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PSYCHOLINGUISTIC IMPLICATIONS FOR SUCCESSFUL COMMUNICATION: THE CASE OF FACE-TO-FACE DYADIC INTERACTION

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INTRODUCTION

The notion of human communication from a historical perspective was first described employing a behaviouristic and then subsequently a mentalistic approach[1]. A complete shift in the perception of communication came with the structural approach (cf. Kendon,1982) and the methodology of context analysis (cf. Kendon, 1990 after Scheflen, 1963) or the theories of 'interactionist' or 'collaborative' approaches (Clark, 1985; Schober & Clark, 1989; after Anderson, 1994:439). The following innovations have been introduced into the study of human communication:

1. Communication proceeds via many integrated channels (it is a continuous, multichannel process) and includes such elements of behaviour as units of language, voice modulations, gaze direction, gesture, orientation, posture and spacing. This interrelated array of behaviours has to be studied.
2. The communicative situation called interaction is accomplished by mutual collaboration of speaker and recipient who relate to one another through many aspects of their behaviour.

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1 The behaviourist approach described communication in terms of a mechanistic, sender-receiver model applying the patterns of technical communication. It declined by the early 1960's with the appearance of Chomsky's transformational-generative approach. This new mentalistic model revolutionised psycholinguistics, as it narrowed down the perception of language from a social, nameless phenomenon to viewing it as an attribute of an individual. Still, an individual was detached from a real life and the extreme complexity of the relations between speakers' linguistic knowledge and how it is actually put in use in the real world was completely ignored. Additionally, communication was limited only to linguistic communication.

3. The patterns or forms which organise behaviour of participants within interaction are not created *de novo* every time. We may determine certain unchanging principles[2] known, therefore, as regulatory aspects of behaviour.

Thus the new approach to communication carries out an integrated analysis of the actual interaction. It not only analyses the naturally-occurring interactive situation but also investigates non-verbal aspects of interaction. The repeatable patterns and structures employed by both participants are used as analytical units.

When we consider the notion of successful communication in the light of the above approach, we may expect that our communicative expertise will not be simply achieved through the acquisition of language as code. To function as effective communicators, interlocutors will have to master the co-ordination of their various behaviours to maintain an appropriate state of speaker-hearer co-operation. This co-operation proceeds by means of several regulatory mechanisms which function on various levels. The most general division would be into a linguistic and non-linguistic level. In order to sustain successful linguistic communication, and not just 'display signals' using language code, one needs to employ pragmatic strategies comprising, among others, a number of conversational principles (such as, the reality and co-operative principles upheld by adhering to Grice's (1975) four conversational maxims: Maxims of Quantity, Quality, Relation, and Manner) as well as the system of inference strategies that make linguistic communication possible at all. Still, on their own they would not be sufficient for the overall success of communication. Apart from linguistic and cognitive abilities, one must also master so called interactive strategies and conversational skills. Interactive skills include strategies for promptly repairing cases of miscommunication, for question-answering, and providing feedback (Anderson 1994:458) and are the means by which the actual transfer of information is accomplished. Conversational skills, on the other hand, serve the actual maintenance and management of conversation through the adherence of communicators to such regulatory mechanisms as turn-taking system with the use of such non-verbal behaviours as gaze, posture, and vocal clues. They also comprise communicators' general ability to move between the roles of speaker and listener[3]. Pragmatic and interactive skills operate on the verbal level of communication, whereas the conversational skills work on the non-verbal. The differences in the mastery of these strategies would seem to be the key to explaining the varying

2 As Goffman (1963) has pointed out, while analysing the rules governing some of the main types of social encounter in the USA, although unspoken, they penetrate the key processes of social interaction and non-verbal communication, and create regular patterns of interaction, so that the behaviour of other people becomes predictable, and social encounters appear as proceeding smoothly. If one does not keep to the rules, interaction between the participants is disrupted.

3 The role of these two kinds of skills may be clearly seen in the discourse distinction proposed by Brown and Yule (1983, after Anderson, 1994) between *transitional* and *interactional* discourses. The main purpose of transitional discourse is to communicate, that is to process information, whereas the purpose of the interactional discourse is to 'maintain friendly social relationships'. One can manage a friendly social interaction being only an expert in conversational skills (hence, we read in Anderson, 1994, that, for example, a child is a skilled conversationalist from an early age). However, to take part in the transitional discourse demanding information transfer one must also possess interactive skills.

communicative competence of interlocutors.

The focus of the present paper is the analysis of conversational skills (such as completion/performance of a gesture, pausing and speech rate, managing interaction through turn-taking system), which operate on the non-verbal level of communication. We will try to demonstrate that the overall success or failure of communication in face-to-face dyadic interaction is determined by the competent or incompetent use of these regulatory/ conversational non-verbal strategies. The analysis is conducted on the material extracted from two talk-shows. The talk-shows were chosen to be as similar as possible in terms of such influencing parameters as number of participants and format and duration of the interviews; however in one talk-show the communication was strikingly ineffective judging by such impressionistic features as excessive interruptions, pauses, and the evident slowness of speech delivery. The analysis will focus on the interviewers.

Although there are specific turn-taking rules that apply to a talk-show (for example, that one party asks questions and the other party gives answers), the analysis conducted here will concentrate on such aspects of the interaction that may be generalised to other communicative situations, following the assumption that human communication is not only rule-governed but also that universal rules may be found. This view is maintained by such authors as Sacks, Schegloff, and Jefferson (1974: 47), whose findings are still influential in the area of interaction studies. They claim that although conversation should be considered the basic form of a speech-exchange system, the other systems are not of "an independent polar type" but only "a variety of transformations on conversation's turn-taking system to achieve other types of turn-taking systems". Still, all these transformations occur along the lines that conversation allows to vary. Schegloff (1984: 29) writes in his introduction to the analysis of a radio call-in show that the fact where his sample comes from "will not matter to his analysis except in one distant way, in which a formal structural characteristic of the conversation is in this case supplied by the radio setting, *the feature being supplied in other conversations by other circumstances of setting*"(my italics).

The specificity of a talk-show, on the other hand, may turn out to be helpful for separating verbal strategies from conversational non-verbal strategies which, in turn, would facilitate the determination of to what extent non-verbal strategies influence the effectiveness of communication. It appears that the role of verbal and non-verbal strategies in the overall outcome is interrelated, however, in the case of a talk-show it seems that we can actually neglect the linguistic choices of interviewers and even the content of their utterances because they are to a large degree pre-planned, and very often, advised on by a panel of experts. Similarly, the cognitive abilities of both communicators will rather be the same, considering their prominent positions. In this way, we can leave out these two factors as variables which could influence the performance, and attribute the difference in the effectiveness of communication between the two interviewers to the non-verbal aspect of communication as such.

Thus, we will attempt to demonstrate in this paper that the final effectiveness of communication, apart from content and linguistic choices, is determined by our non-verbal conversational strategies, and actually in case of a comparable mastery of other communicative skills, it may turn out to be the decisive factor for the final success or failure of communication in face-to-face dyadic interaction. To do so, first, we will analyse how the

skilled communicator's behaviour varies from that of an interlocutor with less manifest skill, and then we will compare these findings with the related theoretical research literature in the field of psycholinguistics. Although, the material of the analysis here will be limited to talk shows, taking a universalist position, we will try to arrive at conclusions that have broader applications.

COMPARATIVE ANALYSIS

MATERIAL

The present analysis is based on two video extracts selected from a number of recordings of two talk-shows taken from Polish TV ("Tabu" from TVN, and "Szpila" from Polsat, respectively). The first seven minutes of each talk show were analysed.

PROCEDURE

The organisational principle underlying the structure of the analysis was the investigation of three aspects of the total non-verbal behaviour pattern of the participants, that is: vocal behaviour, body movements and gaze. In the first part, these behaviours were analysed from the perspective of their intra-individual organisation as variables which could influence the effectiveness of performances. The second part investigated the same aspects of behaviour from the perspective of the interaction, namely how the interaction was managed by these means, applying turns as analytical units. As a whole, the analysis aimed at studying the synchronisation of the different types of simultaneously occurring motor activities by the interaction partners, both on their individual level and between them. In this interplay the communicative success of an interaction was sought. The notation of all the utterances from both samples and the transcription of some of the vocal behaviour used mostly in the first part of the analysis were based on audio material recorded additionally from the video extracts. The transcription system employed was developed by Gail Jefferson (in Atkinson, 1984: x-xvi). All time duration was calculated with a stop-watch. Physical and eye behaviours were notated on the basis of frame-by-frame observation.

As has been already mentioned, the main focus of the analysis was on the interviewers. They were observed over an extended period of time, in much the same setting, with changing partners. Still, each time there was a significant difference in the perceived effectiveness of their performances. Consequently, the assumption made here is that the interviewers' non-verbal strategies are responsible for the final outcome of communication in face-to-face dyadic interaction.

SUBJECTS

Influencing parameters

Generic	Specific **Interview A**	**Interview B**
culture	Polish	Polish
environment	studio in Warsaw	studio in Warsaw
social institution	Polish TV	Polish TV
activity:		
goal	interview	interview
roles	interviewer and interviewee	interviewer and interviewee
immediate surrounding	2 armchairs, 1 table, cameras	1 sofa, 1 table, cameras
participants	2 women	2 women

Figure 1.

As can be seen from Figure 1, the influencing parameters of both interviews were mostly same and therefore should not play a decisive role in the results.

RESULTS

INTRA-INDIVIDUAL PERSPECTIVE

1. **Vocal cues**

(a) Intonation
(b) Speech rate
(c) Pauses

As has already been mentioned, an 'unsuccessful' talk-show was labelled so because of the many interruptions, pauses, and the evident slowness of speech on the part of the interviewer. In order to carry out the analysis of vocal cues, on the basis of the components of paralanguage according to Trager (in Knapp, 1978:326), and the set of vocal cues and stereotypes that were associated with them (Knapp, 1978:330-336), a list of adjectives describing the intonation and vocal qualities was compiled. 10 subject (5 women and 5 men; age range: from 20 to 56) were asked to watch the interviews and then assess them selecting the adjectives that best described the speaking manner of each interviewer.

The adjectives listed: dynamic, rhythmic, flat, monotonous, loud, soft, slow, fast, resonant, homogeneous, melodious.

The interviewer A's (henceforth A) manner of speaking was most often described as:

flat, slow, monotonous, homogeneous.

The interviewer B's (henceforth B) manner of speaking was most often described as: dynamic, rhythmic, fast, resonant.

(a) Intonation

To compare the intonation of the two interviewers, two 100-syllable long extracts were transcribed, each consisting of three turns of each interviewer, one turn taken from the beginning of the interview-extract, one from the middle and one from the end. Tonic syllables and patterns of rising and falling intonation were marked. The results are shown in Table 1/Figure 2.

	Tonic Syllables	Rising Tone	Falling Tone
Interviewer A	6%	2%	6%
Interviewer B	9%	6%	4%

Table 1.

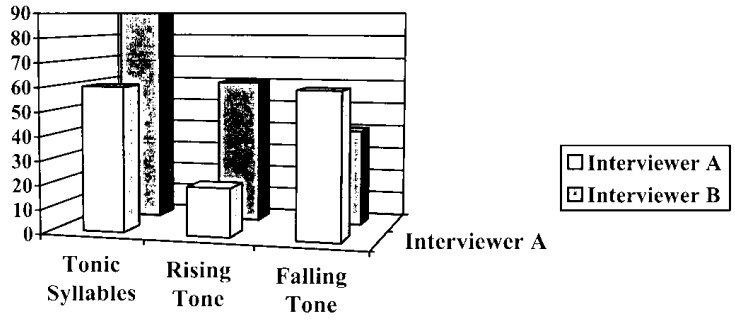

Figure 2.

In the one hundred-syllable extract, when all features were calculated, A changed her intonation by 5 % less often than B. Her intonation, therefore, could be described as flat and monotonous.

(b) Speech rate

The normal speech rate averages between 125 and 190 words per minute (cf. Caplan,1994:15; after Levelt) or about twelve elements per second (Clark,1977:177). Using a word processor all the words in the analysed extracts were counted and divided by the time during which they were delivered. The results are in Table 2/ Figure 3.

	Interviewer A	Interviewer B
Speech Rate (in words per minute)	121	179

Table 2.

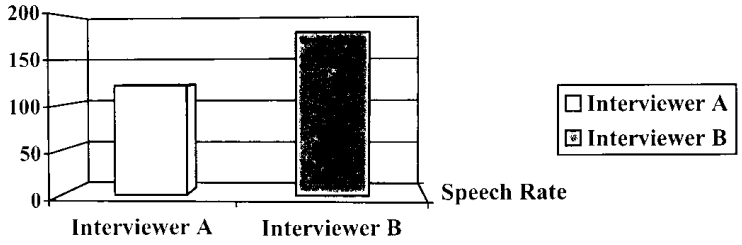

Figure 3.

The speech rates of A and B in the examined interview extracts were respectively 121 and 179 words per minute, the result being that interviewer B spoke almost 30% faster than interviewer A.

(c) Pausing

Lower or higher speech rate can be accounted for by the frequency of pause occurrence. Following Knapp's classification of pauses (1978:356) into (1) unfilled pauses (i.e. silence) and (2) filled pauses (pauses filled with 'um', 'uh', stutters, repetitions, tongue slips, false starts), A and B's pause time within their turns was compared (see Table 3) and then contrasted with the entire speaking time of A and B (see Figure 4/Table 4).

Pauses within turns

	Filled pauses		Unfilled pauses	
	Number	Duration	Number	Duration
Interviewer A	3	5.8s (26%)*	14	16.7s (74%)
Interviewer B	5	3.8s (73%)	4	1.4s (27%)

Table 3. * calculated relative to the pause time of each interviewer

Comparison of pause time and speaking time

	Pause time	Speaking time
Interviewer A	22.5 s (15%)	145.4 s
Interviewer B	5.2 s (4,6%)	112.8 s

Table 4.

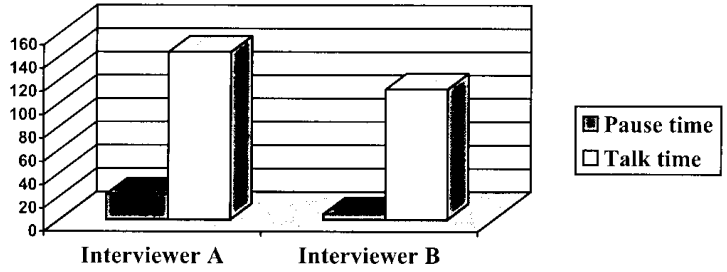

Figure 4.

As can be seen from Table 3, interviewer A stopped her speech 17 times which in sum took 22.5 seconds which is 15% of her speaking time. Interviewer B paused 9 times for 6.8 seconds which constitutes almost 5% of her speaking time. From the figures we can calculate that the unfilled pauses of interviewer A lasted on average 1.9 seconds in comparison with 0.8-second pauses of interviewer B. Thus, despite the fact that A's filled pauses were fewer, they lasted longer. As far as unfilled pauses are concerned, in the case of interviewer A they exceeded the pauses of interviewer B both in number (by more than 70 %) and in duration (by 92 %) and on average lasted respectively 1.1and 0.7 seconds.

2. **Physical behaviour**: gestures, face expressions, postures and other body movements

On the basis of Mehrabian's (in Knapp, 1978: 224) general characteristics of body

movements specific for positive and negative attitude of a communicator[4], the interviewers' gestural behaviour of hands, heads, faces and general body posture were compared during the seven-minute samples of the interviews. The results are shown in Figure 5.

	Interviewer A	Interviewer B
Body posture	backward lean position legs crossed at knees with no change; upright, 'stiff' shoulders arms crossed (2 min.) or hands folded in her laps elbows resting on armchair arms	backward lean position knees together but without leg crossing, one posture change: shifting more towards the speaker with legs crossing at knees drooped shoulders — hands folded across her stomach elbows along the body
Total head: Nods	1 double (slow, evenly paced) 1 single	1 double (fast) 1 single
Face: Laughter Toothy smiles Mouth with slight smile at corners	— — 4	3 2 (upper teeth showing) —

4 Cues of positive attitude being: more forward lean; closer proximity; more eyes gaze / direct eye contact; more openness of arms and body; more direct body orientation; more touching; higher level of gestural activity: smiles, head-nodding; more positive facial and vocal expressions; warmth cues connected with the verbal reinforcement 'mm-hmm'

Hands:		
Illustrators	5 (53s)	16 (50.2s)
Emblems	—	1 (1.1s)

Figure 5.

As can be seen from Figure 5, the body postures of the two interviewers was similar as regards backward lean position, but they differed in respect to other features. Interviewer A, for example, was sitting with her legs crossed during the entire time of the interview sample, whereas interviewer B kept her knees together without leg crossing and changed this position only in the fifth minute of the sample, shifting at the same time more towards her interviewee. Generally, both interviewers had a reserved and tense posture which was manifested by their backward lean position, crossed legs and folded hands. Still, interviewer A may be described as displaying a more closed body position (Knapp, 1976:227) – crossed legs and arms, upright shoulders – than interviewer B. Therefore, the quality of 'more openness of arms and body' would rather be attributed to interviewer B. There was no prominent difference in head nodding. There was a difference in terms of face behaviour. A neither laughed nor openly smiled, and lacked, therefore, positive facial expressions. As regards gesticulation, there was a similarity in duration but a remarkable difference in a number of hand movements between A (5 movements) and B (17 movements). The dissimilarity widens when we compare the gesticulation time with the speaking time [5](cf. Table 4). It turns out that 36% of A's speaking time was accompanied by gesticulation compared with 45% of B's speaking time. As a result B may said to have a higher level of gestural activity.

3. Eye behaviour

In the case of eye behaviour we may talk either about gaze (which refers to an individual's looking behaviour either at the other person or at some point in the surrounding) or mutual gaze (a moment when two interactants are looking at each other) (Kendon, 1990:55). Eye behaviour both regulates the flow of communication (provides turn-taking signals and opens the channels of communication) and displays cues positively reinforcing the verbal message. Speakers are said to display a lower amount of gaze (respectively 38% – 41%) than listeners (62% – 75%). To estimate these relations, A and B's amount of gazing during speaking was compared.

5 Except for turn-requesting, gesticulation is an attribute of speaking.

Amount of gazing during speaking

	Time spent in q-directed* gaze	Time spent in a-gaze
Interviewer A	119s (81%)	21.5s (14,7%)
Interviewer B	75.5s (66,9%)	33s (29,2%)

Table 5. * after Kendon (1990): q-gaze, when p (an interviewer) is looking at q (an interviewee); a-gaze (a for averted), when p is not looking at him. (The total adds to less than 100%, as eye blinking is added.)

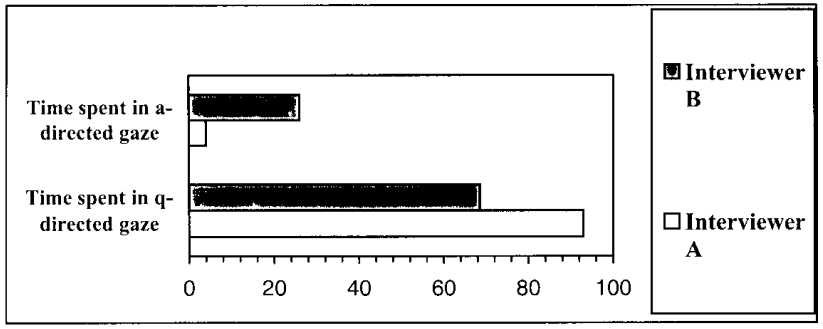

Figure 6.

As is shown in Table 5/Figure 6, both interviewers gazed much more than was reported as average in the quoted research. It may be explained by the uniqueness of an interview where interactants are monitoring their behaviour the entire time and probably are aware that the higher the amount of gaze, the higher evaluation of the speaker's friendliness. Still, when we compare A and B's amount of gazing, it is A who displayed a much higher level. But there again, if we bear in mind our assumption mentioned at the beginning about the universality of rules governing interaction and consider the regulating aspect of eye behaviour we may think that A 'q-gazes' too much to proceed smoothly in her interaction for two reasons: first, speakers tend to look away during actual processing of speech, otherwise this process may be impeded (when one considers the amount of A's pausing, this seems to be true); secondly, such a high amount of q-gazing may impair demanding and suppressing responses, that is successful managing interaction through a turn-taking system, the aspect which will be considered below.

INTERACTIONAL PERSPECTIVE

1. Turn-Taking in Conversations

All the above mentioned aspects of human non-verbal communicative behaviour interrelate most vividly in the management of conversation through the turn-taking system. Turn-taking behaviour is one of the most intrinsic behaviours of human communication. If the communication is to proceed smoothly, the participants have to take turns to speak. Interaction synchrony is achieved by smooth exchange of speaking and listening turns by means of body movements, vocalisations and verbal behaviour. As Knapp (1978:214) writes "turn – taking behaviour is not just an interesting curiosity of human behaviour". On the basis of how smoothly turn-taking proceeds, we make valid judgements about others as communicators: effective turn-taking may produce the impression that participants 'really hit it off well' or that at least one of the partners is a really competent communicator, whereas ineffective turn-taking may elicit judgements of interactants as 'rude' (too many interruptions), 'dominant' (not enough turn-yielding) or 'frustrating (unable to make a point).

We may define two discrete roles for each of the participants in a turn-taking system (Kendon,1990: 201): a speaker (a participant who claims the speaking turn at a given moment) and a listener (a participant who does not claim the speaking turn at a given moment). A turn is defined (Sacks ms. in Coulthard, 1989: 54) as consisting of one or more sentences, with a sentence being a unit in which from the beginning it can be seen when it will be completed and therefore its completion may be easily recognised. Speaker change occurs at the end of a turn. Speakers and listeners engage in two turn-taking behaviours (speakers: turn-yielding; turn-maintaining and listeners: turn requesting, turn-denying) that are indicated by several, both verbal and non-verbal cues (see Duncan, 1974:201-208).The display of any single cue is sufficient to give the signal of turn-changing. However, it was found (Duncan, 1975:202) that the probability of a listener turn-requesting is a linear function of the number of cues displayed. The more cues displayed simultaneously, the greater the likelihood that the listener will take over the floor and speaker roles will be exchanged smoothly, while every attempt by a listener to claim the turn while no cues are being displayed will result in simultaneous turns, that is, overlapping of speech. According to Sacks, Schegloff and Jefferson, the change of the roles of speaker and listener usually appears with remarkably little overlapping speech and remarkably few silences. Therefore, in order to test how smoothly the turns proceeded in the interviews, the following general features of turn-taking systems employed by the interviewers were compared: the number of overlaps and overlapped tokens (see Table 6/Figure 7 and Table 7/Figure 8) and pause time between turns (see Table 8/ Figure 9 and Table 9/Figure 10).

(a)The number of turns, overlaps and tokens overlapped in the interviews:

	Turns	Overlaps	Tokens overlapped*
Interview A	43	12(27,9%)	97
Interview B	65	5(7,6%)	22

Table 6. * one token equals one word spoken during the overlapped period

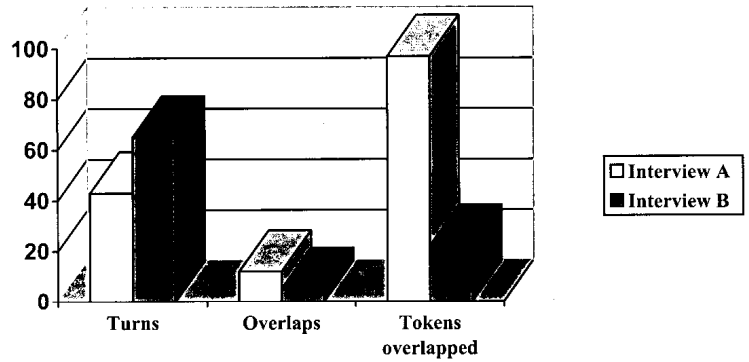

Figure 7.

(b) The number of interviewers' turns compared with the tokens overlapped

	Turns	Overlaps	Tokens overlapped
Interviewer A	21	6 (28,5%)	23
Interviewer B	32	3 (9,7%)	8

Table 7.

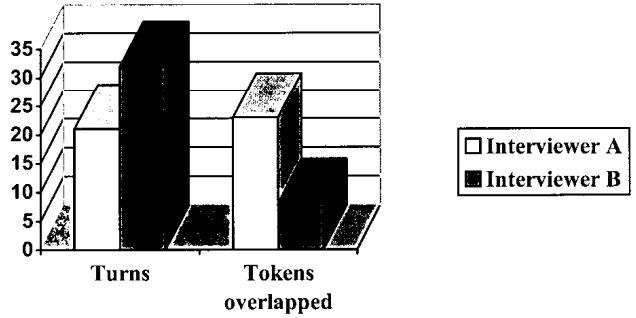

Figure 8.

(c) Pause time after both interviewers' and interviewees' turns distinctively:

	Pauses between interviewer & interviewee	Pauses between interviewee & interviewer[6]
Interview A	11.8s (85,5%)	2s (14,4%)
Interview B	20.3s (92,6%)	1.6s (7,3%)

Table 8.

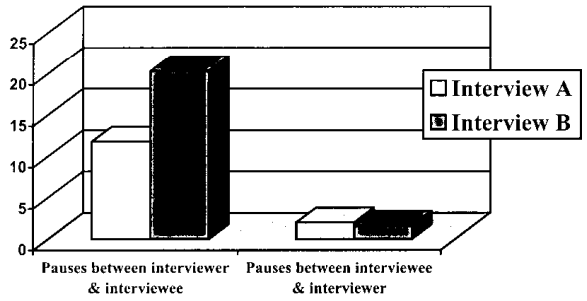

Figure 9

(d) Pauses between turns:

	Number of turns	Pause time between turns (relative to number of turns in %)
Interview A	43	13.8s (36%)
Interview B	65	21.9s (33,6%)

Table 9.

6 Only unfilled pauses were taken into account; filled pauses have already been included in Table 3.

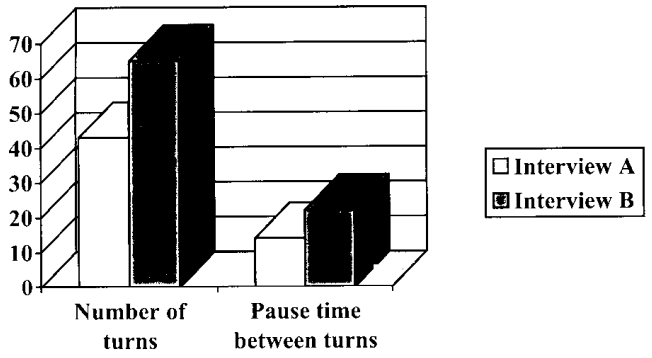

Figure 10.

The analysis of general features of turn-taking system showed that interview B proceeded much more smoothly. There were fewer overlaps and pauses in comparison to the number of turns.

Secondly, an integrated analysis of four turns (i.e. two pairs with one turn-changing) from each interview was conducted. Such turns were chosen during which the observation of the behaviour of two interactants simultaneously was possible. Adopting Kendon's notation system, interactants' face, head, hands and eyes behaviour was transcribed and then considered in terms of cues displaying turn-changing signals. The results of this analysis are shown in Tables 10 and 11.

As can be seen from Table 10, during the first turn, interviewer A displayed one signal of turn-yielding: a fall of pitch in the last word of a turn. A's turn did not proceed smoothly, as the interviewee displayed two signals of turn-requesting during the turn, which resulted in simultaneous talking. The second interruption resulted in actual turn-taking. It was accompanied by two signals: beginning of gesticulation and looking away of interviewee A. As can be seen from Table 11, the first analysed turn of interview B proceeded uninterrupted. Interviewer B displayed several cues of turn-yielding: she ceased her hand movements, raised her eyebrows, intensively looked at her interviewee, and finally, noticeably decreased the loudness of her last utterance.

	Interviewer A Speech		Eyes	Brows	Mouth	Head	Hand movement	Gaze
I.	wymieniła pani	13.0	O	⅂⌜	o	¤		■
	panią Górniak	13.1	≈	⅂⌜	o	¤		■
	no czyli jest	15.0	≈	⅂⌜	o	¤		■
	taka↓dziewczyna	15.1	O	⅂⌜	o	¤		■
II.			O	⅂⌜	—	¤⌐		■
			≈	⅂⌜	t t	¤		■
	ma pani już taką gwiazdę	21.0	≈	⅂⌜	o	¤		■
	i gwiazda jest (...)	21.1	O	⅂⌜	∪∪	¤⌐		
	ale lubi czasami	21.2	≈	⅂⌜	o	¤⌐	∠	■
	dostać nagrodę	21.3	O	⅂⌜	o	¤⊥	∠	■
	wyróżnienie	21.4	O	⅂⌜	o	¤⊤		■
			O	⅂⌜	o	¤		■
	lubi czasami dostać Fryderyka	23.0	O	⅂⌜	o	¤⊤		■
	bo uważa że jest dobra	23.1	≈	⅂⌜	o	¤⊥		■
	go↓nie dostaje	23.2	O	⅂⌜	—	¤⊥		■

Key:

Head:
- ¤ head erected, face pointing forward
- --¤ head turned left
- ¤-- head turned right
- ¬ head tilted left
- ⌐ head tilted right
- ⊥ head tilted back
- ⊤ head tilted forward

Brows:
- ⅂⌜ normal
- W puckered or frowning brows
- m raised

Table 10.

Gaze	Hand movement	Head	Mouth	Brows	Eyes	Interviewee A Speech		
		¤	—	⅂⌜	≈			I.
■		¤	o	⅂⌜	O	tak, tak, tak	14.0	
■		¤	o	⅂⌜	≈			
	∠	¤	o	⅂⌜	O	no jest jest są	16.0	
■	∠	--¤	o	w	O	gdybym się podjęła	20.0	II.
	∠	--¤	o	w	≈	zająć	20.1	
	∠	--¤	∪∪	w	≈	takim młodym człowiekie*	20.2	
■		--¤	—	⅂⌜	O			
■		¤-⌐	∪∪	⅂⌜	O			
■		¤--⌐	—	⅂⌜	O			
■		¤--⌐	—	m	O			
■		¤--⌐		m	≈	uh i wtedy	22.0	
■		¤--⌐		⅂⌜	O			
■		¤--⌐	o	⅂⌜	O			
■	∠	¤--⌐	∪∪	⅂⌜	O	(2.3) dobrze i go nie dostaje	24.0	

Mouth:
- _ closed, lips relaxed
- o lips relaxed, mouth open
- ∪∪ mouth with slight smile at corners
- t t mouth with corners slightly tightened

Eyes:
- o fully open
- ≈ narrowed eyes
- ⩻ closed eyes

Gaze:
- ■ p looking at q

Hand movement:
- ∠

Table 10 (cont.).

	Interviewer B Speech		Eyes	Brows	Mouth	Head	Hand movement	Gaze
I.	a czy pani	3.0	≈	⅂⌈	○	--¤⊥	∠	■
	ma dom dzieci męża	3.1	O	⅂⌈	○	--¤⊤	∠	■
	i gotuje tam pani zupy	3.2	≈	⅂⌈	○	--¤⊤	∠	
	i dobre rzeczy różne	3.3	O	m	○	--¤⊤		■
			O	⅂⌈	—	--¤		■
			O	⅂⌈	—	--¤		■
			O	⅂⌈	—	--¤		■
			O	⅂⌈	—	--¤		■
II.	hm	32.0	≍	⅂⌈	○	--¤⊤		
	jest pani	32.1	≈	⅂⌈	○	--¤⊤		
	oficerem	32.3	O	⅂⌈		--¤⊤		■
			O	⅂⌈	○	--¤⌐		■
			O	⅂⌈	—	--¤⌐		■

Key:

Head:
- ¤ head erected, face pointing forward
- --¤ head turned left
- ¤-- head turned right
- ¬ head tilted left
- ⌐ head tilted right
- ⊥ head tilted back
- ⊤ head tilted forward

Brows:
- ⅂⌈ normal
- W puckered or frowning brows
- m raised

Table 11.

Gaze	Hand movement	Head	Mouth	Brows	Eyes	Interviewee B Speech		
■		¤--	—	⅂⌈	O			I.
■		¤--	—	⅂⌈	O			
■		¤--⊤	—	⅂⌈	O			
■		¤--⊤	⌣⌣	⅂⌈	O			
■		¤--	○	⅂⌈	O	z tego wszystkiego	4.0	
■	∠	¤--	○	⅂⌈	O	mam mieszkanie i męża	4.1	
	∠	¤	○	⅂⌈	≈	gotować nie lubię i	4.2	
		¤	○	⅂⌈	O	nie potrafię	4.3	
■		¤--	—	⅂⌈	≈			II.
■		¤--	—	⅂⌈	O			
■		¤--	—	⅂⌈	O			
		¤--⊥	○	⅂⌈	≈	uh byłam	33.0	
■		¤--	t__t	⅂⌈	O	zaznaczam byłam	33.1	

Mouth:
- _ closed, lips relaxed
- ○ lips relaxed, mouth open
- ⌣⌣ mouth with slight smile at corners
- t t mouth with corners slightly tightened

Eyes:
- o fully open
- ≈ narrowed eyes
- ≍ closed eyes

Gaze:
- ■ p looking at q

Hand movement:
- ∠

Table 11 (cont.).

In the second turn, interviewer A twice sent two turn-yielding signals. One was a hand movements termination and the other falling of pitch. However, her turn ended in an assertion and there was a 2,3-second pause between the speaker and listener's switching the roles. Interviewer B's turn-yielding signal in her second turn was gazing at the listener at the end of her turn. As can be seen in the tables, the most striking difference was actually in the amount of gaze that both interviewers displayed. A seemed to be constantly looking at her interviewee, whereas B used her gaze as a regulating factor of the interaction, looking away in the middle of her turn and looking back at the end of her turn. There was also a difference in gesticulation. Interviewer B used hand movements for turn-managing more often than interviewer A.

SUMMING – UP OF MAIN FINDINGS:

Part I	**INEFFECTIVE COMMUNICATOR**	**EFFECTIVE COMMUNICATOR**
1. Vocal cues (a) Intonation	More flat with falling tone prevailing	More varied with rising tone prevailing
(b) Speech rate	121 words per minute	179 words per minute
(c) Pause time	15% of speaking time taken up by pauses	5% of speaking time taken up by pauses
2. Physical behaviour	Reserved and tense(backward lean position, crossed legs, folded hands) More closed 36% of speaking time accompanied by gesticulation	Reserved and tense(backward lean position, crossed legs, folded hands) More open 45% of speaking time accompanied by gesticulation
3. Gaze (a) Interviewer looking at interviewee (b) Interviewer not looking at interviewee	Higher amount (a) 81% (b) 15%	Lower amount (a) 67% (b) 29%
Part II	**INEFFECTIVE COMMUNICATION**	**EFFECTIVE COMMUNICATION**
1. Number of turns: (a) In interviews (b) Of each interviewer	 (a) 43 (b) 21	 (a) 65 (b) 32
2. Number of overlaps in interviews	12	5
3. Tokens overlapped in interviews	97	22
4. Pause time: (a) between turns (b) in relation to the number of turns	 (a) 13.8s (b) 36%	 (a) 21.9s (b) 33,6%
5. Turn-taking	Less smooth; many interruptions, simultaneous talking being the result of inadequate use of turn-yielding signals; the loss of regulatory function of gaze because of its excessive use	More smooth; number of turn-yielding clues displayed; use of gaze as regulatory factor

Figure 11.

In what follows we will try to place these findings in a wider scope of psycholinguistic research, attempting to demonstrate that the importance of non-verbal conversational skills has its deeper theoretical validity in mental processes underlying speech production and comprehension that accompany the process of communication.

VOCAL CUES, PHYSICAL BEHAVIOUR, GAZE AND TURN-TAKING AS PSYCHOLINGUISTIC IMPLICATIONs FOR SUCCESSFUL COMMUNICATION

DISCUSSION OF MAIN FINDINGS

1. Vocal cues

More varied intonation, higher speech rate and shorter pause time were found in the analysis to be the attributes of the communicator evaluated as more effective, compared with a greater consistency of rate and pitch, lower speech rate, and longer pause time for the communicator assumed to be less successful.

The rate of our speech and pausing, the range of pitch and volume are considered to be within our conscious control at least to some extent, and therefore they are such behavioural variables the research and comprehension of which may be practically applied to achieving successful communication. As Caplan (1994:2) writes: "we can place emphatic stress on any part of the sound of a word, if we think we need to. We can articulate differently for different listeners". There are also no linguistic, phonological, morphological, or syntactic rules that require hesitations by definition (cf. Markel,1990:82).

Therefore, we can modulate paralinguistic features of our voice. The remaining questions are, first, whether we should trouble ourselves with trying to do so, and, secondly, if it happened to be the case, whether there are any clues for tuning the manner we speak in such a way that it would facilitate our communication with others. As for the first question, there are strictly psycholinguistic implications for the importance of voice in communication. First, there is extensive evidence for the important role of a speaker's voice in spoken word recognition. Moreover, listeners are said to encode detailed information about a talker's voice into a long-term memory (cf. Gernsbacher,1996:292). Hence, how we use our voice may have a long-lasting effect on our recipients. Changes in our voice and intonation also introduce contrast between segments and enable participants to accomplish various interactive and interpretative tasks such as, e.g., the expression and perception of emotion on the basis of loudness-range, pitch-range, tempo, and continuity of speech. Finally, psycholinguistics gives us a clue about the importance of paralanguage in communication, providing us with the research, done in the area of non-verbal studies, on the correlation of paralinguistic features with various extralinguistic variables such as personal and social characteristics of the speakers. Paralinguistic features are said to convey indexical[7] information about the speaker, that is the characteristics that are attributed by the

7 This semiotic distinction also offers 'descriptive' labels for voices referring to the sound-quality that the speaker produces (Laver, 1982:172).

listener to the speaker producing the sounds. The basic dichotomy is between 'intrinsic' and 'extrinsic' features, the latter being of interest to the present study, as only they are 'learnable' and controllable features of voice. Indexical extrinsic labels for voices may refer to "social and psychological aspect of the speaker's identity" (Laver, 1991:179). They actually correspond to natural language labels that contain not only a voice quality description but also various evaluative connotations and characterisations of the speaker.

We tend to make judgements on the basis of people's voices, that is, on how something is said. Moreover, we all tend to arrive at similar indexical conclusions, and, however false they may be, they become 'rules of thumb' that influence our communication in everyday interactions. It is difficult, hence, to overestimate the importance of paralanguage in communication. The remaining problem is how we can employ it in order to improve our communication.

We have decided that the first clue could be in the speech rate. According to the analysis, the speech rate of the communicator considered to be successful was higher than that of the unsuccessful one. The research by Brown, Strong and Rencher (Asher, 1996:4262) has shown that such a characteristic as 'competence' can be directly influenced by manipulation of speaking rate: the ratings of competence are linearly proportional to the speech rate. Brown has found (in Laver, 1982:249) that also decreased variance in the pitch and increased mean pitch have negative influence on perceived competence of speakers. Speech rate in everyday conversations may also indicate degrees of sympathy or estrangement (cf. Markel, 1990:2). Communicators, as the investigation has shown, tended to speak faster while talking to persons they liked. It may be concluded that in general a higher speech rate is evaluated more positively than a slower rate.

As far as non-fluencies are concerned, the pauses of the effective speaker in the analysis were less frequent than those of the ineffective one. Certainly, hesitations are unavoidable and completely refraining from them is impossible. There is so called 'ideal delivery' (Clark, 1977:261) without any pausing, but it is only actors when saying their lines who come close to it. In fact, some non-fluencies are helpful for the listener to demarcate constituents and utterances. Some pauses are breaks for breathing. By pausing we also cope with our limited ability to plan and produce speech simultaneously. Still, there are some who are simply more fluent than the others. This may be explained by an 'ideal' pause-pattern (Garman, 1990:130, after Butcher) for each utterance that contains a minimum set of pauses that are necessary for the cognitive processing of speech production. It cannot be reduced but it is "open to expansion, depending on tempo". The closer the speaker is to this pattern, the more fluent[8] he is considered. It is agreed that increased speech rate leads to a reduction of overall pause time – too many unfilled or filled pauses receive negative evaluations from listeners and result in 'impaired performance' according to several reports. Longer pauses are usually produced by individuals described as "distrustful, easily upset, worrying, shy, suspicious, troubled, fussy, anxious, angry, contemptuous and driven, but also self-sufficient

8 However, the word 'fluent' is also misleading. For example, in Goldman-Eisler (1968:18) we find that pauses take up 4% to 54% of the speakers' time in the interview situations and 16% to 62% in spontaneous speech. Another research shows that two-thirds of spoken language are produced in chunks of less than six words (Kess, 1992:149).

and resourceful" (Jaworski, 1993:14; after Crown and Feldstein). As a final example of the role of paralinguistic features we may cite after Jaworski (1990:8-7) the comparative analysis of discourse styles of two candidates (Lech Wałęsa and Tadeusz Mazowiecki) running for president of Poland. Here, again, the style of the candidate evaluated more positively was characterised by faster tempo, varied intonation, and absence of pauses, whereas the other was marked by long silences and monotonous intonation. Hence, it may be concluded that tempo, pitch variation and pause time seem to be very useful devices for the successful or unsuccessful outcome of communication or for the assessment of others' communicative effectiveness because, at least in most Western cultures, "more talk and faster talk over less talk and slower talk" (Jaworski, 1992:15; after Scollon) is evaluated more positively.

2. Physical behaviour

The general conclusion from the analysis was that a more successful communicator displayed a higher level of gestural activity. This finding may be verified taking into account the assumptions of the structural approach, that the "speech production process is manifested in two forms of activity simultaneously: in the movement of vocal organs and also in bodily movement" (Kendon, 1980:210). What is more, it is believed that physical behaviour tends to emerge before the segment of speech conveying the same meaning; in other words, physical behaviour is the earliest stage in the process of utterance formation. It has turned out in Dobrogaey's research that when subjects were to restrain from any gesticulation:

> "no one could carry out such an inhibition completely (...) furthermore, the speech lost its intonation, stress and expressiveness; even the very selection of words needed for the expression of content became labored; there was a jerkiness to the speech, and a reduction in the number of words used". [Kendon, 1990:225]

It seems, therefore, that gestural behaviour not only influences the implementation of various vocal cues but it also facilitates word search, which means that in both cases a high level of gestural activity would be a condition for the effectiveness of communication. Different studies appear to support this. It has been found (Kendon, 1990:225), for example, that the more fluent the speaker is, the higher level of gesticulation he displays. The opposite behaviour, that is, the noticeable increase in gesticulation when we lack words or have something on the tip of the tongue and our efforts are to recall it, seems also to sustain this thesis. We also say that those people gesticulate whose vocabulary is limited. These observations are not incompatible. In Puppel (1988:85) we read: "a system which is capable of representing discourse by means of these varied internal codes must be assumed to have the capability of generating one code from the other". By internal codes are meant here, for example, syntactic structures, strings of words or phonemes. However, if we assume that this statement may be applied to all means of communication that human beings use to convey their thoughts, and, moreover, if we accept that there is a tendency to enact in movements the ideas that are to be encoded in speech, the above observations suggest the

conditions under which this process is strengthened, and therefore, the increase in gesticulation would be a method for facilitating speech production.

Gestures, however, not only facilitate speech production, but similarly to paralinguistic qualities there are findings connected with the correlation of features of physical behaviour with various extralinguistic variables such as personal and social characteristics of communicators; or signalling to people a positive or negative attitude (cf. Mehrabian, 1972:56). Scheflen (in Laver, 1991:135) shows how choosing a similar, 'congruent' posture, or choosing a non-congruent posture may be a concealed indication of sympathy or antipathy with a particular participant.

So called 'spatial arrangement' (not considered in the analysis, however very close in nature to physical behaviour) may serve as a similar source of external information for interactants about the condition of their interaction. There are observations (Kendon, 1990:251) that show that a conscious use of the relationship between the mode of interaction and spacial arrangement may act as a device for conveying intentions and expectations about the interaction. For example, two people standing or sitting face-to-face confront each other with little access to the surrounding environment, whereas people standing or sitting in an L-arrangement still interact exclusively with themselves, but they also have access to the outside world. This may influence the proceeding of communication, determining, mostly unconsciously, for example, our higher or lower involvement in an on-going interaction. Our attention is very easily disrupted, therefore the more stimuli from the 'outside' world, the more we may be disturbed. Changes in these arrangements during interaction may also signal changes in the interaction itself. For example, a participant wishing to finish the interaction, may communicate his intention in an indirect manner by introducing minute changes into the spacial arrangement and observing whether his co-participants will follow his lead. In this case the entire communication will take place at non-verbal level. The success of such actions will depend, however, on his co-participants awareness of the meaning of the cues he displays. Findings about body movements and gestures may therefore facilitate speech production and provide us with many valuable cues strengthening our communicative 'negotiation' with others. Gesticulation not only provides the listener with a very important set of perceptual cues for decoding the verbal material of the conversation and the intentions of communicators; it, in fact, precedes verbal communication, and appropriately decoded may be sufficient in itself, increasing in this way the economy of communication.

3. Eye Behaviour

As for eye behaviour, the results of the analysis were rather surprising. It turned out that the performer perceived as a successful communicator displayed a much lower amount of q-gazing than a successful one, which is against common knowledge and scientific research which indicate that the higher amount of gaze a performer displays, the higher the level of friendliness he or she implies (cf. Knapp, 1978:303 after Wiemann). Relevant to this is Mehrabian's study (1979:78) which has shown that we tend to look more at people we like. Further, speakers with more gaze are evaluated as more natural, friendly, extrovert, persuasive, truthful, sincere and credible. This, however, seems not to be a final implication

for successful communication. It is true that one function of gaze is expressive, that is, to indicate the nature of the interpersonal relationship and express emotions, and according to this rule the amount of gaze we display should be rather high than low.

Still, too high a gaze level may actually impede (which after closer scrutiny, has turned out to be the case in my analysis) the two other functions of eye behaviour, as identified by Kendon (in Knapp, 1974: 297): cognitive and regulatory. The cognitive function implies that subjects tend to look away when having difficulty encoding. This behaviour is, in fact, of primary importance for smooth speech processing because of our limited processing capacity, especially, during speech production. We are not able to proceed smoothly accomplishing two tasks simultaneously: producing speech and monitoring our interlocutor. If we do so, however, it may result, for instance, in a very high amount of pausing, which is rather an undesired effect. The level of pause time during ineffective communicator' speaking time seems to justify this interpretation. The regulatory function of gaze, that is, demanding and suppressing responses, depends on both gazing and not gazing at the interlocutor and, hence, a constant looking at the interlocutor may reduce the effectiveness of this process and result in the defectiveness of the entire turn-taking system, as again noted in the analysis.

To conclude, although gazing during face-to-face interaction is perceived as positive behaviour, we should not feel obliged to look constantly at our interlocutor as it is against the natural procedure reflecting the mechanisms of speech production and of turn-taking system. The role of gazing in successful communication depends on the choices of times for looking and not looking at our interlocutor.

4. Turn-taking

The non-verbal elements already described are prerequisites for successful communication. Still, conversation does not proceed on the basis of displaying unconnected cues. In reality, psycholinguistic implications for successful communication may be defined as a highly coordinated interplay of elements in the turn-taking system. Conversation, as has already been said, is a constant negotiation between interactants. This negotiation is accomplished by speaker's and listener's mutual informing of each other if they attend, hear and understand each other. The second part of the analysis investigated the management of conversation through the turn-taking system with special attention paid to non-verbal cues accompanying this process. First, the general features of exchanging speaker and listener roles were contrasted. It turned out that despite the fact that there were fewer turns in the interview A that was considered to be unsuccessful, they were much more overlapped and the pause time between them was longer. The analysis of the behaviour of interviewers during turn-taking showed that the turns proceeded much less smoothly because interviewer A sent much fewer/weaker turn-yielding signals than interviewer B. She did not regulate it with, for example, intensive gazing, because she seemed to look constantly at her listener, or with termination of gesticulation because her hand movements were rare. Successful turn-taking, therefore, entails more than the exchange of utterances produced turn by turn. It involves our ability to co-ordinate our behaviour in order to efficiently fulfil several functions, such as the management of the necessary interrelation of performances in

negotiating exchanges of the role of speaker; the indication of the progressions within the interaction from one turn to the next; and also the communication of perceptual cues to the listener about organisation of our discourse at the semantic, grammatical and phonological levels (cf. Laver, 1991:139).

Participants perform their verbal and non-verbal activities on a synchronous basis. What is more astonishing, the synchronised behaviour of the speaker is matched with the synchronised behaviour of the listener, a phenomenon that has been called 'interactional synchrony' (Laver, 1991:140; after Neissler). It has been explained as a decoding of the speaker's linguistic output by the listener on 'an-analysis-by-synthesis basis'; that is, the listener irregularly samples the speech output, and on the basis of it, anticipates future output, checking from time to time the correctness of his prediction. The resulting interactional synchrony is a reflection of the listener's emphatic processes to achieve this goal. According to Kendon (1990:256) moving into synchrony with another person enables us to establish a communication system with him or her without making an explicit request. Similarly, ceasing to display head nods, changes in facial expressions and congruency of posture with that of the speaker may have the implicit meaning of either wishing to change turns or end the conversation. The mutual tuning-in relation between interactants, therefore, is a prerequisite for smooth and 'adjusted' turn-taking.

Smooth turn-taking, as well as requiring gesticulation, also requires the regulatory role of gaze. In Coulthard (1985:61;after Kendon) we read that, "fewer than a third of the utterances which ended with an extended gaze were followed by silence or delayed response, as compares with almost three-quarters of those that ended without the speaker looking up". There is, hence, a particular pattern according to which smooth and, therefore, successful turn-taking in interaction proceeds. Its underlying rule is that the looking is rarely continuous. In fact, it mainly appears during the two transition moments, i.e. turn-requesting and turn-yielding and is associated with appropriate intonation, body movement, and facial expression. However, characteristically, when a listener, for instance, has accepted the offered speaker role by making eye contact, he then ceases this contact as he begins to speak. This behaviour, on the one hand, serves as a regulator of our interlocutor's behaviour – by looking away we prevent him or her from taking over our already gained turn. However, it also signals the withdrawal of our attention from the interlocutor in order to be able to concentrate on the planning of our utterance. As has already been mentioned, it is claimed that a performer is not able to accomplish successfully two tasks, namely monitoring and planning, when they proceed simultaneously. It appears to exceed the 'processing power' of human discourse processing mechanisms. Therefore, eye contact lasts normally between 30% to 65% of the duration of the encounter and as a rule communicators spend less time looking while speaking than while listening (cf. Kendon, 1990:55; after Nielsen).

Collaboration between speaker and listener leads still to another phenomenon, which is termed 'interactional equilibrium' (Gregory and Hoyt, 1982:37). It may be explained as a collaboration of interactants to maintain various parameters of conversation in equilibrium. A change in one component of the model leads to a change of one or more of other components in the opposite direction. e.g., the amount of eye contact is said to decrease

when the intimacy of topic and proximity increase, or interactants seated too far apart, as a compensatory change of posture, will lean forward each other.

There is still another rule applying to conversation, namely, the 'conversational chameleon effect' (Gregory and Hoyt, 1982:35-46), that is, a tendency for conversational partners to adopt their interlocutor's levels of voice intensity, utterance frequency, and pauses. Knapp (1974:358) mentions a similar phenomenon which is called 'response matching' and which is an account of interviewer's influence on duration of interviewee speech: increase in the length of utterances of interviewer resulted in this research in the increase in the length of interviewee responses. All this has its implication for successful communication as, on the one hand, it makes clear, again, that the manner in which we behave towards our interlocutor is in direct correspondence with their behaviour towards us, but, moreover, it implies the means for some kind of 'manipulation' of our interlocutor according to our intentions.

The implications from psycholinguistics for successful communication may also be found in other than non-verbal elements in the turn-taking system. One of them is processing capacity. As has already been mentioned, discourse processing comprises speech comprehension and speech production, and the general dynamics of these mechanisms depends on their processing capacity (cf. Puppel, 1988:85). Processing capacity, in turn, relies on communicator's employing basically two kinds of memory: 'long-term' memory and 'short-term memory'. In speech comprehension the central role is played by short-term memory which is responsible for 'on-line' processing. Short-term memory (Puppel, 1996:94-95), also referred to as 'active memory' or 'working memory', is responsible for "the focusing of attention and the modification of an on-going behavioural act". Its capacity has been assessed by G. Miller and is said to vary between five and nine items, with an average of seven items. Assuming that the optimum length of turns may be arrived at on the basis of short-term memory capacity, speakers may influence the comprehension of their turns by regulating the length of them. The study by Jarvella (in van Dijk and Kintsch, 1983:352) shows that on average subjects can recall verbatim between one and two simple sentences. Experiments indicate further (Coulthard, 1985:245; after Hjelmquist) that even immediately after five-minute dyadic conversation, participants can on average reproduce in paraphrased form as little as 25-30 per cent of the ideas presented by their interlocutors. If they are asked to repeat the exact words, the results are as low as 1 per cent. All this has a clear implication for the length of turns, which in order to be effective cannot be too long.

Finally, human processing capacity, namely its limitations of simultaneous perception and production, also necessitate the refraining from speaking unless the turn of the co-participant has been finished. It is impossible to speak and listen simultaneously in the longer run. Further, the listener's reaction on a turn cannot be meaningfully formulated before this turn has been completed. Overlapping, therefore, is illogical and ineffective and it is difficult to talk about successful communication unless it is kept at a minimum.

5. Psycholinguistic inventory of practical advice for successful communication

Finally, on the basis of the above material, the following brief inventory of tips for successful communication may be offered (Figure 12):

Vocal clues	❑ Try to speak rather fast, with varied intonation and little pausing
Physical behaviour	❑ Remember that the spatial arrangement of the interlocutors may be an implicit device for revealing and implementing your intentions ❑ Make non-verbal responses and feedbacks ❑ Remember that gesticulation may facilitate your speech production ❑ Do not try to act against 'interactional equilibrium'-you may unintentionally make your interlocutor feel uneasy
Eye behaviour	❑ Do not feel obliged to look constantly at your interlocutor, as it may not only impede your speech production but also impair the turn-taking system
Turn-taking	❑ Try to choose congruent posture/synchronise your behaviour with your interlocutor - it indicates sympathy and facilitates smooth turn-taking ❑ Display turn-yielding signals at appropriate points-otherwise you may be interrupted by your interlocutor unintentionally in the middle of your saying ❑ The more cues accompanying your turns you display simultaneously, the greater likelihood that your interaction will proceed smoothly ❑ Use consciously a variety of cues to indicate your intentions ❑ Avoid overlaps - they are illogical and ineffective

Figure 12.

CONCLUSION

The present study served two aims: firstly, to demonstrate the mechanisms through which we communicate and, secondly, on the basis of this knowledge arrive at the psycholinguistic implications for successful communication in the case of face-to-face dyadic interaction. The entire study shows that people communicate their intentions concerning the interaction in a number of different ways. They can also anticipate many actions and behaviours of their co-participants as long as they can notice and deal with the information they receive in such an informal way. The study shows that participants are able to control much of their own behaviour that is commonly treated as unintentional. In fact, all the aspects of communicative behaviour that were presented in this study are under conscious control. This raises the issue of methods of developing non-verbal skills, though an interesting question, it is an aspect not considered in the paper, as it lies beyond the scope of the present study.

Finally, the present paper also demonstrates that using non-verbal strategies is not simply an added option or enrichment. Without knowing these strategies as well as without our willingness and ability to use them quickly and accurately, our functional

communicative powers are extremely limited, no matter how elaborate our linguistic choices, and how reasonable our content. Obviously, people have an intuitive skill of how to use the various elements of communicative behaviour. Somehow there is a code, as Sapir wrote, 'written nowhere but understood by all'. Maybe if it was finally written, it would save us many misunderstandings and communication breakdowns.

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