ON UTILIZING SIMILARITIES BETWEEN LANGUAGES: THE PERCEPTION OF DUTCH WORDS BY SWEDISH SPEAKERS*

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Introduction

Swedish and Dutch are closely related languages with apparent similarities phonologically as well as phonetically. In consequence it is possible for those who have Swedish as their native language to understand Dutch to a high degree. People without any previous knowledge of Dutch may understand about 60 per cent of the words in newspaper texts, while spoken words in a textual context are somewhat more difficult (Hedquist, 1985). If only Dutch words related to Swedish are considered and if these words are presented in isolation, the figures for correctly understood written and spoken words are about 60 and 35 per cent respectively.

This paper focuses on some of the difficulties with spoken Dutch leading to misunderstanding by Swedish listeners. Only isolated words and words related to Swedish are accounted for. The data to be presented refer to 12 subjects lacking previous experience with Dutch. The subjects translated the words and noted their pronounciation by representing their component sounds with letters.

The specific difficulties to be discussed are:

- /x/, the unvoiced velar or uvular fricative which corresponds to /g/, /k/ or /f/ in Swedish. Compare Du. "goed", /xut/ and Sw. "god", /gu:d/; Du. "schat", /sxat/ and Sw. "skatt", /skat/; Du. "macht", /maxt/ and Sw. "makt", /makt/; Du. "kracht", /kraxt/ and Sw. "kraft", /kraft/.

- Consonant clusters with /r/ or /l/ and a following consonant into which there is often a vowel, described as /ə/, inserted between the consonants. Compare Du. "film", /filəm/ and Sw. "film", /film/.

Some erroneous translations of words with /x/, /sx/, and clusters with /r/ and /l/ are listed below:

	Dutch	Swedish	Translation
/x/	god	goed	rot
	elegant	elegant	elefant
	weg	väg, väck	vers
/sx/	schip	skepp	tripp,skräp
	schat	skatt	skratt
	schouwen	skåda	skruva
cons clust	merk	märk, märke	märklig
	volk	folk	följa
	film	film	fylla
	urn	urna	öron, ören

Regarding /x/ and /sx/ the translations contain an /r/ in the position corresponding to /x/, the only exception being the word "elegant". Also, the words with /r/- and /l/-clusters are translated into two-syllable words. To find out why such translations occur the following questions need to be answered:

- How are the sounds perceived? And, more generally:

- What is the relation between the translation and the perception of the sounds in a word?

The perception of /x/, /sx/, and clusters with /r/ and /l/

The perception of /x/ and /sx/ in different positions is shown in Table I.

Table I. The perception of /x/ in initial, medial, and final position and /sx/ in initial position for different groups of words as represented with letters by the subjects. Distribution of answers in per cent. N = the number of words in a specific category (the number of words in the group x 12 subjects).

	sch	ch	h	schr	chr	hr	sr	r	rch	*
/x/ init N=144	15	22	10	6	20	15		6		7
/x/ med N=60	5	55	2		3	10		13	5	7
/x/ fin N=96	3	76	1		2			6	10	1
/sx/ init N=144	10			62	1		14			13

* miscellaneous low-frequency answers

Transforming the letters into sounds the high frequency of /r/- or fricative + /r/-representations appear from the table. The figures also point to a strong tendency by the listeners to adhere to the principle of sonority (see e.g. Sigurd, 1965) in those cases where /x/ is represented as a combination of /r/ and a fricative: /r/ occurs after the fricative in initial position, before or after in medial position, and before in final position. Further, the tendency to perceive an /r/ is extra strong in the case of /sx/.

These representations thus explain why there are translations with /r/ in words with Dutch /x/. Table II (below) likewise explains the occurrence of two-syllable answers for words with /r/- and /l/-clusters.

Table II. The number of perceived vowels and their quality in clusters with /r/ and /l/ as represented with letters by the subjects.

	i	ü	e	ä	a	u*	o	å
nerf			2					
verf	1		4	1				
merk	6		3					
urn			10			1		
hoorn			11					
eekhoorn			12					
film	2		5			1		
kalm			7		1	2		
elk			6	1	4	1		
melk			4	1	5		2	
golf		1				2	7	2
volk						2	8	2
wolk			2			2	7	1

* includes ə

There is a general tendency to perceive a vowel between the consonants in the cluster, though this tendency is stronger in some cases and weaker in others. The quality of the vowel seems moreover to be contextually determined with /r/ and /l/ as well as the preceding vowel as conditioning factors. Thus the listeners perceive several different vowel qualities rather than one single schwa-like vowel.

It is reasonable to assume that the different perceived qualities reflect different formant patterns due to coarticulation with the surrounding sounds. Similar coarticulation effects on the formants of reduced (unstressed) vowels have been described by Nord (1986) for Swedish.

The relation between the perception of the sounds in a word and its translation

Apparently, knowledge of how the sounds of Dutch are perceived may be used to explain how the words are translated. However, this is not always the case. Often there is a clear discrepancy between a subject's representation of the sounds in a word and the translation. Thus, not everyone giving an /r/-representation for Dutch /x/ gives a translation with an "r" in it. And likewise, the translation "elefant" for Dutch "elegant" does not reflect the perception of /x/ in this word. None reports hearing an /f/ for /x/. The listener apparently is very flexible as regards the sound impression, thus indicating a complex relation between sound and translation.

The observations make it reasonable to assume that normally the analysis of the sounds in a word is very fragmentary. The listener interprets the meaning of a word on the basis of 'percept skeletons' which are derived from both input driven and knowledge driven cues (see Sajavaara, 1986, p 75; see also Bannert, 1987). The analysis is seldom detailed. It is the whole, the 'gestalt', rather than the parts that determines how a word will be translated. Also, it is reasonable to assume that disregarding the details and concentrating on the whole is a prerequisite for understanding a related language in which all words deviate to a greater or lesser degree from those in the native language.

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