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ANITIAL INVESTIGATION INTO GAZE AVERSION, CODE-SWITCHING AND
SEARCH ACTIVITES IN DISCOURSE

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**An Initial Investigation into Gaze Aversion,
Code-Switching, and Search Activities in Discourse**

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In an experiment, six subjects - all Finnish immigrants living in Göteborg, Sweden, and all being in an early phase of their acquisition of Swedish - were asked to produce route descriptions (How do you get from home to work?') under two, subsequent, experimental conditions. Under the first, they were asked by a Finn to produce the description in Finnish, and under the second they were asked by a Swede to produce it in Swedish. These experimental events were video-filmed. The experiment was designed to elicit data on how gaze aversion interacts with search activities such as trying to find words or trying to remember paths and places. It was expected inter alia that the experimentally imposed switch to Swedish - the language of which the subjects so far had a poor command - would be especially demanding with respect to the activity of searching for words.

On an overall level this code-switching did not significantly affect the amount of gaze aversion the subjects engaged in. An explanation for this absence of an effect is offered, together with results from a minor, supplementary experiment that indicate the correctness of this explanation.

On a more fine-grained level, however, our analysis revealed a distinct pattern. On this level of analysis questions produced by the subjects about linguistic expressions or about geographical space were chosen as independent evidence of the search activities under investigation. It was found that those questions typically occurred simultaneously with gaze aversion, that they were immediately preceded and followed by gaze aversion, and that they were whispered. The vast majority of this kind of questions was produced under condition S, i.e. while the subjects were giving the route description in Swedish. Moreover, unequivocally metalinguistic questions occurred exclusively under this condition.

Furthermore, under condition S the subjects often switched to Finnish when they produced the questions. In combination, averting gaze, whispering, and switching to Finnish consistently operate to exclude the collocutor from understanding the questions. It is suggested, therefore, that the observed contextual properties of the questions represent component parts of a ritual, by means of which the speaker reserves a moment of thinking for himself in the middle of the verbal interaction, a moment that uses to search his own memory.

To be precise by articulating their questions in Finnish under condition S. the Finnish subjects used language in two different functions - one for themselves and another for the Swedish interviewer. For themselves they used language in its fundamental, symbolic function, whereas they used language in an indicative, non-symbolic function for the interviewer: By saying something, rather than being silent while pondering, they indicated to the interviewer that they were active working on some problem.

Earlier research on how gaze interacts with speech suggests inter alia that speakers avert gaze in order to avoid distraction, and that they look up briefly at the end of sentences or phrases in order to seek information on how their message is taken by the listener. P classification of the individual gaze aversion sequences according to their various lengths revealed, that aversion sequences of the considerable length of more than 10 seconds were quite frequent. To accomplish such sequences which readily transcend the length of sentences or phrases, the speaker must suspend his looking for feedback. The reason for this suspension may well be that the route description task was so demanding that the subjects sometimes felt the need to avoid distraction for extended periods of time.

The inter-individual variation in gaze aversion patterns, however, was quite pronounced. It is argued that this variation may reflect a variation in the strategies adopted by the individual speakers. In situations where the need to look for feedback and the need to avert gaze in order to avoid distraction come into conflict, some speakers chose to give priority to looking for feedback, whereas others give priority to avoiding distraction.

Finally, an important conclusion to be drawn from our study is simply that in analyzing the relation between gaze (aversion) and cognitive processes - a field of growing interest to psycholinguists and cognitive psychologists - the fact that the subject is interacting with another person must be taken into account. Interactional processes and considerations partly determine the occurrence of behavioral evidence of the assumed cognitive processes as well as the shape that this behavioral evidence assumes.

han taite ice,
men daat talte
(J. L. Runeberg)

1. Introduction

We move our eyes and we are moved by the eye movements of others. The movements of the eyes play a fundamental role in face-to-face interaction.

Behavioral scientists have produced experimental evidence that eye-contact and the direction of gaze serve important functions in feedback processes and turn-taking. Thus, Argyle (1967) concludes that "People look (look in the region of the eyes of the other) nearly twice as much while listening as while speaking..." and "When A is just about to start speaking he looks away from E at the ends of sentences or phrases he looks up briefly, and at the end of his utterance he gives B a more prolonged gaze. (Argyle 1967:2). These findings are corroborated by more recent investigations, e.g. Duncan & Fiske (1977). It should be stressed that these studies are constrained to English and American speakers.

Argyle argues that the main reason why a person restrains his looking while talking is to avoid distraction. True is a fundamental assumption which provides a main point of departure for my current study. An important reason for looking (briefly) while talking is, according to Argyle, to seek information to look for feedback on how the message is taken by the listener), whereas a prolonged look towards the end of an utterance is interpreted as a signal that the speaker has finished and that the other may speak.

Argyle also discusses experimental evidence that gaze is influenced both by the complexity of the topic being talked about and by the constellation of sexes (collocutors of the same sex look more than collocutors of different sexes). Finally, Argyle observes that there are great variations between individuals in the amount of looking they habitually engage in. The percentage of the time each conversational Party looks is usually between 25% and 75% of the total time.

Argyle gathered his data by observing his interacting subjects through a one-way screen. "Two subjects and B are seated, perhaps at a table, and are asked to discuss some topic. S gaze is recorded by observer 1 (behind the one-way screen; my comment), B's gaze by observer 2; the observers press buttons which activate some kind of interaction recorder. The observers may also record periods of speaking. One kind of interaction recorder marks periods of looking or speaking as deflections of inked lines on a paper tape..." (Argyle 1967:80). This recording technique is excellent in that it offers an immediate, although rough, graphic representation of the interactive pattern of A's and B's gazes and speech. It is, however, extremely prone to errors, - a circumstance to which I shall return.

In the current study, I am concerned with how speakers' gaze aversion interacts with cognitive difficulties and linguistic difficulties. An experiment WAS set up, in which six Finnish immigrants, all in an early phase of their acquisition of Swedish, were asked to produce a route description first in Finnish to a Finn and subsequently in Swedish to a Swede. What would the evidence be of how their activities of searching for wards or trying to remember paths and places interact with gaze aversion? The experimental design is described in detail in section 2 below, and the results of the experiment are discussed in section 3.

2. The Experiment

The experiment was carried out as part of the project Ecology of Adult Language Acquisition (EALA) at the Department of Linguistics, University of Göteborg. In this project the spontaneous acquisition of Swedish by Finnish and Spanish-speaking Latin American adult immigrants with a low education is

studied. The subjects chosen for the present study - five Finnish women and one man ranging from 19 to 33 years of age were already being studied in the EALA project. These six individual subjects will henceforth be referred to by the pseudonyms Laura, Rauni, Lalla, Noora, Mari (female), and Leo (male).

In the experiment each subject was asked by the interviewer (researcher) to describe how he went from his home to his work. The route description was chosen in order to stimulate the subject to engage in a specific search task, namely searching memory for paths and places in geographical space. The interviewer and the subject were in a studio, sitting face to face as shown in Figure 1 below. The interviewer was supposed to be constantly looking in the region of the eyes of the subject and to be restrictive with verbal feedback. He should, however, be cooperative if the subject turned to him for help (with e.g. getting access to words in the target language).

The experiment was divided into two phases. During the first phase the subject was asked by a Finnish interviewer (male) to give the route description in Finnish. As the subject moved into the second phase, the conditions were changed. The subject was now asked by a Swedish interviewer (male) to give the route description in Swedish. It was expected that this experimentally imposed switch to Swedish the language or which the subjects so far had a poor command, would be especially demanding with respect to the activity of searching for words and linguistic expressions.

To be sure, the two tasks or compiling from memory the relevant information about the actual route and of communicating in this information to the interviewer are present under both of the experimental conditions. The relative difficulty of each task, however, is not the same under both conditions. Under the first condition the task of compiling information about the route is harder since it is then introduced, whereas it was repeated under the second condition and therefore presents a familiar task to the subject. Under the second condition the task of communicating the information about the route is more difficult since it is then required that this information be communicated in the subject's target language. Whereas the subject is free to use his source language under the first condition. The two tasks and their relative difficulty under each condition is mapped out in Figure 1.

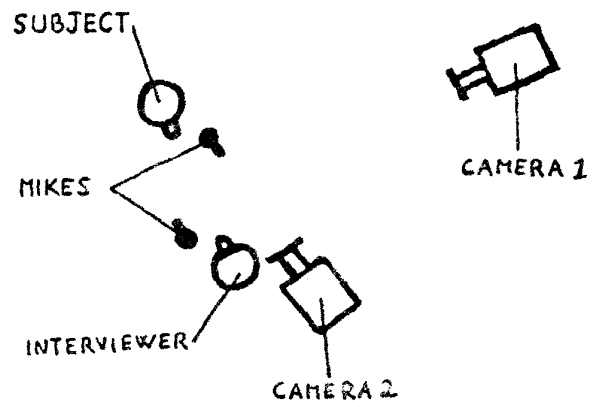
FIGURE 1 The two tasks and their relative difficulty under the two experimental conditions (capital letters indicate the more difficult task)

Condition 1	Condition 2
Finnish	Swedish
COMPILE INFORMATION	compile information
ABOUT THE ROUTE	about the route
communicate this information to the interviewer	COMMUNICATE THIS INFORMATION TO THE INTERVIEWER

Each session with a subject was documented with audio- and video-equipment. The placement of microphones and cameras is depicted in Figure 1 below. Camera 3 yielded a full-length picture of both the interviewer and the subject, whereas camera 2 yielded a close-up of the face of the subject. Both of the cameras remained in fixed positions throughout the session. Note specifically that camera 2 was placed behind the interviewer, just above his shoulder. This

made it easy to identify the point where the subject looked in the region of the eyes of the interviewer, since this point was fairly close to the one where the subject would look into the camera.

FIGURE 2 The placement of persons and recording equipment in the experiment



The pictures from camera 1 and 2 were then mixed to yield the type of complex picture illustrated in Picture 1 below. Finally, reference time generated by a timer was added to the picture (c.f. Picture 1). Later, in the analysis Phase, the lengths of the individual gaze aversion sequences was computed on the basis of this timer generated reference time. The video recorder we used works at a speed of 50 frames pictures) per second. This means that although the length of the gaze aversion sequences are expressed in milliseconds (ms) below, the video recordings do not allow for a level of detailedness below 0.02 seconds.

PICTURE 1 The resultant picture being recorded



3. Results and discussion

First, to explore the overall relation between gaze aversion and code-switching, the total time of the route description under condition F (Finnish) and the route description under condition S (Swedish) were measured for every informant. Then, on the basis of measurements of the individual gaze aversion sequences, the time spent on gaze and on gaze aversion by the subject

under the two conditions was calculated and expressed in Percentages of the total time. Also, the total number of aversion sequences under each condition was counted. Each gaze aversion sequence was then classified according to six classes of time extensions - < 1 sec; 1.-3 secs; 3-6 secs; 6-10 secs; 10-u secs; > 20 secs -* and the distribution of the gaze aversion sequences of each subject on these classes under each of the experimental conditions was calculated. All the information thus obtained for every informant is presented in Appendix P.

Second, to explore on a more fine-grained level of the discourse how gaze aversion interact with the activities of searching for paths and places or linguistic expressions, metalinguistic Questions or Questions about geographical space were chosen as independent evidence of such search activities. All instances of such Questions produced by the informants during the route description in Finnish and Swedish were transcribed together with their immediate linguistic context and gaze aversion context, as a basis for further analysis. The resultant transcripts are rendered in Appendix C.

In what follows I will first discuss the data of Appendix P in greater detail, and then turn to the analysis of the data in Appendix C.

3.1 The Data of Appendix A

Appendix P shows that there is a considerable variation between the informants as to the amount of time they spend on gaze aversion during the route descriptions. The highest percentage is 1% (Rauni) and the lowest 27% (Lalla). Interestingly enough, this inter-individual variation is almost identical to the one that Argyle found typically to be the case with his English subjects (Argyle 1967:82).

The most striking feature, however, is the intra individual constancy. The proportion of time a subject averted gaze is almost constant across the two experimental conditions. With one exception (Leo), the difference between a subject's amount of gaze aversion under condition F and condition S was Plus minus 4%. These differences were subjected to the Wilcoxon matched-pairs signed-ranks test. The result is presented in Table 1.

TABLE 1

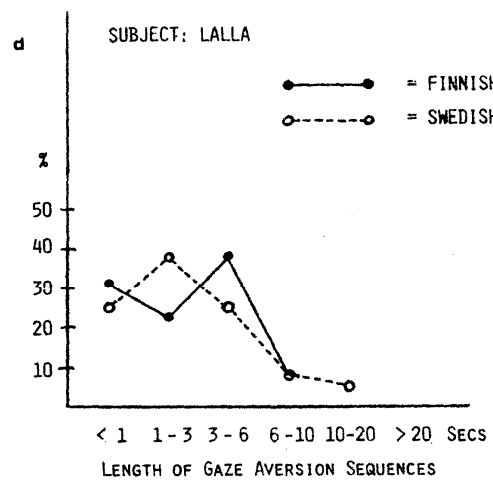
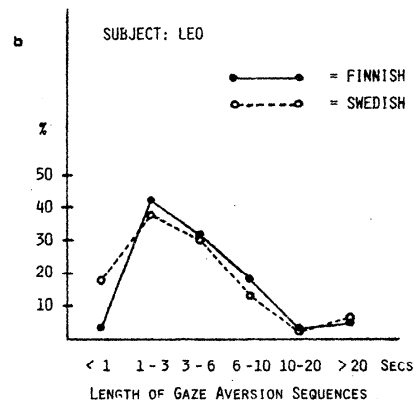
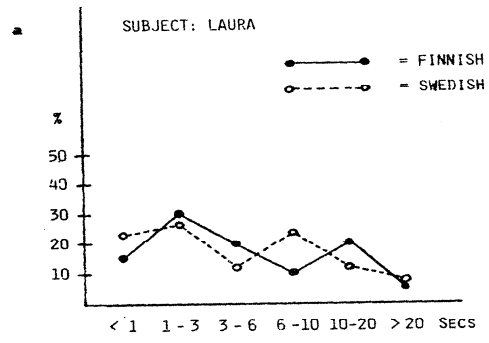
A computation according to the Wilcoxon test of the differences in percent of time spent on gaze aversion by the subjects under condition F and S

Subject	Condition		Difference	Sign	Rank	
	Finnish	Swedish				
Laura	61	64	3	-	-2,5	
Leo	63	47	16	+	+6	
Rauni	76	73	3	+	+2.5	
Lalla	30	27	3	+	+2,5	T = 10
Mari	66	63	3	-	-2,5	
Noora	45	49	4	-	_5	

T in Table 1 represents the lower of the sum of the positive ranks and the sum of the negative ranks. In order to reject the null hypothesis, T must be equal to or less than 0 for the significance level .05 (two-tailed test) when the number of differences that have a sign is 6. 3 Since T = 10. the differences are far from significant .

We shall now turn to those figures in Appendix that show how each subject's gaze aversion sequences are distributed on the six classes of time extensions under condition F and under condition S for each subject. What differences are there between the pattern of distribution under condition Finnish and the pattern of distribution under condition Finnish? To facilitate this comparison, these patterns are mapped out as curves in Figure 3 a-f.

FIGURE 3 a-f The distribution of the gaze aversion sequences in each subject on six classes of time extensions under condition Finnish and under condition Swedish



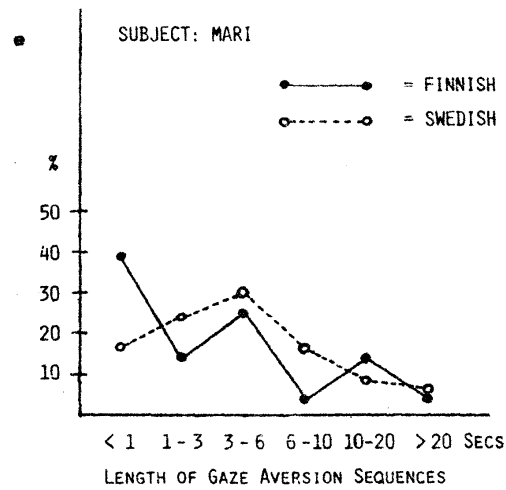


Table 3 a-f shows that we are dealing with a considerable inter-individual variation here too. Lalla and Noora, e. g. have a great proportion short gaze aversion sequences (<1; 1--3 seconds) and extremely few or no very long aversion sequences (10-20 >20 seconds), whereas Rauni has not so many snort aversion sequences and quite a few very long ones. Tee Finnish curve and the Swedish curve of Leo and Noora tend to run parallel, whereas those of Laura, Rauni and Lalla tend not to do so.

These data were also selected to the Wilcoxon tests. It turned out that the difference in proportion gaze aversion sequences between condition Finnish and condition Swedish was not significant for any one of the six types of aversion lengths

What explanation should be evoked to account for this intraindividual constancy? Assume, e. g. that the order between the two experimental conditions was decisive for the outcome. In favor of this assumption one might argue that the two hardest cognitive tasks (see Figure 1) were spread out on the two experimental conditions, and that the cognitive difficulty therefore in some sense remained constant. Given the assumption that, in the context of this type of discourse, the subjects would avert gaze among other things, in order to avoid distraction so that they could concentrate on the task, one would expect the proportion of gaze aversion to increase, if subjects were faced with both of the hard tasks at the same time. create such a situation. the experimental conditions were reverse i.e. the subject was asked first by a Swedish interviewer to the route description in Swedish is then, subsequently by a Finnish interviewer to give it in Finnish This situation is mapped out in Figure 4.

FIGURE 4 The two tasks and their relative difficulty when the two experimental conditions are reversed (c.f. Figure 1). Capital letters indicate greater difficulty

Condition 1: Swedish	Condition 2: Finnish
COMPILE INFORMATION ABOUT THE ROUTE	compile information about the route
COMMUNICATE THIS INFOR- MATION TO THE INTERVIEWER	communicate this infor- mation to the interviewer

This second experiment with reversed conditions was carried out with only one single subject, Rauni. Clearly, one subject is insufficient as a basis for reliable generalizations, out in this initial investigation the purpose was merely to get a preliminary indication whether the order between the conditions would affect the proportion of gaze aversion. This experiment took place eight months after the first experiment with Rauni. The results are presented in Appendix B.

Appendix E shows that the difference in proportion of time spent on gaze aversion between the two conditions was within the range plus/minus 3%, the same range that was true of the results from the first experiment. Furthermore, it turned out still to be true that the proportion of short aversion sequences was comparatively small, and that there was a great proportion of very long aversion sequences. However, it is that when Rauni described the route in Swedish during the second experiment (first condition), her amount of very long gaze aversion sequences increased - as compared to the amount under either conditions in the first experiment to reach a peak at the interval >20 seconds. These patterns, resulting from the second experiment with Rauni are presented in Figure 5. For convenience, Figure 3c is repeated below to facilitate comparison with to corresponding patterns from the first experiment

FIGURE 5. The distribution of the gaze aversion sequences in Rauni's route description in the second experiment (first Swedish, then Finnish)

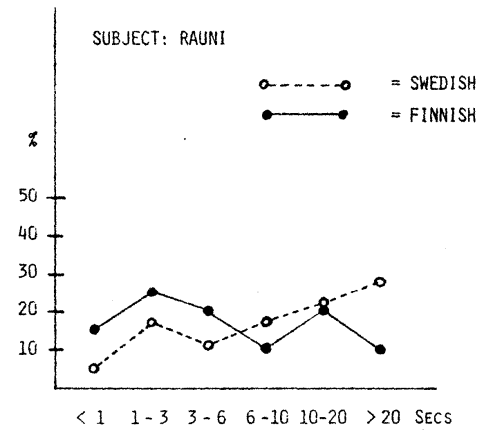
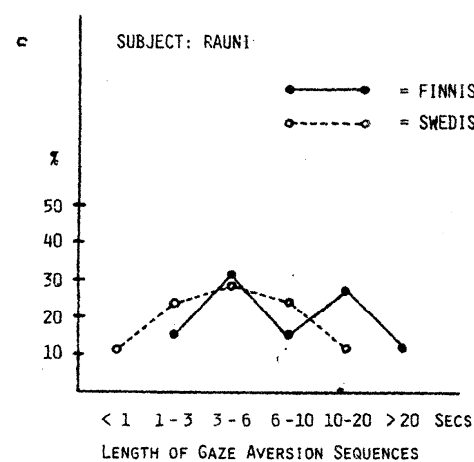


FIGURE 3c (repeated). The distribution of the gaze aversion sequences in Rauni's route description in the first experiment (first Finnish then Swedish)



Given the assumption that long aversion sequences is a better indicator of cognitive or linguistic difficulty - an assumption which will be elaborated in section 33 - the preliminary indication is that the order between the two experimental conditions did in fact affect the gaze pattern in the predicted direction. This evidence, however, is rather weak, and a full experiment with the conditions reversed (Figure 4.) is needed to verify or falsify our hypothesis

Another possibility for the absence of an overall effect in the amount of gaze aversion in our main experiment is that some of the variables which were kept constant across the two conditions operate to block the possibility of testing the hypothesis that linguistic difficulties affect gaze. It is an empirical question to find out which these variables are. I suspect however, that the route description task may be too powerful a variable for other variables in our experiment to compete with. Jane Edwards (Personal communication) has informed me, that in per studies of blinkery spatial tasks always elicited a lot of

blinkery irrespective of the presence of other variables (unpublished Ph.D. diss., Harvard). it may thus be the case that gaze is not sensitive to linguistic difficulties, when a spatial task is also present.

To sum up gaze aversion as a dependent variable in isolation was not sensitive to the change from condition F to condition S in our experiment. This absence of an effect may be due to the experimental design. P minor, supplementary experiment, in which the temporal order between the two experimental conditions was reversed offered evidence in favor of our hypothesis

In section 3.3 we shall see that when gaze aversion is considered in interaction with other behavioral variables (verbal and paralinguistic) a pattern emerges which is sensitive to the experimentally imposed code-switching. First section 3.2). however, we shall consider some evidence that Cognitive or linguistic difficulties are indicated under oath condition F and S by the amount of gaze aversion that our subjects engaged in. In this connection we shall also make some observations concerning to interaction between gaze patterns and linguistic patterns in our material.

3.2 Gaze aversion in the light of conflicting needs

A speaker's need for feed-back is pivotal to his speech production in order successfully to communicate his intended meaning to the listener he must shape his speech so that it is among other thing understandable to the listener, and by observing clues provided the listener he can Continuously Keep track for the listener's reactions. In face-to-face interaction a fundamental way for the speaker to seek information about how his message is taken by the listener is gaze. The reason why the speaker almost always looks the region of the eyes of the other (gaze) for feedback, or his face, rather than at some other part of the body, is the facial expressions provide a very rich source of information Subtle movements especially in the region of the eyes and mouth may indicate subtle changes of emotions or attitudes.

At the same time. the rich information provided by the listener's facial expression may distract the speaker when he needs to concentrate on what he should say and now he should say it. Hence, the speaker's need to avoid distraction is also pivotal to his speech production, and a way of reducing distraction factors to avert gaze

Argyle's characterization of the speaker-typical gaze pattern suggests how speakers solve the problem of satisfying both the need for avoiding distraction and the need for feedback When A is just about to start speaking he looks away from : at the ends of sentences or phrases he looks up briefly..." (1967:82)

Let's see to what extent Argyle's generalization is true of the performance of our subjects Consider the following excerpts from Leo's and Mari's route descriptions in Swedish, here rendered as Example 1 and 2 respectively.

EXAMPLE 1 Leo. Swedish

01 L:01 (START gaze aversion 00ms) ja och SEN ja åker + spårvagn nummer: FYRA
yes and then I do tram nummer four
L:02 eller(STOP gaze aversion 760ms) fem + (START gaze aversion 00ms) till
Or five to
L:03 ÖSTRA(STOP gaze aversion 110ms)gatan +++ aa (START gaze aversion 00ms)
EAST street yeah
L:04 + (STOP gaze aversion 43 ms) de (START gaze aversion 00ms) e
It is
S:01 ÖSTRA GATAN? +
East Street

02 L:01 SLUTplats + för mej (STOP gaze aversion 304 mS) +
end stop for me

S:01 var ligger Östra GATAN
Where is East Street

03 L:01 (tat-sound)(START gaze aversion 00mS) ehh (sneezes) + aa de e ++ nära+
an it is near

L:2 (tat-sound)AVE(STOP gaze aversion 964mS)NY+(START gaze aversion 00mS)mellan:
Ave rue between

L:03 AVENY å + LISSEBERG kan man SÅJA + aa (STOP gaze averion 646mS)
Avenue and Liseberg you could say yeah

S:01 ana

EXAMPLE 2 Mari. Swedish

01 M:01 BREDVID min (START gaze aversion 00mS)+skolan och+gå+min SKOLAN +ja måste +
close to my school and go my school I must

S:01 JA
Yes

M:02 (tat-sound) gå FÖRST+så LÅNG+vet INTE *se* +LÅNG+inte RUMMET men (STOP gaze
go first so long don't know *it** long not room but

M:03 aversion 2528mS)+den e ++(tat-sound)(START gaze aversion 00mS)+INNAN rummet e::+
before the room is

04 den+(STOP gaze aversion 594mS)?m va e DEN? (START gaze aversion 00mS) +++
it m what's that

02 S:01 ja JA
yes yes

M:01men inm(STOP gaze aversion 408mS) innan INNAN INNE+(START gaze aversion 00mC) INNE::
Out in inside before outside inside

M:02huset (STOP gaze aversion 194mS)
The house

03 S:01JA en KORRIDOR
yes a corridor

M:01 I ALLA fall (START gaze aversion 00mS)+ja måste gå (STOP gaze aversion 200mS) korri
In any case I must go

04 S:01KORRIDOR
corridor

M:01 vet IN(START gaze aversion 00mS)TE+?va e DEN?+men ja måste gå +SÅ lång++
Don't know what is that but I must go such long

M:02 å sen+ja gå UT+igen+å promenera+förbi BILEN och ++ gå (STOP gaze averion 2334mS)
And then I go out again and walk pass the car and go

M:03på ASFALTEN
On the asphalt

Example 1 and 2 contain 6 gaze aversion sequences (= 6 starts and 6 stops) each. Table shows now these 2 starts and stops are related to sentential or phrasal constituent boundaries Starts and stops occurring immediately after

complementizers or conjunctions have been classified as occurring in such constituent boundaries).

TABLE 2 The relation between 24 starts and stops of gaze aversion sequences and sentential or phrasal constituent boundaries in two short samples from Leo and Mari

	STARTS		STOPS	
	Leo	Mari	Leo	Mari
In constituent boundaries	5	2	4	4
Not in constituent boundaries	1	4	2	2

Table 2 shows that 15 starts and stops occurred in sentential or Phrasal constituent boundaries, whereas 9 did not occur in such boundaries. This empirical observation suggests that the speaker's pattern of gaze is not finely tuned to the syntactic constituent structure of his speech. This observation raises in its turn a methodological question

In section 1 we noted that Argyle used an observer-mediated recording technique to document his subjects' gaze-pattern and patterns of speech and silence.. when noticing that started to look at L the observer pressed a button. thereby causing a machine to make marks on a paper tape. It is reasonable to assume that this Procedure is prone to editing effects, i.e. that the observers rendered the gaze onset as if it took place in major constituent boundaries even when it physically did not. This kind of editing effect is well-known from so called click-experiments (although in these experiments both stimuli were auditive) (see Fodor, Sever & Garrett 1974).

On the basis of video-films of the performance of each subject, which we played back in slow motion, our empirical observation was that a third of the gaze onsets or stops in example 1 and 2 occurred within Phrasal constituents or even within words. Thus, not all gaze aversion sequences occurred in major constituent boundaries. Furthermore, not all phrasal or sentential constituent boundaries were associated with gaze.

Principle which seems to operate in our subjects' route descriptions is to look up (briefly) in connection with words that are crucial to the description of the route. Arguments that are crucial to our route description task are Modes, paths and means of transportation. (The two latter arguments can be coded by the same term in the case of trams and buses.) When the speaker introduces such terms in the discourse, he has every reason to look at the interviewer, since it is of vital importance for the speaker to know that they have been properly understood by the interviewer.

This principle is illustrated in Example 1. where Leo looks at the interviewer in connection with specifying the individual numbers of trams ('FYRA eller FEM') or names of streets ("ÖSTRA GATAN" and "AVENY"). The interaction between gaze and information structure in our route descriptions will be explored at length in a forthcoming study (Allwood, Sjölund & Strömquist, in preparation).

In view of the speaker's need for feedback, it is noticeable that several of the gaze aversion sequences in the route descriptions were longer than 10 seconds or even 20 seconds (see Appendix A). E.g. if we look at Example 2, we find two very long aversion sequences (2528ms and 2334ms respectively). To accomplish aversion sequences of this length, which readily transcend the length of sentences or phrases, the speaker must suspend his looking

for feedback. The reason for this suspension is probably that the route description task was so demanding that the subjects sometimes felt the need to avoid distraction for extended periods at time.

The inter-individual variation with respect to gaze aversion sequences of this length however, was quite pronounced (see Figure 3a-f. This variation may reflect a variation in the strategies adopted by the individual speakers. In situations where the need to look for feedback and the need to avert gaze in order to avoid distraction come into conflict, some speakers chose, to give priority to looking for feedback, whereas others give priority to avoiding distraction.

3.3 The data of Appendix C

We shall now consider the data in Appendix G. This appendix contains all metalinguistic questions and all questions about geographical space that the subjects

produced during their route descriptions in Finnish and Swedish. It is assumed that these questions indicate that the subjects are searching for information about linguistic expressions and geographical space respectively. Appendix C also provides the linguistic context as well as the gaze context of each of these questions. In addition, Appendix C provides information about whether a word or phrase is whispered or spoken with low volume. The immediate gaze context of each question is rendered in boldface in the appendix and the individual questions are enclosed by question marks.

Altogether there are 21 such questions. These questions are presented out of context, and classified in Table 3. The questions are indexed according to their order of appearance in Appendix C. The individual questions will be referred to below in Table 4 and by means of these indices.

TABLE 3 The subject's metalinguistic questions and questions about geographical space (Meta/Geogr. ambiguous between the two interpretations)

INDEX	QUESTIONS	CLASSIFICATION
1	? mikhähän se menee loppujen lopus? (where does it go really in the end)	Geographical
2	? vilken namn? (which name)	Metalinguistic
3	? mitenkähän mie san? (how shall I say)	Meta/Geogr.
4	? onks se mitt vai mitä se on suoraa? (is it "mitt" [: Sw. middle or what is it "straight on")	Metalinguistic
5	? mitä nut paikkoi nyt on? (now what places are there)	Geographical
6	? mites se nyt menee? (now how does it (tram) go)	Geographical
7	? onks se bussplatsen vai mikä se on? (is it "bussplatsen" C= Sw. bus stop] or what is it)	Metalinguistic
8	? mikä se on? (what is it)	Metalinguistic
9	? mitä siinä on? (which (trams) go there)	Geographical
10	? korsplats? (Korsplats)	Meta/Geogr.
11	? mikähän oli me? (what is "we")	Metalinguistic
12	? mikähän kirkko on ruotsi? (what is "church" in Swedish)	Metalinguistic
13	? mikähän se oli?	Metalinguistic (what is that)
14	? hetki montahan niitä on? (wait how many are they (floors))	Geographical
15	? ohikohan niitä ei nut vissiin kahta (were they sure there were no more than enempää? (two were there)	Geographical
16	Mitt mä sanosin? (what shall I say)	Meta/Geogr.
17	? ulos mikä oli? (out I wonder what that is)	Metalinguistic
18	? mitähän ma sanoisin? (what shall I say)	Meta/Geogr.
19	? ehkä mitt siinä olis? (perhaps what could there be)	Geographical

20	?va e den? (what's that)	Metalinguistic
21	?va e den? (what's that)	Metalinguistic

Table :3 shows that out of the 21 questions, 17 are in Finnish whereas only 4 are in Swedish. The question then arises as to how the 21 questions are distributed on the two experimental conditions. This information is provided by Table 4. Table 4 presents the distribution of the 21 questions on subjects and on question types under condition Finnish and condition Swedish.

TABLE 4 The distribution of the 21 questions on subjects and question types under condition Finnish and Swedish

Subject	Conditions			
	Finnish Question type Meta Geogr. Meta/Geogr.		Swedish Question type Meta Geogr. Meta/Geogr.	
Laura	1		4	2
Rauni			4	2
Leo	1			1
Mari	1	2		
Lalla		1		
Noora				
INDEX	1	18	2	12
(Question No)	9		4	13
	19		7	17
			8	20
			11	21

We see that only 4 of the 21 questions were produced under condition Finnish. These 4 questions were all in Finnish (see Appendix C). This means that out of 17 questions produced under condition Swedish, 13 were in Finnish. These 13 questions then represent a locally effected code-switching. This type of local code-switching is thus asymmetrically distributed in the experiment: it occurs under condition S. but not under condition F. i.e. the subjects make local switches from the target language to their source language, but not vice versa Furthermore the few questions they produced under condition F were almost exclusively of the geographical type whereas metalinguistic questions dominated under condition S (in boldface in Table 4).

These distributional facts indicate that the subjects spent more effort on trying to get access to linguistic expressions under condition S than under condition F. This hypothesis is supported by the fact that the subjects, as a rule, spent considerably more time on rendering the route description in Swedish than they did on rendering it in Finnish (see Appendix).

The fact that the subjects produced questions about geographical space also under condition S suggests that they presented partly different information about the route under the two conditions (i.e. although they already had given a description of the route under the first experimental condition, they still engaged in trying to remember paths and places under the second condition). The task of the second experimental condition was thus not exclusively one of finding the appropriate target language words for communicating information about the route.

An intriguing question that remains to be answered is why the subjects under condition S overwhelmingly chose to articulate their questions in Finnish when they provably were aware of that the interviewer did not understand Finnish. In order to answer this question, we shall first examine more closely the contextual properties of the 21 questions. The contextual features systematically accounted for in Appendix C are presented in the leftmost column in Table 5 below. Each question has a specific combination of values (+ or -) for these features and Table 4 maps out the actually realized combinations or bundles of values. The number of questions pertaining to each bundle is

TABLE 5 A classification of the subjects' metalinguistic and geographical questions
According to some of their contextual properties

CONTEXTUAL FEATURES	BUNDLES OF FEATURES										
Immediately followed by speaker shift	-	-	-	-	-	-	-	-	-	-	+
Immediately preceded by gaze aversion	+	-	-	+	-	+	+	+	-	-	-
Simultaneous with gaze aversion	+	+	+	+	+	+	+	-	+	-	-
Immediately followed by gaze aversion	+	+	-	+	+	+	-	+	-	-	-
Code-switching	+	+	+	+	+	-	-	+	-	-	-
Whispering	+	+	+	-	-	-	-	-	-	-	-
N	8	1	1	1	1	3	3	1	1	1	=21
INDEX (Question No.)	3 7 17 8, 11 13,14 15,16	12	5	6	1,18 21	2,9 19	4	20	10		

Table 5 shows that for every contextual feature (with the exception of "whispered") there is a value which is very frequent. Thus 17 questions are immediately preceded by gaze aversion (i.e. they have the value + for the feature "Immediately preceded by gaze aversion"), 19 are simultaneous with gaze aversion 15 are immediately followed by gaze aversion, 13 represent instances of code switching, and 10 are whispered or articulated with a considerably lower volume than that of the surrounding speech. Not all of the 21 questions, however, have the same combination of values for all the contextual features. In fact, 10 distinct combinations are realized. 7 of the 10 combinations are realized by only 1 instance, 2 are realized by 3 instances and 1 is realized by no less than 8 instances. This combination is mapped out as the first one in Table 5 and it is printed in boldface. These 8 instances all combine positive values for all of the features we have so far described. In virtue of this outstanding position in Table 5, it emerges as the typical combination of values for the contextual features. Thus, when the subjects produced a metalinguistic or geographical question in our route description experiment, they typically averted gaze not only simultaneously with the question but also immediately before and immediately after the question. Furthermore, they typically switched to Finnish (under condition Swedish) and started to whisper.

None of these things that the subjects typically did serves to promote the perceptual uptake and understanding of the question by the interviewer. Indeed, in combination these things serve to make more difficult or even block the interviewer's perceptual uptake and understanding. To perform these things in combination, then, seems like blatantly breaking a fundamental principle of Cooperation in communication (in Grice's formulation this Principle would be the maxim of manner "be perspicuous", see Grice 1975. I will argue, however, that this is only seemingly so.

There is in fact at least one situational context in which the performance or a combination of the things we just described is perfectly legitimate. This is when we "stop and think in the middle of conversations Then looking away and perhaps mumbling to oneself is not perceived of as an attempt to exit from the interaction or as an instance of irrational behaviour in general. In order to secure that a digression of this type is perceived of as an instance

of stopping and thinking, the speaker may provide various cues to his collocutor - verbal ones, like 'Let me think, or non-verbal cues like the one shown in Picture 2. The gesture in Picture 2 was performed by one of the subjects, Rauni in connection with a metalinguistic questions

PICTURE 2



My claim, then, is that the metalinguistic and geographical questions accompanied by gaze aversion, code-switching and whispering represent a special case of the "stop and think" type of sequence in discourse. The fact that 20 of the 21 questions were not followed by speaker-shift (see Table 4) (see Table 4) indicates that they were also so perceived by the collocutor. (The one question that made an exception to this rule was not simultaneous with nor followed by gaze aversion, did not represent an instance of code-switching and was not whispered.)

Consequently the observed contextual behavioral properties of the questions can be seen as component parts of a ritual, by means of which the speaker reserves a moment of thinking for himself in the middle of the verbal interaction, a moment that he uses to search his own memory.

Why then, did the subjects say something at all, rather than staying silent, while searching their memory? By saying something, they indicated to their collocutor that they were active and not, say, inclined to exit from the interactions. By saying it in Finnish, they inhibited the interviewer from getting access to the content of what they said. To be precise, by articulating their questions in Finnish under condition S, the Finnish subjects used language in two different functions: one for themselves and another for the Swedish interviewers. For themselves they used language in its fundamental, symbolic function, whereas they used language in an indicative, non-symbolic function for the interviewer: By saying something, rather than being silent while pondering, they indicated to the interviewer that they were actively working on some problem.

The locally effected code-switching was thus partly cognitively and partly socially determined. That it was partly determined by cognitive factors should be appreciated in view of the fact that so far social determinants of code-switching have been focussed on in the literature (see e.g. Blom & Gumperz 1/2).

3.4 Search games

In an earlier study I described what strategies two Finnish immigrants - both living in Göteborg and both being in an early phase of their acquisition of Swedish adopted when they turned to their Swedish communication Partner for help with getting access to target language words they needed in order to communicate what they intended (Strömquist 1983). I referred to this kind of sequences as 'lexical search games'

The search game is constituted by two roles, the searcher and the co-searcher, and three moves, each of which is associated with one or the other. The searcher engages his collocutor as co-searcher as a strategy for getting access to the item he is searching for.

I proposed that the item searched for be conceived of as the value (y) of a certain function (F) for a certain argument (x), i.e. as y in $F(x)=y$. In order to obtain a value, F and x must be specified. The first move in the search game, then, is to specify F and x . The second move is for the co-searcher to apply the function to the argument and produce the value. The third move, finally, is for the searcher to verify, falsify, or else ways produce feedback on move 4. (See Strömquist 1983:8-13).

Through a successful search game the item searched for is accessed through social interaction. In contrast, the ritual that we have observed our subjects to engage in during the route descriptions serves as a warrant for trying to find the item searched for on one's own. By this contrast, these two strategies emerge as complementary. If the speaker wants to try to find the item searched for on his own, he does not want his collocutor to distract him, but he wants to reserve a moment of thinking for himself, and it is then a good thing to avert gaze, start to whisper and switch to a language which is incomprehensible for the other. If, on the other hand, the speaker (searcher) wants to engage his collocutor as co-searcher, he must make his collocutor appreciate what item he wants access to. Trying to engage the collocutor as co-searcher also motivates gaze.

In the route descriptions, elicited from our six subjects, we have no evidence of a lexical search game. The subjects' preference for searching their own memory may well be a function of the experimental situation. The subjects may have felt that they were supposed to solve the task presented to them with as little help as possible from the interviewer.

Footnotes

1. I want to thank Geoffrey Beattie who introduced me to the field of gaze aversion, and Jens Allwood who made several valuable comments on an earlier version of this paper. I also want to thank Paula Andersson, Elisabeth Balte and Kaarlo Voionmaa for valuable help and discussions.
2. "he spoke not, but his eyes spoke. (litt. transl.) These two lines are from the poem "Den enda stunden" by the Finnish poet Johan Ludvig Runeberg (1804-1877).
3. The Wilcoxon matched-pairs signed-ranks test is carried out in the following steps (for a more detailed account and rationale see Siegel 1956:75-83)
 1. For each matched pair, determine the signed difference d between the two scores.
 2. Rank these d 's without respect to sign. With tied d 's, assign the average of the tied ranks.
 3. Affix to each rank the sign (+ or -) of the d which it represents.
 4. Determine T = the smaller of the sums of the signed ranks.
 5. By counting, determine N = the total number of d having a sign.
 6. Consult a table which shows critical values of T for various sizes of N . If the observed value of T is equal to or less than that given in the table for particular significance level and a particular N , the null hypothesis may be rejected at that level of significance.

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APPENDIX A

Subject Condition	Laura Finnish	Swedish
Parameters		
Tot time (secs)	200.15	328.46
Gaze	79. (39%)	118.29 (36%)

Gaze aversion	121.00 (61%)	210.17 (64%)
Tot N aversion sequences	20	35
N < 1 sec	3 (15%)	8 (23%)
N 1-3 sees	6 (30%)	9 (26%)
N 3-6 secs	4 (20%)	4 (11%)
N 6-10 secs	2 (10%)	8 (23%)
N 10-20 sees	4 (20%)	4 (11%)
N > 20 sees	1 (%)	2 (6%)
Subject	Leo	
Condition	Finnish	Swedish
Parameters		
Tot time (sees)	165.80	217.30
Gaze	61.44 (37%)	115.23 (53%)
Gaze aversion	104.36 (63%)	102.07 (47%)
Tot N aversion sequences	26	30
N < 1 sec	1 (4%)	5 (17%)
N 1-3 secs	11 (42%)	11 (37%)
N 3-6 secs	8 (31%)	9 (30%)
N 6-10 secs	5 (19%)	4 (13%)
N 10-20 secs	1 (4%)	1 (3%)
N > 20 secs	1 (5%)	2 (6%)

Subject Rauni

Condition Finnish Swedish

Parameters

Tot time (secs)	321.86	177.68
Gaze	76.86 (24%)	48.60 (27%)
Gaze aversion	245.00 (76%)	129.08 (73%)
Tot N aversion sequences	26	25
N (1 sec	0 (0%)	3 (12%)
N 1-3 sees	4 (15%)	6 (24%)
N 3-6 sees	8 (31%)	7 (28%)
N 6-10 sees	4 (15%)	6 (24%)
N 10-20 sees	7 (27%)	3 (12%)
N > 20 sees	3 (12%)	0 (8%)

Subject Lalla

Condition Finnish Swedish

Parameters

Tot time (secs)	129.66	467.45
Gaze	91.36 (70%)	339.54 (73%)
Gaze aversion	38.30 (30%)	127.91 (27%)
Tot N aversion sequences	13	40
N (1 sec	4 (31%)	10 (25%)
N 1-3 sees	(23%)	15 (37%)
N 3-6 sees	5 (38%)	10 (25%)
N 6-10 sees	1 (8%)	3 (8%)
N 10-20 sees	0 (%)	2 (5%)
N > 20 sees	0 (%)	0 (0%)

Subject	Mari	
Condition	Finnish	Swedish
Parameters		
Tot time (secs)	191.76	391.55
Gaze	65.22 (34%)	120.33 (31%)
Gaze aversion	126.54 (66)	271.22 (69%)
Tot N aversion sequences	28	50
N < 1 sec	11 (3.9%)	8(16%)
N 1-3 sacs	4 (14%)	12 (24%)
N 3-6 secs	7 (25%)	15 (30%)
N 6-10 sees	1 (4%)	8 (16%)
N 10-20 sees	4 (14%)	4 (8%)
N > 20 sees	1 (4%)	3 (6%)

Subject	Noora	
Condition	Finnish	
Parameters		
Tot time (secs)	259.96	154.56
Gaze	144.27 (55%)	78.61 (51%)
Gaze aversion	115.69 (45%)	75.95 (49%)
Tot N aversion sequences	64	34
N < 1 sec	32 (50%)	10 (29%)
N 1-3 secs	21 (33%)	15 (44%)
N 3-6 secs	8 (12%)	7 (21%)
N 6-10 secs	2 (3%)	2 (6%)
N 10-20 secs	1 (2%)	0 (0%)
N > 20 secs	0 (0%)	0 (0%)

APPENDIX B

Subject Condition	Rauni Swedish	Finnish
Parameters		
Tot time (secs)	310.00	201.53
Gaze	58.64 (19%)	45.33 (22%)
Gaze aversion	251.36 (81%)	16.20 (78%)
Tot N aversion 18 20 sequences		
N < 1 sec	1 (5%)	3 (i%)
N 1-3 secs	3 (17%)	5 (25%)
N 3-6 secs	2 (11%)	4 20%
N 6-10 secs	3 (17%)	2 (10%.)
N 10--20 secs	4 (22%)	4 (2)%
N > 20 secs	5 (28%)	2(10%)

APPENDIX C

Guide to the transcript

- ?? Question marks are used to mark off each question
- Boldface** indicates the immediate gaze aversion context of the question ()
- () Parentheses enclose information on where a gaze aversion sequence starts or where it stops with respect to the speech stream. Indications of stops include information about the length of the aversion sequences in milliseconds (ms).
- Underlining Indicates that the Speech is whispered or articulated in a very low volume + Plus sign(s) indicate pause <silence>
- CAPITAL, LETTERS indicate heavy stress
- F: indicates the Finnish interviewer
- S: indicates the Swedish interviewer
- X: The subjects are indicated by the first letter of their pseudonym, e.g. "L" is Lalla
- * * Stars enclose sequences that represent code-switching.
- () Angular brackets enclose information about non-verbal events

LAURA FINNISH

- 01 F: 01 mm +++ miten sa yleensä menet sit + sielt KONTTORILTA + sull on FIRMAN auto aina
how do you usually go then from the office you usually have the company's car
- F: 02 vai
or
- L: 01 (START gaze aversion 00mS) niin no jos en mie virman autoo vie niinku KOTYIA yöks nin +
So yet if I don't take the company's car home overnight so
- F: 02 sielt tulee ILLALLA aina seitteman jalkeen sit se KYM (STOP gaze aversion 872mS) PPI pàrvagnen
from there comes at night always after seven then No ten tram
- L: 03 + tuota
so
- 02 F:01 anaa
I see
- L:01. en sita ennen tulee NELON et se vaintuu ain ILLAL se (START gaze aversion 00mS) + AIKATAULU
before it goes No four it is always changed at night the time table
- L: 02 just niillä + RATIKOL ja tuota + sen joutuu vaihtamaan sit aina jo KORSVÄGENIL tai pari
for these trams and well you always have to change then already at Korsvägen or a couple
- L: 03 pysäkkii TÄNNEPÄIN kun tuota ++ nii KORSVÄGEN joo + kun se kääntyy tonne + ?MIHKÄHÄN se menee
of stops in thus direction since well Korsvägen is it when it turns there where does it go real!.
- L: 04 loppujen lopuks? + se ei tu tähän eeh niinkun r (STOP gaze aversion 2292mS) RUNNSPARKENILLE
in the end it doesn't go well to Brunnsparcken
- L:05 se kymppi + et so kääntyy tuolt ENNEMMI jonku (START gaze aversion 00mS) + (STOP gaze
No ten it turns earlier somewhere
- L: 06 aversion 34m8) mie en o KOSKAA ajatellu et missa sen pääte pysäkki ois sit kun se tulee siält
I have never thought of where the last stop might be when it comes from there
- L 07 MÖLNDALIST
from Mölndal

LAURA SWEDISH

- 01 L:01 tingstads (START gaze aversion 00mS) tunnel (STOP gaze aversion 64mS) jag (START gaze
Tingstadstunnel I
S:01 aha
yeah
- 02 L:01 aversion 00mS) KÖRA (STOP gaze aversion 40mS) + (START gaze aversion 00mS) eeh +
drive
S:01 å sen
and then
- 03 L:01 ?vilken NAMN? (STOP gaze aversion 480mS) va + mot/ (START gaze aversion 00mS) MOTOR +
which name wha high
L:02 vägen *nii nii nii* + STOP gaze aversion 744 mS) *NII*
way *yes yes yes* *yes*
S:01 du er M0TORVÄGEN? you go by the highway
- 04 L:01 (STOP gaze aversion)
S:01 kor du ti hö GER eller VÄNSTER eller rakt FRAM +
do you go to the ri gnt or to the left or straight on
- 05 L:01 (START gaze aversion 00mS) JA eeh + + mm + + ?*mitenkähän mie san*?
*what should I say *
L:02 TINGSTADSTUNNEL + (STOP gaze aversion 1266mS) ?*onks se* MITT *vai mitä se
* it * middlie *or what is
L:03 on SOURAA*? (START gaze aversion 00mS) + NEJ *tukholma* + mmh nej + ?*mitä niit
it straight on* no *Stockholm* no *let me see what
L:04 PAINKKOI nyt on? + + mm + ei MUISTA ei muista* VET INTE vet inte (STOP gaze
places are there I don't remember don't remember* don't know don't know
L:05 aversion 2441mS)
- 06 L:01 eeh *sitte* spårvagnen FYRA + mm (START gaze aversion 00mS) ?*mites se nyt menee*? +
then *which way does it go now*
L:02 MÖLNDAL*II* (STOP gaze aversion 355mS) *siis* nummer spårvagnen + FYRA
Mölnal*ILLATIVE *so* number the tram four
S:01 ja ana
yes yeah
- 07 L:01 Mölnal (START gaze aversion 00mS) a/ ASAB*IN* + ehh + ?*onk se* + bussplatsen
Mölnal Asab*GENITIVE* * is it* "the bus stop"
S:01 ana
Yeah
- 08 L:01 *vai mikä se on? + tai SPÅRVAGNPLATSEN ?*mik' se on* eeh LACKARE (STOP gaze
*or what is it? or "the tram stop" what is it Lackarebäck
S:01 ja
yes
- 09 L:01 aversion 1476mS) BÄCK

LEO, FINNISH

- 01 L:01 (START gaze aversion 00mS) ja SITTEN raitsikaila kane (STOP gaze aversion 402MS) ksan +
and then by tram No eight
- L:02 (START gaze aversion 00mS) KESKUSASE gaze aversion 172MS)MALLE ja (START gaze
to the central station and
- L:03 aversion 00mS) + sen JÄLKEEN mina otan joko YKKÖSEN tai kakkosen tat + ?mitä siinä on? (STOP
then I take either No one or No two or which ones do there
- L:04 gaze aversion 742mS) KULMONEN + KUUTONEN seiska mi (START gaze aversion 00mS) nä ajan + (STOP
No three NO six No seven I go
- L:05 gaze aversion 130mB) BRUNNSPARKENIIN
to Brunnsparcken

LEO. SWEDISH

- 01 L:01 (START gaze aversion 00mS) ja STANNAR + plats som heter:: + (STOP gaze aversion
I stop place that is called
- L:02 374mS) ?KORSPLATS? + + aa
Korsplats yes
- S:01 KORSPLATS KORSVÄGEN? +
Korsulatsen Korsvägen
- 02 L:01 aa (START gaze aversion)

RAUNI SWEDISH

- 01 R:01 SPÅRVAGNEN (START gaze aversion 00mS) mm + + (tat-sound) + ?*mikähän j & min
and the tram and mm is we* and my
- S:01 mm
yeah
- R:02 VAN + *ME* a kom + spårvagnen + å (STOP gaze aversion 1386 mS) ALLHELGONAKYRAN +
friend *we* and came the tram and Allhelgonakyrkan
- 02 R:01 a + *sit me NÄH(STOP gaze aversion) TIIN* å *NÄHTIIN* + *K1(START gaze aversion 00MS) R (STOOP
and *then we saw* and *saw* church
- R:02 gaze aversion 14mS)KKO* + (START gaze aversion 00mS) ?*mikähän kirkko on ruitosi*? s (STOP gaz
now what is church in Swedish
- R:03 aversion 396mS) KYRKA
Church
- 03 R:01 mm + a + (tat-sound) *me mentiin SIS (START gaze aversion 00mS) ÄLLE katottiin* + Å ?*mikähän
mm and *we went in
- R:02 se oli*? + (tat-sound) *å siell oli F1 (STOP gaze aversion 682mS) INIÄ
Is it* * it was nice there*

- 04 R:01 å + MONTA + (START gaze aversion 00ms) MONTA kerrosta å (touches the right corner of her
many *many floors* and
- R:02 mouth with her right hand) ?*hetki niitä a ETT + *kerros sitt oli* + (STOP gaze
wait how many are they and one *floor then was*
- R 03 aversion 1040aS) TVÅ *kerros* *KERRO* + (START gaze aversion 00ms) *ENSIMMÄINEN kerros
floor *floor* *första våningen
- S: 01. kerros
- R 04 TOINEN kerro KOLMAS* (STOP gaze aversion 200ms) + (START gaze aversion 00ms) + (touches the second
floor third*
- R:0 right temple with her right hand)? *olikohan niitä ei niitä vissiin kahta ENEMPÄÄ? KOLME kerros*
were they there were no more than two of them were there three floors
- R :06 + *juu* a *me KAT KATSOTTIIN (STOP gaze aversion 670ms) å (START gaze aversion 00ms) *s*
Ju *vi titt tittade* an
- R:07 (tat-sound> *siell oli* + *mm ?mitä mä sanosin? + (tat-sound) *no siell oli ihan* + *IHAN
där var *vac ska jag säga* *ja där fanns rätt så rätt så
- R 08 semmosia mielenkiintosta*
såna där intressanta*
- 05 S:01 (laughs)
- R:02 *JUTTUJA nähtävänä* OKEJ A *sitte me (STOP gaze aversion 1324ms) tultiin POIS* +
things to see* *then we came out*
- R:03 (START gaze aversion 00ms) (laughs) å * ja me aukastiin OVI + *mentiin UL (STOP gaze
* and we opened the door went out
- R:04 aversion 470ms)=S + (START gaze aversion 00ms) ?ulos mikäähä oli? + å *sit me k'äveltiin taas
where did we go out and *then we went again

- R:05 KANA(STOP gaze aversion 590mS) ALIA pitki* + *noustiin SPÄRVAGNEN +FEMMAN +ILTA*+å jäätiiin
Along the channel * went on the tram NO five*ELLATIVE* and *stannade
- R:06 KORTEDALA* (START gaze aversion 00mS) Å min VÄN + *jäi alas (touches left temple with her left
Kortedala*s* and my friend *went off
- R:07 hand> MM + (STOP gaze aversion 360mS) ESSKOEFFEN pysäkillä* + å + JA å (START gaze
on SKF's stop * and I and
- R:08 aversion 00mS) + JA å (STOP gaze aversion 142mS) *jatkan matkaa SKOR (START gaze aversion
I and *I continued
- R:09 00mS) KORTEDALAN (STOP gaze aversion 70mS) pysäkilie*
to Kortedala's stop*
- 06 R:01 MM (START gaze aversion 00mS) *ja sitten mä jain ALAS okey *mä KÄVELIN + <touches right corner
*and then I went down *I walked*
- R:02 of mouth with right hand) å ++ *sit mä onlin + (STOP gaze aversion 856mS) KOTONA hem
then I was *at home* home

LALLA, FINNISH

- 01 F:01 koinka ptkä matka sulla on KOTOA raitiopysäkille
how far do you have to go from your home to the tram stop
- L:01 (START gaze aversion 00mS) + ?mitähän mä
What should I
- L:02 sanoisin? + STOP gaze aversion 266mS) KOLMESATAA metriä
Three hundre meters
- F:02 MM
yeah

MARI, FINNISH

- 01 M:01 ja + ei se siita + bussireitista tosiaan PALJON poikkea + (STOP gaze aversion) ma vaan
yea an fact it's not that different from the route the bus takes I just
- M: 02 käännyn + (START gaze aversion 00mS) + ?ehkä mitä siinä olis? (STOP gaze aversion 291mS)
turn maybe what could at be
- M: 03 KUUSKYMMENTÄ metriä enne ennenku se bussi PYSÄHTYY niin käännyn + OIKEALLE
sixty meters before before the bus stops then I turn to the right

MARI, SWEDISH

- 01 M:01 BREDVID man (START gaze aversion 00ms) + skolan och + gå + min SKOLAN + ja måste +
close to my school an go my school I must
- S: 01 JA
yes
- M: 02 (tat-sound) gå FÖRST + så LÅNG + vet INTE *se* + LÅNG + inte RUMMET men (STOP gaze
go first so long don't know *it* long not room but
- M: 03 aversion 2528ms) + den e + + (tat-sound) (START gaze aversion 00ms) + INNAN rummet e +
it is before the room is
- M:04 den + (STOP gaze aversion 594ms) ?m va e DEN? (START gaze aversion 00ms) + + +
it m what's that
- 02 S: 01 JA yes yes
- M: 01 men inn(STOP gaze aversion 408ms) inneh INNAN INNE + (START gaze aversion 00ms) INNE::
but in inside before inside inside
- M: 02 huset (STOP gaze aversion 194ms)
the house
- 03 S: 01 JA en KURRIDUR
yes a corridor
- M: 01 I ALL fall (START gaze aversion 00ms) + ja måste gå (STOP gaze aversion 200ms) korr
in any case I must go corridor 04 :
- 04 S:01 KORRIDOR
corridor
- M: 01. vet IN (START gaze aversion 00ms) TE + ?va e DEN? + men måste gå + SÅ lång + +
don't know what is that but I must go such long
- M:02 sen + ja gå UT + igen + promenera + förbi BILEN och + + gå (STOP gaze aversion 2334ms)
and then I go out again and walk pass the car and go
- M:03 på ASFALATEN
on the asphalt