

# RUSSIAN INTONATION BY DUTCH STUDENTS

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## 1. INTRODUCTION

When learning to speak and to understand a second language and, more specifically, to master its intonation, two problems play a major part: first, the perception of pitch in sentences, in other words: to what extent do people perceive pitch variations (intonation listening capabilities) and second, the intonation production i.e. how accurately can the students produce the right intonation.

The aim of this study was to find out at which level several groups of Dutch students studying the Russian language were mastering the Russian intonation.

To gain information about both processes mentioned above, for each process a separate test was developed: a production and a perception test.

Several questions to be answered in this study are:

1. Is there a significant difference in quality of the intonation production between the senior and the junior students?
2. Do students who have attended an intonation course in the U.S.S.R. perform better in the production test than fellow students who have not?
3. What are the differences between students of the same year as their intonation production and perception is concerned?
4. Do students, studying Russian for a relatively short period, show a stronger tendency towards the more familiar types of intonation patterns (i.e. the patterns that also exist in the Dutch language) than the students who are studying Russian for a longer period?

## 2. METHOD

### 2.1. General

To investigate people's awareness of pitch variations a listening experiment was carried out whereby Russian sentences were presented to the subjects. The task of the subjects was to mark the right intonation curve out of three different curves presented on paper. To acquire some knowledge on the student's ability to produce Russian intonation patterns, a production test was performed. In this test the subjects were asked to read aloud a set of sentences (35) as best they could with regard to the Russian intonation. These (recorded) utterances were judged by a listening panel of three experts on Russian intonation.

### 2.2. Stimuli

The presented stimuli in both tests consisted of Russian sentences that were isolated from available Russian course material.

The texts were presented without word stress marks and had to fulfil the following requirements:

They had to be:

1. comprehensible and not too difficult to pronounce for the first year students;
2. not too boring for the senior students (i.e. not too simple);
3. not very long, i.e. no complex sentences having many peaks in their intonation curves, otherwise it would complicate both their production and their judgement;
4. they had to have a distinct intonation pattern;
5. their intended intonation contours had to be limited to the four most commonly used types of intonation, called IK-1, IK-2, IK-3 and IK-4.

The IK-1 and IK-2 types of intonation (classified according to Bryzgunova, 1972) both exist in the Russian as well in the Dutch language while IK-3 doesn't exist at all and IK-4 appears hardly in Dutch; both IK-3 and IK-4, however, are commonly used in Russian.

It was expected that the people who, at the moment of testing, had studied Russian for a relatively short time would have less problems with the 'easy' IK's (i.e. IK-1 and IK-2, also used in Dutch) than with the other IK's (i.e. IK-3 and IK-4, hardly or not existing in Dutch).

This applies to both the perception and the production test.

### 2.3. Subjects

The (unpaid) subjects all were natives of the Netherlands studying Russian.

They consisted of the following categories (the number of participants per group are given between parenthesis):

1. 'phonolibrary' students (5) who were studying on their own (i.e. without teacher) in the phonolibrary for getting some skill in understanding and speaking the Russian language;
2. first-year university students of Russian (10);
3. third/fourth-year students of Russian (10) who had been in the U.S.S.R. five or six months, partly for attending a course on Russian intonation;
4. third/fourth-year students of Russian (10) who didn't attend such a course on intonation;
5. people without any knowledge of Russian, and with a minimum knowledge of other foreign languages, as a reference group for the listening test.

### 2.4. Procedure

#### 2.4.1. Experiment 1 (production test)

The subjects (35 Dutch natives, studying Russian) were asked to pronounce 35 Russian sentences, presented on paper with special care for the right intonation. Because of the fact that often more than one type of intonation could be correct, depending on different possible contexts, some context sentences were presented as well, in order to limit the number of alternative intonation contours for the sentences involved and to help the speakers with the selection of the contour.

Of course the context sentences (partly presented in Dutch) needed not to be pronounced.

The subjects recorded their utterances on tape in a language laboratory and were allowed to correct themselves as often as they wished.

To avoid possible mutual interaction between the subjects, it was arranged that 'neighbours' had different versions (presented on paper), containing the stimuli in different orders.

The listening panel consisted of three experts on Russian intonation (one of them was a native speaker of the Russian and the others of the Dutch language).

They were asked to determine the quality of the subjects' utterances with respect to intonation, using a seven points scale where a '1' represented 'very bad' and a '7' stood for 'excellent'.

In addition to the determination of the quality level, an attempt was made to gather some data concerning the kind of mistakes. For this purpose the experts had to mark for each sentence class(es) of mistakes (if any) made by the speakers. Because of the fact that marking classes of mistakes would make no sense for well-intonated sentences, the experts had to mark these classes only for the sentences that were ranked lower than '5'.

Initially a pilot investigation was performed to set up the categories of mistakes, resulting in the following four types:

1. Russian contour, but the wrong type (IK);
2. the contour tends to a Dutch intonation;
3. the contour is neither Dutch nor Russian;
4. other kind of mistakes, like word stress errors.

The fourth category could be combined with one of the other categories; no other combinations were allowed.

To present the utterances in such a way that the experts could easily compare all different students' utterances of the same sentence with each other, the utterances of all students per sentence were placed in succession. As a great number of utterances of the same sentence could cause extended fatigue for the experts, the number of students was divided in two parts and each part copied onto a separate cassette.

To test the consistency of the judgements, one repetition per sentence was included (for each sentence a different student).

Each expert received a copy of the two cassettes and could have them for a month in order to be able to work with the material at their convenience. They were allowed to listen to the material as often as they liked.

#### 2.4.2. Experiment 2 (perception test)

This second test served to investigate the listening skill of the subjects.

Every participant received a cassette containing 23 Russian sentences, originating from several intonation courses on Russian.

In addition the texts were presented on paper together with three contour curves per sentence (see Fig. 1). From the three curves, always one of them was the right contour of the sentence involved.

The contours of the 23 sentences were derived from objectively estimated plots of F0 as functions of time, produced with the aid of a computer, using the analysis program 'P.D.T.' and the drawing program 'FORM'.

sentence 1: Она читала медленно.

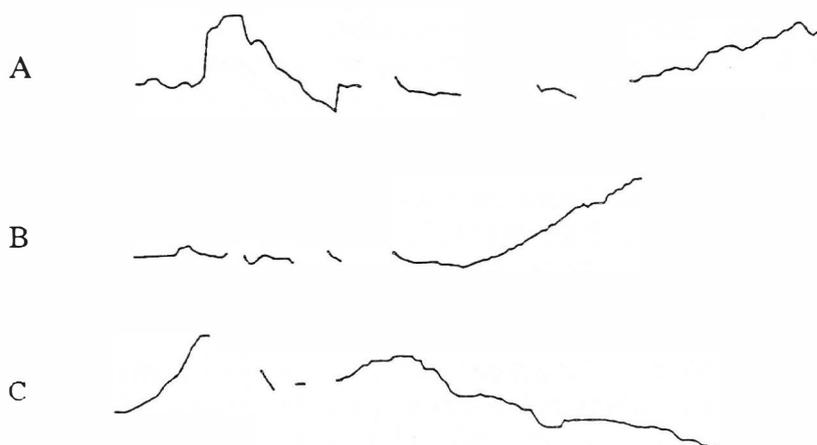


Fig. 1 Example of presented curves in the perception test (sentence 1: "She read slowly.").

The other two contours were derived from other sentences from the text material in the same way. The listeners were asked to mark the contour which they thought of as the right one. They were allowed to listen to the sentences as many times as they wanted. The complete session (both tests) took about 45 minutes and was held in a language laboratory from the Institute of Applied Linguistics which had the advantage that the students could perform their tasks simultaneously and at their own pace. For practical reasons the production test was carried out first; after that the listening test was performed.

### 3. RESULTS

#### 3.1. Production test

- The experts agreed on their opinion that the quality of the intonation production generally was very disappointing.  
Of group 1 (the phonolibrary students) only the data of the perception were taken into account as the quality of their utterances in the production test was too low to be judged on intonation at all.
- The expected differences between the various groups of students were generally found in the judgements of the experts, for example, group 4 (third/fourth-year students) indeed turned out to have performed better than group 2 (first-year students).
- Group 3 (third/fourth-year students who had attended an intonation course in the U.S.S.R.) intonated better than all other groups.
- The expectation that the native speaker's judgements would be more critical than the judgements of the other experts didn't come out: she gave the highest marks.
- The differences between the experts' judgements per sentence were rather substantial, even within the student groups, giving no support to the hypothesis of the existence of specifically 'difficult' or 'easy' sentences, viz. the correlations between the experts' ratings were very low.
- The experts' classification markings showed practically the same distribution among the categories of mistakes for all experts (apart from category four: word stress errors, etc.).

- The experts were not very consistent in their judgements: apparently intonation is very hard to rate unanimously, especially when the level of the speaking skill is very low: in that case the intonation feature is hard to separate from the rest of the production skills.

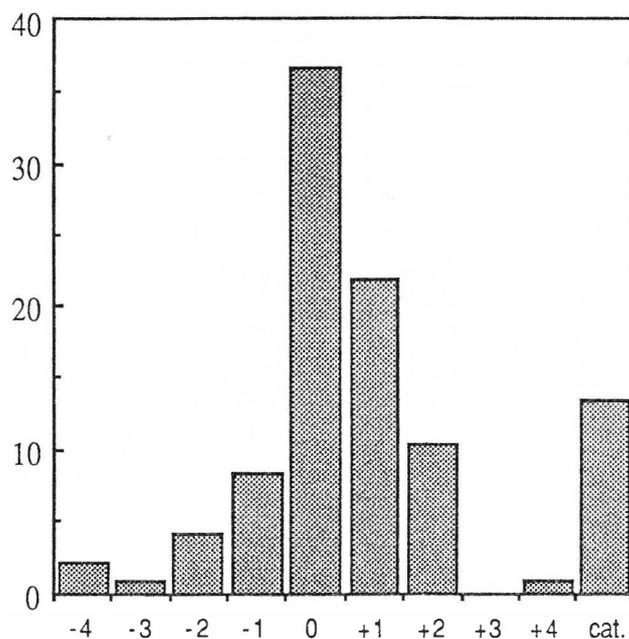


Fig. 2 Differences between first and second judgements (horizontal axis), of the same sentences, for all experts averaged in percent (vertical axis).

### 3.2. The perception test

- Group 3 (third/fourth-year students, having visited the U.S.S.R.) listened significantly better than the other groups.
- Group 5 (reference group, no students) listened just as good as group 2 (first year students). Group 5 performed better than group 1 (phonolibrary students).  
The better performance of group 5 possibly can be explained by the acceptable assumption that this group was able to concentrate solely on the melody of the sentence without being disturbed by the semantic contents of the sentences (bearing in mind that they didn't have any knowledge of the Russian language).
- Looking at the results per IK-type it turned out that:
  - A. Group 3 performed better with sentences of types IK-3 (this type is unknown in the Dutch language) and IK-4 (seldom appearing in the Dutch language) than the other groups did.
  - B. Group 3 rated NOT significantly higher with types IK-3 and IK-4 than group 4 did.
- In the perception test a distinction of 'easy' and 'difficult' sentences (as mentioned in the introduction) could be made rather easily (see Fig. 3).

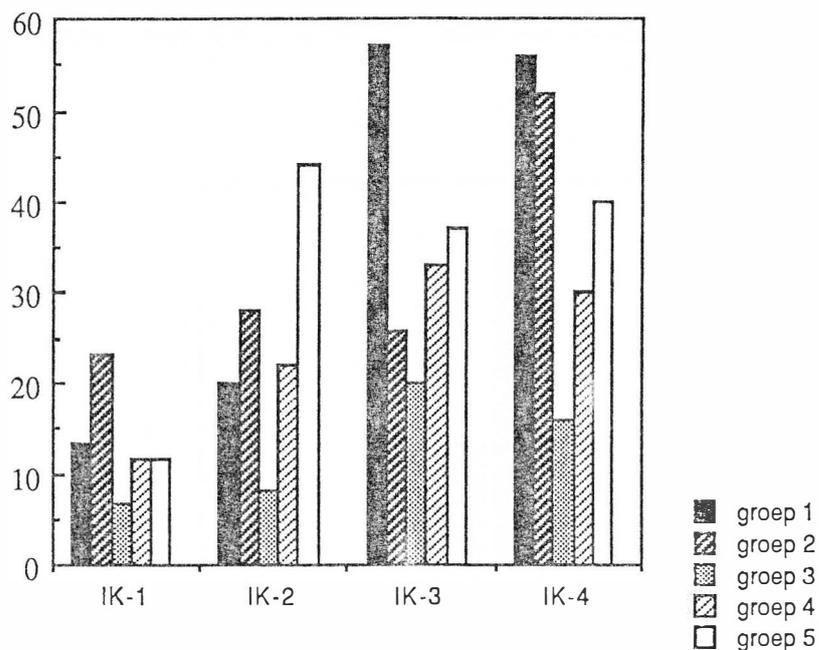


Fig. 3 Average numbers of mistakes per IK per group in percents.

### 3.3. Relation between the results of the production test and the perception test:

- In no way high correlations were found between the two tests except for panel member three and only concerning group three ( $R=0.85$ , see Tabel 1).
- Great differences in listening skills existed within the groups; even group 3, although showing little variation in intonation production rates, revealed great variation in the perception test. Nevertheless this group's average level in both tests was significantly higher than the level of the other groups.

Table 1 Correlations between production and perception test per group per expert.

	Expert 1	Expert 2	Expert 3
Group 2, 3, and 4	0.14	0.15	0.15
Group 2	0.08	0.28	0.19
Group 3	0.34	0.38	0.85!
Group 4	0.14	0.15	0.15

#### 4. SUGGESTIONS FOR FURTHER RESEARCH

In both tests group 3 (the students who attended the course in the U.S.S.R.) performed better than group 4 (the students who stayed home). Apparently a trip like that is very useful.

It would be interesting to compare students, having made such a trip and attended an intonation course, with students who stayed home but attended the same course in order to investigate the influence of the Russian environment on the intonation quality.

Another suggestion is to repeat the same tests after a certain period of time to investigate people's progress and, additionally, to test the students of group 3 to see if their knowledge is still 'up to date', or possibly faded away to some extent.

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#### REFERENCES

Bryzgunova, E. A. (1972). *Zvuki i intonacija ruskoj reci*. Russkij jazyk, Moskva.

Deckers, C.M.H.A. (1988). *Russische intonatie van nederlandse studenten*. IFA-report nr. 101, Institute of Phonetic Sciences, Amsterdam.