? İyi günler. - Alo ? İyi günler efendim,...*
 "- *Hello? Good morning. - Hello? Good morning, Madam.*"



These examples confirm how much a small nuance is important in our daily conversation, which is closely connected with the **discourse situation** in which the verbal interaction is developing. Nevertheless, our corpus is too small to be representative of several patterns of interrogatives without morphosyntactic marker.

Concluding remarks

First of all, it goes without saying that the results here obtained should be minutely checked in a more extended spoken Turkish corpus. Above all, the one to one correspondence between a given prosodic pattern and its **pragmatic meaning** (interrogative, **directive**, **assertive**) needs further empirical foundations. And this working hypothesis must be reinforced by means of serious perception tests. With all these reserves, the following inferences have been posited in the present article.

As far as the pitch patterns of Turkish interrogative sentences are concerned, we can

¹⁵ We owe the interrogative mark of *Alo?* to our Turkish natives.

discern two relevant prosodic positions both for **wh-question** and **yes/no-question**. The first position represents respectively the pitch level of interrogative adjective or adverb for wh-question, and the pitch in the syllable immediately before the interrogative particle *-mI* for yes/no-question. wh-question and yes/no-question share the second position which corresponds to the sentence final position, see Table 4.

Table 4 Prosodic model of Turkish interrogative sentences

WH-question	position 1 (P1)	position 2 (P2)
	interrogative adjective or adverb	end of utterance
WH?	
	P1	P2
YES/NO-question	position 1 (P1)	position 2 (P2)
	syllable immediately before <i>-mI</i>	end of utterance
mI?	
	P1	P2

It is safe to declare that the pitch pattern of the first position has a morphosyntactic function, because with wh-word or *-mI*, a given interrogative sentence can be distinguished from other types of sentence. On the contrary, the pitch pattern of the second position seems connected with the pragmatic meaning of a given discourse. In the present prosodic model of Turkish interrogatives, polyphonic nuances of interrogative sentences can be derived from the bilateral effects of these two relevant prosodic positions. In addition, in our corpus, some interrogative sentences are attested without any surface morphosyntactic marker, see [27] and [28]. Consequently, these interrogatives lack for the first position and show no more than pragmatic variation based on the pitch pattern of the second prosodic position.

Three different intonation patterns are attested at the sentence final position. The three patterns explain distinct **pragmatic meanings** of the question. The most frequent interpretation is of course that of interrogative, which is represented by final high-flat pitch. Directive meaning has recourse to rising glissando, which may require the interlocutor to give a reply. In our corpus, typical example of directive is the question enunciated in order to confirm the things mentioned and already integrated into the **discourse situation**, see [5]-[10]. In the third type, question and assertion share the same intonation pattern. The question is then marked by a final low-flat pitch. This type of question represents the quasi-declaration or the quasi-confirmation of the veracity of a given proposition, see [11]-[12].

As for **yes/no-question** in Turkish, we can observe regularly the prosodic chiasmus between the pitch before *-mI* and the pitch at the sentence final position. If the pitch before *-mI* is high-flat or rising, low-flat or falling pitch is automatically assigned to the sentence final position. The majority of cases have high-flat pitch before *-mI*, the discourse end is thus in low-flat pitch.

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Graduate School of Area and Culture Studies, Tokyo University of Foreign Studies (TUFS)

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TUFS Language Modules

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