NONVERBAL MEANS
AS REGULATORS IN COMMUNICATION:
SOCIOCULTURAL PERSPECTIVES

SILVI TENJES

NONVERBAL MEANS
AS REGULATORS IN COMMUNICATION:
SOCIOCULTURAL PERSPECTIVES

SILVI TENJES

CONTENTS

LIST OF PUBLICATIONS

I   Keele žestilise päritolu hüpotees (The hypothesis of the gestural origins of language). — In press for *Keel ja Kirjandus,* 2001, 27 pp. (in Estonian).

II   Žestid keskajal (Gestures in the Middle Ages). — In press for *Akadeemia,* 15 pp. (in Estonian).

III   Gestures in Dialogue. — Õim, H. (ed.), *Estonian in the Changing World.* Tartu: University of Tartu, 1996, 163–192.

IV   Gestures and spatial relationships in Estonian. — In press for *Proceedings of the Conference "Gestures: Meaning and Use"* (Oporto, Portugal, 31 March – 5 April, 2000), 9 pp.

V   Gestures in communication and their use for pointing and referring in space: Estonian examples. — Tragel, I. (ed.), *Papers in Estonian Cognitive Linguistics.* Tartu: University of Tartu, 2001, 216–248.

VI   Gestures as pre-positions in communication. — Submitted for *Trames,* 2001, 17 pp.

VII   Metaphoric Gestures and Concomitant Verbal Phrases: Estonian Evidence. — Submitted for *Metaphor and Symbol,* 2001, 13 pp.

RELATED PAPERS

VIII   Mitteverbaalsest kommunikatsioonist (On nonverbal communication). — *Akadeemia,* 1993, nr 3, 535–560 (in Estonian).

IX   Gestures and spatial relationships in Estonian. — Conference *Gestures: Meaning and Use* (Oporto, Portugal, 31 March – 5 April, 2000). *Abstracts.* Portugal, Oporto: Universidade Fernando Pessoa, University of North Carolina, Technische Universität Berlin, 2000, 26–27.

X   Metaphoric Gestures and Concomitant Verbal Phrases: Estonian Evidence. — Fourth International Conference on Researching and Applying Metaphor (RAAM IV) *Metaphor, Cognition, and Culture* (Tunis, Manouba, 5–7 April 2001). *Conference Book.* Tunis, Manouba: University of Manouba, 2001, 39.

INTRODUCTION

1. Introduction

The doctoral thesis deals with the theoretical and experimental analysis of hand gestures, addressing the relations between gestures and language. In the articles that form the thesis, I have examined gestures in dialogue, in the context of spatial relations, and in connection with metaphorical expressions from the socio-cultural and cognitive perspective. I have also studied the hypothesis of the gestural origin of language, and some medieval views on gestures. Along with the discussion of the experiments, the articles provide an overview of theoretical approaches to gestures, classifications of gesture and the relation of gesture theories to some other theoretical paradigms such as theories of spatial cognition and metaphor. The thesis focuses on iconic and metaphoric gestures, and addresses, more particularly, the following topics:

(1) The occurrence of gestures before the associated lexical unit. In the majority of cases, the onset of iconic gesture is known to precede the onset of the related speech unit, suggesting that the gestural phrase may find a more *direct route* than the speech unit with which they "started out" together. Iconic gestures in speech are largely attributable to aspects of lexical search and such gestures play an important functional role in lexical retrieval.

(2) Conversational gestures in dialogues in Estonian. Gestures play an important role in maintaining and supporting conversation as a social system. Interactive gestures help to involve the listener and to regulate conversation. Gestures receive the attention of the listener and thereby become components of conceptual understanding. Gestures are functionally adapted to the requirements of understanding in human communication.

(3) Pointing and referring gestures in space. Pointing gestures which indicate spatial relations perform a strongly communicative role as they may substitute the word which marks spatial relations. Such gestures do not depend on a specific language and vice versa.

(4) The fourth topic is more theoretical. I have offered a suggestion concerning the relationship between iconicity and metaphoricity in language. The primary 'metaphorical transfer' occurred when the iconic meanings of hand gestures became meanings expressed by voice. They came to be used as symbols with a certain meaning. In the course of time there occurred a 'second metaphorical transfer' — the expression was permanently transferred to other similar situations. It would be more accurate to say that, from this moment on, one is dealing with 'metaphorical transfer' as a certain process, where symbols become new metaphors and new meanings emerge. In this process the hand cannot perform the primary role any more because this role has been delegated to language.

(5) Metaphoric gestures and linguistic relativity. Metaphors in gestures are comparable to metaphors in verbal expressions. Metaphor plays an important role in thought. Metaphors are situated in the verbal layer, but metaphor *originates* in the intermediate layer. Each language has a language-specific layer that gives rise to metaphors and gestures.

(6) The sixth topic, underlying most of the articles, relates to gestures and cognition. I have claimed that gestures connect to cognition through a flow; process or flow of information. The points of contact between language and hand gestures are related to the overall human cognition. Gestures can be construed as embodied information between intending and understanding minds. There should be an overlapping area between gestures and concepts. It shows connections on the deep psychological level in the human mind.

2. Overview of the articles

The aim of the thesis was to investigate relations between gestures and language from a socio-cultural and cognitive perspective on the basis of examples provided by a particular language (Estonian). The study was undertaken within the interdisciplinary field of gesture studies. The theoretical foundation for the thesis was also provided by theories of the origins of language, spatial cognition and metaphor. The human ability to use both language and hands in communication is part of the overall human cognition. One of the objectives was thus to identify universal and/or language-specific tendencies in the use of hand gestures. The objective was achieved: it was possible to identify both 'universal' hand gestures, as well as gestures that seemed to provide evidence for linguistic relativity. Universality appeared in the use of gestures in spatial relations. This is, however, somewhat in contrast with Haviland's (1996) findings concerning the Australian language Guugu Yimithirr. Storytellers speaking Guugu Yimithirr were found to orient pointing gestures in what we can calculate to be the "correct" directions. In the Guugu Yimithirr case this means correct compass directions. Rather than calculating horizontal angles by reference to a body-centered left/right asymmetry, Guugu Yimithirr uses four roots — denoting roughly the same directions as the English words *north, south, east* and *west* — insistently and with extraodinary frequency in ordinary talk about all sorts of spaces. The roots denote quadrants of the horizontal plane, rather than idealized "cardinal points," and the whole scheme is rotated slightly clockwise by the Western compass. Gestures seem to be tied to the system of cardinal quadrants (Haviland 1996: 12).

My experiments with speakers of Estonian revealed that in face-to-face interaction pointing gestures have strongly communicative value in the context of direction with regard to the egocentric coordinate system ('left', 'right', 'here', 'there'). Pointing in space is similar to the use of pointing gestures by

speakers of English. Language-specificity appeared in the use of metaphors in gestures and speech (Tenjes 2001a, and 2001b (submitted)).

Iconic gestures, which have been my main focus of interest, depict, by the form of the gesture, some feature of the action or event being described; such as "he climbed up the pipe" accompanied by the hand raising upwards to show the path (Cassell, McNeill, McCullough 1999: 5). "An iconic gesture is one that in form and manner of execution exhibits a meaning relevant to the simultaneously expressed linguistic meaning. Iconic gestures have a formal relation to the semantic content of the linguistic unit" (McNeill 1985: 354). He also says that "Iconic gestures are typically large complex movements that are performed relatively slowly and carefully in the central gesture space". He also claims that such gestures accompany "only sentences classified as narrative" (1985: 359).

The articles discuss and compare the most influential contemporary theories of gesture, and test the applicability of the theories to the results of experiments conducted with speakers of Estonian. Two articles are concerned only with theoretical approaches to gestures, and are not based on experiments.

The first of the two addresses the intriguing issue of the gestural origin of language (*Keele žestilise päritolu hüpotees* ("The hypothesis of the gestural origins of language") Tenjes 2001 (in press)). The study attempts to clarify the relationship between hand gestures and speech in the context of language acquisition. Our ancient pre-ancestors communicated with manual gestures before switching to vocal mode. Language emerged not from vocalization, but from manual gestures. This hypothesis is supported by (1) investigations in human evolution; (2) contemporary investigations in hand gestures and speech; (3) investigations in sign languages; (4) brain-investigations. The paper studies more closely the first two aspects — the primacy of the hand in ancestors' communication (Place 1998; Corballis 1999) and contemporary investigations in hand gestures and speech (Kendon 1991, and others), and discusses, additionally, some questions concerning metaphors in gestures (Lakoff and Johnson 1980) and iconicity in language (Jakobson and Waugh 1979; Haiman 1985; Kendon 1991; Battey 1998). The paper aims to contribute to the exciting and important inquiries into (1) language acquisition and (2) iconicity in language. The hypothesis about the predominance of hand gestures over vocalization is explained, and iconicity in language is taken under closer investigation as an issue that might help to clarify many problems pertaining to language acquisition and to realize the nature of language. The 20th century linguistics has put much emphasis on the arbitrariness in language, displacing iconicity. Human language may have evolved not from vocalization but from manual gestures and switched to vocalization late in hominid evolution. It may have coincided with the emergence of *Homo sapiens*. Pointing may have been among the earliest communicative gestures on the savanna. Indeed, young children learn to point very early in their development, whereas nonhuman primates never point. It is unlikely that the switch from gestural to spoken language was sudden.

Vocalized grunts and squeals would surely have punctuated early gestural language, just as gestures embellish modern vocal language. Analysis of the movement phrases of co-speech gesturing shows how they are coordinated with co-occurrent speech phrases. When gesticulation is going on, for each sense-group in speech there is a corresponding gesture phrase. Further, it has been found that when a gesture phrase expresses utterence content, the relevant characteristics develop either in advance of, or simultaneously with the nuclear syllable of the sense-group, which also corresponds to the point of the most important information in the phrase (Kendon 1991: 2, Tenjes 2000). The gesture phrase can often be observed to be under way before the speech phrase with which it is associated begins. This provides clear evidence that the gesture phrase is fully organized either prior to, or at the same time as the spoken phrase.

The second article — *Žestid keskajal* ("Gestures in the Middle Ages", Tenjes a (in press)) — discusses gestures in the Middle Ages. Christianity, the central ideology of the Middle Ages, changed the world view and attitudes of people, including the attitudes to gestures. Gestures had to fit new social and religious models. Gestures expressed the moral values, feelings, the 'inner motions of the soul' of a human being. The symbolical values of the Word changed the balance between speech and gestures. The social conditions of public communication were changing as well. Space and time shifted from the agora and the antique theatre to the medieval pulpit. As for the principal actors gesturing on the social stage, the rhetorician was replaced by the priest, the teacher, or the jugglers. The third axis was concerned with *efficacy*, in its double meaning: the practical efficacy of technical gestures (sawing, moving, writing, etc.) and the symbolical efficacy of political or sacramental rituals.

We can study medieval gestures, referring to a single illustrated manuscript, to one kind of gesture (e.g., of prayer, despair) or to the work of a single artist. The best source of material for the study of gestures in the Middle Ages is medieval art and illustrations in manuscripts such as *Sachsenspiegel*, one of the most famous legal manuscripts from the beginning of the 13th century. There is a detailed study of the treatment of gestures by the artist Giotto (Barasch 1987). One can find gestures also in iconography, or in the ornaments of sarcophagi.

The article *Gestures in Dialogue* (Tenjes 1996) studies the applicability of the conversational gesture models proposed by Bavelas and her colleagues to Estonian dialogue. One of the main functions of a speaker's gesture is to help convey meaning to the addressee in an immediate conversational context. Both the addressee and the moment-by-moment context in which the gesture occurs are important. A gesture can simultaneously have more than one function (Tenjes 1996: 190). Bavelas and her associates thus proposed a new distinction for conversational gestures: most function as topic gestures, which refer directly to the topic of the conversation; some function as interactive gestures, which refer

10

instead to the addressee (Bavelas, Chovil, Coates, Roe, in press). Conversational gestures are part of speech, in two senses:
(1) they contribute to meaning just as words and phrases do;
(2) their meaning depends upon the whole of which they are a part of (Bavelas, in press).
An interpretation of gestures as interactive or topical in function depends on the interpretation of the meaning of the gesture at the particular moment it occurred. In other words, we must "translate" or explicate the gesture's meaning. This means taking into account both its physical encoding and what it seemed to be conveying in conjunction with the accompanying words, intonation, and facial displays at that precise moment. Conversational gestures are spontaneous and transient.

The functions served by individual interactive gestures in conversation are heterogeneous. What they all have in common is a reference to the addressee. Topic gestures work closely with the verbal narrative, illustrating it. Interactive gestures have also verbal equivalents. The speaker can insert an interactive gesture quickly and with the minimal interruption of the topical flow. Topic gestures convey meaning fully or partially dependent on the words.

The following three articles study iconic gestures. The paper *Gestures and space relationships in Estonian* (Tenjes b (in press)) focuses on iconic gestures that accompany speech in the context of spatial relations. Iconic gestures that indicate space can be called pointing gestures or deictics. Iconic gestures expressing spatial relations have been discussed in connection with cognition and language. Human cognition appears to comprehend certain relatively distinct major cognitive systems, which include language; perception in general or in its several modalities like vision, hearing, kinesthesia, etc.; a cognitive system for cultural structure, etc., as Talmy (1996: 231) has pointed out. Each major cognitive system has certain organizational properties; many of them are comparable across systems, which means that the systems overlap to some extent. The article contains a reference to the significance of language among other cognitive systems. The study indicates that pointing gestures have two simultaneous roles: (1) to point to spatial relations and (2) to image (to denote) *the most important* concept in the sentence that *followed*. There is a clear semantic link between the gesture and the emphasized word in the accompanying speech (Hadar and Butterworth 1997: 152). It means that gestures and language have a common base. The point of connection between the gesture and the word may be a *process* or a certain type of *information*. There should be an overlapping area between gestures and concepts.

Providing clear definitions for referring and pointing gestures is not easy. The papers *Gestures and spatial relationships in Estonian* (Tenjes b (in press)) and *Gestures in communication and their use for pointing and referring in space: Estonian examples* (Tenjes 2001b) focus on pointing gestures that accompany speech in the context of spatial relations. In the article *Gestures in*

11

communication and their use for pointing and referring in space: Estonian examples the theoretical part deals with problems related to the classification of gestures. In the case of pointing and referring gestures classifying is not always easy: gestures can be thought of as partly iconic (i.e., referring gestures), partly purely pointing (i.e., pointing gestures). A brief overview is given of C. S. Peirce's "classical" views of the iconic and indexical dimension of signs. A summary is provided of McNeill's and Kendon's, but also other authors' approaches to gesture, with an emphasis on the comparison of McNeill's and A. Kendon's classifications of gestures; their views of connections between pointing gestures and speech, and the cognitive foundations of McNeill's work (Vygotsky, Slobin). Relations between space and cognition are treated more thoroughly. The final section of the theoretical part addresses the relationship between gestures and mental representation.

In addition to the theoretical considerations, the article discusses the results of an experiment on pointing gesture accompanying verbal expressions in Estonian. The subjects had to go on an imaginary journey and describe it to another person, the "guest". Two aspects were analyzed: (1) the gestures that indicated space, spatial relations, or spatiotemporal relations, (2) the concomitant words or phrases. The gestures that indicated spatial relations were studied together with the concomitant Estonian-language expressions. The aim of this experiment, which involved face-to-face interaction, was to study space-relation gestures and the coverbal speech.

It may be concluded from the research that (1) gestures appear not at the beginning of face-to-face interaction but some time later; 2) pointing gestures indicating spatial relations perform a strongly communicative role and may substitute the word which marked the spatial relations. Spatial information is encoded both in spoken language and the concomitant iconic gesture.

The emergence of the imagistic language paradigm in the 1980s gave rise to new ideas in linguistics as well as other disciplines. According to Langacker, language analysis should posit that language is symbolic at all its levels, i.e., that grammatical constructions are "schematic, less specific, symbolic units", which "embody conversational imagery." While languages are repertoires of symbolic units and supply "conventional imagery" (Langacker 1988) for conceptualization and expression, there is no categorical boundary between repertoire and use. Conceptualization is incorporated in material forms. Fully evolved languages provide speakers with vast resources for "alternative" conceptualizations, and since everything that has become part of the repertoire ultimately derives from creative, situated inventions, much of language structure is inherently metaphorical. This "imagistic" view of language differs from the majority position in communication studies by declaring that "meaning" is a feature of — and at the same time inseparable from — "material symbols".

Communication is, thus, an "embodied" process. Rather than using "verbal" and "nonverbal" aspects as separate systems, interactants use all the sensory modalities associated with the body. The word "gesture" serves as a label for

the domain of visible action that participants routinely separate out and treat as governed by openly acknowledged communicative intent.

In the article *Gestures as pre-positions in communication* (Tenjes 2001a (submitted)) I concentrate on iconic hand gestures. Iconic gestures occur during continuous speech and show in their form a meaning related to the meaning articulated in speech. In most cases the related speech unit is a word, called the "lexical affiliate" (Schegloff 1984) of the gesture (Hadar, Butterworth 1997). I also explore the use of iconic gestures in interaction.

In the article some examples are presented about iconic gestures as points or foreshadowed gestures used in an interview. The gestures convey a sense of ambiguity: they visualize time and a forthcoming object; they foreshadow the importance of this object. As iconic gestures, they "project" upcoming components of talk. Generally, all gestures are initiated far before the speech unit to which they "belong". They *preface* speech units and *prefigure* the concepts communicated by them (Streeck 1995).

Many gestures have a pointing component, and many seem to be "pure" points. These gestures are under closer investigation also in the paper. Pointing gestures — or rather, gestures which have a clear pointing component (Kendon 1998) — represent a relatively simple kind of gestural action where, by examining the combinations of movement, body part and handshape types employed, we might rather easily gather data that bear on the issue of "compositionality" in gesture. The aim of the experiment in the article was to understand space-relation gestures and coverbal speech in face-to-face interaction. During the experiment the gesture indicating "this over there", "this over here", etc. appeared very often *before* the most important concept of the sentence. The concept mostly denoted an object or the shape of a path. According to Kendon, the depictive movement combines with pointing.

According to Schegloff (1984) the word to with the gesture is presumed to be related is its "lexical affiliate". The underlying assumption here, accepted by most researchers in the field, is that if there is cognitive coordination between the verbal and gestural channels, the related processes must temporally overlap. Iconic gestures usually start before the related speech event (Butterworth and Bettie 1978; Kendon 1980; McNeill 1985; Morrel-Samuels and Krauss 1992).

McNeill (1992) holds a very different view of speech production. In his view, linguistic processing evolves from generic units, "growth points", containing the meaning of the whole idea-to-be-expressed in an embryonic form. In this view, only the analysis of temporal, pragmatic and semantic relations, but not the eventual size of the verbal unit, is relevant to understanding the gesture. According to McNeill, gesture and speech arise together from an underlying propositional representation that has both visual and linguistic aspects; the relationship between gesture and speech is essential to production and comprehension of meaning (Cassell, McNeill, McCullough 1999).

Now, in the majority of cases, the onset of iconic gesture is known to precede the onset of the related speech unit (Butterworth and Beattie 1978;

13

Morrel-Samuels and Krauss 1992). Hadar and Butterworth have presented a model to explain the relation between iconic gesture generation and speech production (Hadar and Butterworth 1997: 161–162). The first fundamental assumption of the model is that conceptual processing activates visual imagery, presumably automatically and presumably to the extent that the features involved in the conceptual processing are imageable. The second fundamental assumption is that a visual image mediates between conceptual processing and the generation of iconic gestures. The model (see also Hadar and Butterworth 1997: 163) proposes that the visual image facilitates word-finding in three distinct ways: by focusing on conceptual processing, by holding core features during semantic reselection, and by directly activating word forms in the phonological lexicon. Word-finding failures tend to elicit imagery and the associated gestures. Conceptual ("message level") processing constructs or selects a set of semantic features to be realized linguistically. The processing may also activate a visual image via the preverbal route. The visual image may, in turn, feed into the conceptualization process, and hence into the subsequent processes of word-finding. The idea here is that the visual image will be translated back into semantic features that can then engage in conceptual processing. This influential model proposes that there is a "direct route" from a visual image to the phonological form, which can facilitate the activation of the form.

The study *Metaphoric gestures and concomitant verbal phrases: Estonian evidence* (Tenjes 2001b (submitted)) investigates how metaphoric gestures and verbal expressions are related in Estonian. As Cienki (1998) has already shown, verbal metaphoric expressions do not necessarily co-occur with metaphoric gestures, or vice versa. This paper focuses on the hand gestures that accompany speech. Two slightly different aspects have been studied: (1) which type of gestures co-occur with Estonian verbal metaphoric expressions, if any; (2) how metaphoric gestures work in different conversational situations in Estonian.

Metaphor is the use of an expression in a novel and figurative sense on the basis of similarity. The understanding of metaphor as a figurative use of word makes it ubiquitous; however, it also blurs the concept of the metaphor. One of the main functions of metaphor is that it enables us to name things by means of other things. Word meanings are multifaceted, and the content of both poetic and philosophical thinking is primarily a kaleidoscopic association of meanings and semantic components in new combinations. There is no doubt that one of the aims of this kaleidoscope game is to maintain order and stability in people's attitudes (Kaplinski 1997: 220). It could well be one of the functions of metaphor.

It is not always clear, which types of gesture co-occur with a verbal phrase. As we know, on the one hand, metaphor entails iconicity. On the other hand, iconicity entails metaphor (Hiraga 1998). Hiraga's views help to establish the mutual relationships between hand gestures and language more clearly.

When we examine examples of discourse, we can also find evidence that mode of expression in gesture and mode of expression in speech have much in common. Thus co-speech gesturing is often employed to provide concrete visual images of actions, shapes, spatial relationships or movements through space that are metaphors for abstract concepts (McNeill 1987, Calbris 1990). It is notable that the metaphors employed in gesture are the same as the metaphors that find expression verbally.

The paper focuses on metaphoric gestures accompanying verbal expressions in Estonian. In everyday conversation, metaphoric gestures either accompany metaphoric expressions or act independently, supporting either the entire phrase or concept. Without language, however, comprehension would be more difficult. Thus, metaphor belongs rather to language, and iconicity belongs rather to the hand. It may be that language has developed from manual pointing to symbolic meaning, and metaphor gives a new (meaning) facet to a bleached word. These theoretical considerations are under closer discussion in this article.

An investigation of how metaphoric expressions and metaphoric gestures function in Estonian we can see that in many cases the Estonian metaphoric expressions and gestures do not have a metaphoric equivalent in English. Therefore, I had to ask from myself *Why is it so after all? Where is the place where the gesture and language meet before the expression is uttered* (many studies of gestures have indicated that they do meet)? Professor Haldur Õim (2001, personal communication) has suggested that the solution may be offered by the ideas about relativity in language. These ideas, originally associated with the 19th-century linguist W. von Humboldt, are discussed in the article.

3. Data and methodology

In the article *Gestures in Dialogue* (Tenjes 1996), I have used the data recorded at a TV studio in Tartu, Estonia. For about a year, it was possible to observe in detail materials recorded in the studio. I reduced the choice to the dialogues in the recordings. The studio had envisaged a series called *Men of stagnation* (it was aired later under a different name). The interviewer (marked by initials PU) talks to people well-known in Estonia from the Soviet period, the so-called stagnation period. The minimal length of one conversation is 60 minutes, the maximum 90 minutes. Three different men were interviewed at different times in 1994. The researcher could observe the all the 'raw' material. The dialogue has been noted down in detail: a question, the answer and all accompanying hand movements, expressive facial movements and, when possible, also the movements of legs.

The preceding question or text is presented in brackets to make the following utterance easier to understand. The dotted line between utterances indicates that there is a sentence (or more) between the preceding question and the following

answer. The underlined part of the utterance indicates at what moment (parallel to) the words the gesture was performed. If there were more than one gesture during an utterance then each subpart of the utterance is followed by the number of the gesture. Descriptions of the gesture and its possible verbal counterpart are provided just after the utterance. In case of multiple gestures the enumeration of description corresponds to the number of the gesture. Where possible, the features of oral speech have been preserved. Dots in the middle of an utterance denote pauses in the natural flow of speech.

The article makes use of part of the material from conversations with all the three men. The processed material contains interactive and topic gestures corresponding to the classification by Bavelas *et al*. While the processed material generally confirms their theory, some new possibilities and hypotheses have also opened up. Although the material can be classified as interviews, it is dialogic in essence.

In one of the interviews the interviewer PU and the respondent KK are sitting in a backstage room, evidently on a bigger box-like thing/item. The camera is placed so that KK faces it directly; PU is to the right of KK and sidewise to the camera (from the viewer's point of view) but to the left of KK (from his position). The right-left dichotomy has been considered in the analysis from the interlocutors' own point of view when describing the interactive gestures (when KK looks left then he looks towards the interviewer PU) but from the viewers' point of view when describing topic gestures. It has no impact on the analysis of the content of topic gestures. The left-right dichotomy has been considered in a similar way in all the dialogues. KK uses a stationary microphone and PU a directed one. In all cases, the question and answer contain more than one utterance.

In the second dialogue the interlocutors are sitting in the storeroom of the theatre on comfortable period-style chairs. The respondent JA has a table in front of him; thus we can speak about certain movements or leg positions in a minimal way.

The third interview has been recorded at different places, but mostly in the respondent KR home, where they are sitting on a sofa. They also walk around and visit a church. Part of the interview takes place on a building site.

In the papers *Gestures and spatial relationships in Estonian* (Tenjes b (in press)) and *Gestures in communication and their use for pointing and referring in space: Estonian examples* (Tenjes 2001b) the pointing gestures were studied together with Estonian verbal expressions. The examples come from an experiment where the subjects had to go on an imaginary journey and describe it to another person, the "guest". En route the "guest" was shown some historic and cultural sights. The subjects did not know that the goal of the experiment was to investigate the gestures. They worried about their knowledge of history. All of them know the region of the town well enough to image the journey and to describe it. Each "guide" "went" from the starting point to the destination in

10 minutes (narrative time). 11 subjects were videotaped. Two aspects were analyzed: (1) the gestures that indicated space, spatial relations, or spatio-temporal relations, (2) the concomitant words or phrases. The gestures that indicated spatial relations were studied together with the concomitant Estonian-language expressions.

In the article *Gestures as pre-positions in communication* (Tenjes 2001a (submitted)) there are some examples about iconic gestures as points or foreshadowed gestures used in an interview. Here I have used one of the TV interviews — the one where the interviewer PU and the respondent KK are talking in the backstage room. The underlined part of the utterance indicates at what moment (parallel to) the words the gesture was performed. In all cases, the question and answer contain more than one utterance. In this article I have also used the results of the experiment where the subjects had to go on an imaginary journey and describe it to another person.

In the article *Metaphoric Gestures and Concomitant Verbal Phrases: Estonian Evidence* (Tenjes 2001b (submitted)) metaphoric gestures were studied together with Estonian verbal expressions. The examples come from four different sources:
(1) From the Estonian TV weekly-review program *Brauser* (videotaped);
(2) The experiment where the subjects had to go an imaginary journey and described it to another person;
(3) Students' free conversation about an Estonian historian finding the oldest Estonian settlement place, dated from 11 000 years ago;
(4) The 1999 election campaign in Estonia (videotaped).

All the experiments involved students from the University of Tartu.

4. Structure of the thesis

The thesis consists of six articles in two languages (Estonian, English), an introduction describing the topic, overview of the articles, data and methodo-logy of the thesis and summarizing previous research of relevance to the study. The summary gives the most important results of the study. Two of the articles discuss theoretical approaches related to gestures; four articles focus on gesture-related studies and experiments, addressing primarily the iconic and metaphoric gestures accompanying Estonian speech. The studies also make reference to theories of spatial cognition and metaphor.

5. An overview of the previous research
of relevance to the studies

The question of the meaning and functions of gestures has arisen time and again throughout the long history of the investigation of gestures. Gestures have been treated together with language and used in providing explanation to the rise and origin of language. The history of investigating gestures dates back to ancient times. Expressive behaviour caught the attention of several Greek philosophers, the most influential among whom was Aristotle, whose analyses were recorded in *Physiognomia, De Anima, Parva Naturalia.* Roman studies of gestures did not transcend delimiting certain types of gestures and notifying some of their specific features. Thus, Cicero differentiates between significative and demonstrative gestures and Quintilian distinguishes between gestures that naturally accompany words and gestures that signify something by imitating it (Payrató 1985).

The Middle Ages inherited many gestures from Antiquity (e.g., rhetorical gestures for *declamatio*, legal gestures of *dextrarum iunctio*, the *orans* gesture of prayer), as well as the intellectual tools with which to think and speak about gestures. The words and notions of *gestus, gesticulatio, motus,* came from Antiquity along with their intellectual, moral or scientific context: the ethics of social behaviour; the art of rhetoric; music; and the medical inquiry. Christianity deeply transformed that legacy and took up all of these notions, combining them with other patterns inherited from the Bible (Schmitt 1992).

The earliest book devoted exclusively to gestures appeared at the beginning of the 17th century. We know the work under the name *Chirologia: Or the Natural Language of the Hand* by J. Bulwer (1644). John Bulwer was an English physician who invented the deaf-and-dumb language and who also dreamed of an international language of gestures. Man has two sources of discourse, "his mouth and his hand", words and gestures; "... the Hand, that busie instrument, is most talkative, whose language is easily perceived and understood as if Man had another mouth or fountaine of course in his Hand" (Barasch 1987: 2). John Bulwer published his first two books, *Chirologia* and *Chironomia*, in 1644. Forming a natural pair, they were issued together and are most conveniently described as a unit, although they have separate pagination and Bulwer always refers to them as separate works. The full titles read *Chirologia; or the Natvrall Lanvage of the Hand. Composed of the Speaking Motions and Discoursing Gestures thereof;* and *Chironomia; or the Art of Manuall Rhetoricke. Consisting of the Naturall Expressions, digested by Art in the Hand, as the chiefest Instrument of Eloquence, by Historicall Manifesto's, exemplified out of the Authentique Registers of Common Life, and Civill Conversation. Chirologia/Chironomia* is a *tour de force* of single-minded scholarship, an encyclopedic compendium of manual gesture (Wollock 1996: 3).

The 18th century French philosopher Étienne Condillac[1] has presented the idea that language emerged not from vocalization, but from manual gestures and switched to vocal mode in human evolution.

La mimica degli antichi investigata nel gestire napoletano (*The Mimic Art of the Ancients Investigated in Neopolitan Gesture*) (1832), written by Andrea de Jorio (1769–1851) is perhaps one of the most complex and systematic treatises of kinesics published in the 19th century. His work provides us with one of the most valuable traditional collection of gestures (Kendon 1993). Andrea de Jorio found in his study that the gestural system used in ancient Italy was the same as the one used by his contemporaries. He concluded that on the basis of the existing language of gestures one could successfully interpret gestural images on Greek vases, in reliefs and sculptures. An extended study of Andrea de Jorio's classic work on Neapolitan gesture has been published in an annotated English translation of the book with an Introduction and Notes by Adam Kendon. De Jorio's book is a valuable source of ideas leading to hypotheses about the adaptive functions of gesture as a communicative strategy in the Neapolitan context, and it may also contribute to the development of ideas for a modern description of the gestural repertoire of the Neapolitan region (Kendon 2000).

The 19th-century scholars studied facial expressions and the effect of various external influences on facial expressions. G. Duchenne (1862) published a study of facial muscles in which he used mild electrical stimulation to produce the appearance of emotional expressions on the paralyzed face of an old man. Duchenne took photographs of his subject's electrically stimulated expressions, and these photos were used by Darwin in his study of facial expressions. Charles Bell (1865) published his investigation of facial expressions about the same time. Both Duchenne and Bell influenced C. Darwin (1965/1872), who published "The Expression of the Emotions in Man and Animals" in 1872. Darwin argued that facial expressions are innate, thus suggesting certain non-verbal universals. Some of his ideas about emotional response shape research more than a century later (Knapp 1963; Ekman 1973).

As Darwin's ideas were getting established in Europe, the behaviourist paradigm was beginning to gain ground in America. Studies of nonverbal communication relied on the views of Sherman (1927a, 1927b) and Landis (1924; 1929). They argue that expressions were socially learned habits. By the 1930s interest in gestures had increased considerably both in Europe and America, which is reflected in the number of books written and experiments carried out on gestures during the period. In 1924, Maurice Haim Krout wrote a treatise on understanding the social and psychological significance of gestures.

---

[1] Étienne Bonnot de Condillac (1715–1780), French philosopher, born at Grenoble. He based all knowledge on the senses, his works including *Essai sur l'origine des connaisances humaines* (1746, 'Essay on the Origin of Human Knowledge') and *Traite des sensations* (1754, 'Treatise on Sensations').

In his "Course in Public Speaking" in 1924, Joseph Albert Mosher emphasized the importance of gestures in speaking.

The anthropological-linguistic foundations for the study of nonverbal communication were being set by F. Boas, E. Sapir, L. Bloomfield. D. Efron and E. Sapir were the students of F. Boas. In the 1930s, Boas was concerned with countering the Nazi theories of a master race. He encouraged D. Efron to study the gestural communication of immigrant Jews and Italians in New York's Lower East Side. In 1941, Efron wrote "Gesture and Environment". This much-quoted work is also one of the studies regarding gestures from a cross-cultural perspective. Studying the gesticulation of Southern Italians and East-European Jews, Efron found that while Italians made extensive use of illustrative gestures, as if illustrating conversation with slides, Jews used gestures of a rather 'abstract' nature (Efron 1941/1972).

Building on the linguistic tradition in anthropology, R. Birdwhistell (1952) advanced an alternate scheme for analyzing body communication. Stimulated by Sapir, Bloomfield, Bateson and Mead, Birdwhistell attempted to frame a comprehensive coding scheme for body motion, just as the linguists had done for spoken language. Where the linguist identified a *phone*, a minimal sound, Birdwhistell proposed the *kine*, a minimal movement. Where the linguist isolated a *phoneme*, a group of interchangeable sounds, Birdwhistell sought the *kineme*, a set of interchangeable movements. Where the linguist looked for the meaningful *morpheme*, Birdwhistell searched for the *kinemorph*, a range of movement that would be meaningful in the context of larger patterns. The aim of the structural approach to nonverbal communication, represented by Birdwhistell, is to provide a set of normative examples used by the interacting parties. The behaviour of the interacting parties is assumed to be regulated, to an extent, by hidden communicative codes. The structuralist ambition was to establish the degree to which the hidden codes of action form an organized structure. The theoretical foundations of these views share several features with descriptive, or structural, linguistics; cultural anthropology and structural sociology. The study of bodily movements performing communicative functions in interaction is referred to as *kinesics*, by analogy with *linguistics*. This is another term suggested by Birdwhistell, who has published several well-known works on kinesics (Birdwhistell 1952, 1970). His greatest contribution to the field is his claim about the emphasizing function of kinesics in verbal speech. Where bodily movements are closely tied with the flow of speech, various kinesic markers can perform an important function. Birdwhistell's views have been criticized by Dittmann (1971), who argues that although bodily movements may have a communicative function, there is not much overlap with the structure of speech. Goffman, an early student of Birdwhistell, moved away from the linguistic tradition to provide a sociological perspective in his works. He has focused on the presentation of self and the collaborative efforts of participants in social interaction.

Nonverbal communication has also captured the attention of psychiatrists. Nonverbal symbols had been part of the psychiatrist's tool kit since the days of Freud and Jung. In the 1950s, clinicians were becoming increasingly aware of the nonverbal interaction taking place in therapy (Ruesch 1955; Ruesch and Bateson 1951; Ruesch and Kees 1956). Ruesch proposed a categorization of nonverbal signs into three "languages": (a) sign language, where nonverbal symbols replaced words, numbers, and punctuation; (b) action language, where behaviours not intended as communication actually do have informational value to the perceiver; and (c) object language, the intentional and unintentional display of objects, including the body and clothing.

The views of the experimental psychologists of the 1950s might best be represented by Osgood, Suci and Tannenbaum. Osgood later extended his dimensional theory to nonverbal signs (Osgood 1959). Since the book, research has been reported on art objects, colour, music, and film.

This sampling of book-length contributions of the decade reflects the state of research at midcentury: (a) a growing number of scholars, from a range of disciplines, was becoming aware of, and interested in, nonverbal communication; (b) much of the research was anecdotal, based on insightful observation, but with little attempt to systematically record or replicate; (c) theory was primitive, the most comprehensive paradigm being an extension of the linguistic model; (d) potential major issues were not as yet being framed into testable hypotheses; and (e) methodology, and particularly technology, limited the range of nonverbal phenomena being studied (Harrison 1973).

Anthropology and psychology were the strongest early forces in the field. Their encounter in language led to the emergence of psycholinguistics. Psychotherapists have a strong pragmatic interest in the field. Sociologists and social psychologists found their place between psychology and anthropology.

During the 2nd half of the 20th century, the field was dominated by gestural studies. By convention, the term 'gestures' refers only to hand movements. A number of studies have focussed on classifying gestures. As a result, there is a multitude of excellent classification of gesture, which makes selecting the 'best' ones a difficult task.

Efron first distinguished *emblems*, which are gestures that replace words and are encoded arbitrarily and with intent (e.g., the hand signals of a baseball catcher or coach). Next, he identified several types of gestures that are used in conjunction with speech: (a) *batons*, movements that accent a particular word or phrase; (b) *ideographs*, movements that trace the flow of an idea; (c) *deictic* gestures, movements that point to available referents; (d) *spatial* gestures, movements that portray relationships in space; and (e) *kinetographs*, movements that depict a bodily action (Efron 1972/1941). The classifications most often referred to today are those building on Efron, especially the ones suggested by Kendon and McNeill. The broadest division of gestures proposed by Kendon is into two large categories: gestural systems and sign languages. Kendon draws a distinction between speech-associated gesturing, which somehow

provides a direct representation of some aspect of the content of what is being said, and gesturing that appears to have a more abstract sort of relationship to the content of speech (Kendon 1986: 31). McNeill distinguishes between four types of gestures, which have been shown to occur with narrative discourse (McNeill 1992): 1) *iconics* depict, by the form of the gesture, some feature of the action or event being described; 2) *metaphoric gestures* are also representational, but the concept being depicted has no physical form; 3) *deictics* spatialize, or locate aspects of the story being narrated in the physical space in front of the narrator; 4) *beat gestures*: small baton like movements that do not change in form with the content of the accompanying speech.

Most researchers divide hand gestures into two large groups: (1) gestures in conversation, and (2) stereotypic hand signals used in non-speech contexts (e.g., hitchhiking, the OK sign, etc.). This division is compatible with Kendon's classification. These topics have been discussed in more detail in the publications listed below. Of the many definitions of hand gesture, the following could be provided here: *a gesture is a hand movement accompanying speech and acquiring its meaning in the context of conversation or possessing a language-independent meaning* (Tenjes 1996: 171).

CONCLUSIONS

The most important conclusions from the research can be summarized under six headings:
(1) the occurrence of gestures before the related lexical unit;
(2) the occurrence of conversational gestures in Estonian dialogue;
(3) the universality of pointing gestures;
(4) theoretical considerations in explaining iconicity and metaphoricity in language;
(5) metaphorical expressions, gestures and linguistic relativity;
(6) the connection of gestures to cognition through a flow, a process or a flow of information.

1. The occurrence of gestures before the related lexical unit.
During the experiments the gesture indicating "this over there", "this over here", etc. appeared very often *before* the most important concept of the sentence. The concept mostly denoted an object or the shape of a path. It may be concluded from the data that three *points*, gestures that refer briefly to *then*, *he* and *this*, appear just before the word.

Generally, all gestures are initiated far before the speech-unit to which they "belong". They *preface* speech units and *prefigure* the concepts communicated by them. The semantic relationship between the profiles supplied by the gesture and those encoded in lexical units are manifold. If there is cognitive coordination between the verbal and gestural channels, the related processes must temporally overlap. Iconic gestures usually start before the related speech event. In the majority of cases, the onset of iconic gesture is known to precede the onset of the related speech unit. The data show that the onset of a gesture precedes its lexical affiliate. Iconic gestures in speech are largely related to lexical search and such gestures play an important role in lexical retrieval.

2. The occurrence of conversational gestures in Estonian dialogue.
Gestures receive the attention of the listener and thereby become components of conceptual understanding. Gestures are functionally adapted to the requirements of understanding in human communication.

The analysis of Estonian dialogue demonstrated that the classification of conversational gestures suggested by Bavelas and her colleagues is largely applicable to Estonian. Naturally, there could not have been a hundred percent overlap. However, that certain overlap does exist shows that the nature of human gestures is more 'basic' than language. It is possible to say that the model developed by Bavelas and her colleagues functions also in Estonia. *A gesture can simultaneously have more than one function.* The functions served by individual interactive gestures in conversation are heterogeneous. What they all have in common is a reference to the addressee. Interactive gestures have

also verbal equivalents. The speaker can insert an interactive gesture quickly and with the minimal interruption of the topical flow.

3. The universality of pointing gestures.

The research on pointing and referring gestures revealed that for some concepts the interlocutor must add a gesture to make oneself fully understood. The data indicate that people often use words like 'this', 'here', 'there', 'this over there' and 'on the left' or 'on the right'. It appears that pointing gestures which indicate spatial relations perform a strongly communicative role. It means that subjects pointed to the left or to the right, etc. with or without concomitant words. The extra meaning is communicated by means of the gesture. The pointing gesture has an independent meaning and it substitutes the word which marked the spatial relations. In face-to-face interaction, the pointing gestures have strongly communicative value in the context of direction with regard to the egocentric coordinate system (left, right, here, there).

This study indicates that referring gestures have *two simultaneous roles*: (a) to point to spatial relations and (b) to image (to denote) *the most important* concept in the sentence that *follows*. There is a clear semantic link between the gesture and the emphasized word in the accompanying speech. It shows connections on the deep psychological level in the human mind. The pointing gestures in spatial relations do not depend on a specific language.

4. Theoretical considerations in explaining iconicity and metaphoricity in language.

If metaphor belongs to language, and if one speculates that language originated from hand gestures, then iconicity, metaphoricity, and symbolism in language become fully understandable. Pointing and referring hand gestures were the first means of communication. The transition to articulated speech occurred step by step, and the role of the hand diminished. The primary 'metaphorical transfer' occurred when the iconic meanings of hand gestures became meanings expressed by voice. They came to be used as symbols with a certain meaning. In the course of time, there occurred a 'second metaphorical transfer' — the expression was permanently transferred to other similar situations. It would be more accurate to say that from this moment on, one is dealing with 'metaphorical transfer' as a certain process, where symbols become new metaphors and new meanings emerge. In this process, the hand cannot act any more as the performer of the primary role because this role has been delegated to language. On the other hand, it has still maintained many functions that are not fully clear as yet.

5. Metaphorical expressions, gestures and linguistic relativity.

The idea of linguistic relativity was first associated with the 19th-century linguist Wilhelm von Humboldt. Language classifies the world, and each language does it differently. Language may have a deeper layer, the *inner form*

according to Humboldt (G. *innere Sprachform*). Both gestures and language-specific metaphors are associated with this layer. Metaphors are located in the verbal layer, but *originate* in the intermediate layer. Language-specific metaphors are thus not 'bound' by language. Metaphors emerge from the intermediate layer as a result of very different and complicated kinds of 'refraction'. 'Refraction' is similar to the way light is refracted on the sphere. This is what finding the ground for metaphors, gestures, and word meanings in general so complicated and interesting. Language may also have a sub-linguistic deep layer, which is universal. Thus, language is a multi-layered phenomenon, and metaphor is not universal. Each language has an intermediate, language-specific, layer that gives rise to metaphors and gestures. Gestures, too, have an intermediate layer, where everything is refracted and reflected. The universal layer enters the intermediate layer, is refracted, and the fragments are scattered all over the surface layer of language. How can we then establish how what is universal is expressed in a certain language? It cannot be easy.

6. The connection of gestures to cognition through a flow, a process or a flow of information.

Gestures are fully organized at the outset of speech units. Evidently, then, meanings are not transformed into gestural form by way of spoken language formats. They are transformed directly, and independently. This means that meanings, in whatever way they are stored, are stored separately from the formats of spoken language, however abstractly these may be conceived. The evidence from gestures thus provides that knowledge is stored in complex configurational structures.

The gesture and language have a common base. The connection between the gesture and the word may be a *process* or certain type of *information*. There should be an overlapping area between gestures and concepts. The unit point or *the unit process* lies deeper in human cognition.

SUMMARY IN ESTONIAN

Suhtluskäigu reguleerimise mitteverbaalsete vahendite sotsiokultuurilised aspektid

Doktoridissertatsioon käsitleb käežestide teoreetilist ja eksperimentaalset analüüsi. Uurimistöös vaadeldakse käežestide ja keele seoseid. Dissertatsiooni moodustavates artiklites olen vaadelnud žeste dialoogis, ruumisuhete kontekstis ja seoses metafoorsete väljenditega sotsiokultuurilisest ja kognitiivsest aspektist. Samuti olen käsitlenud hüpoteesi keele tekkimisest käežestidest ja seisukohti žestidest keskajal. Artiklites, kus käsitletakse eksperimente ja nende tulemusi, vaadeldakse ka teoreetilisi seisukohti žestidest, nende olemusest, klassifikatsioonist ja seostest teiste teoreetiliste paradigmadega, nagu ruumi kognitiivsus ja metafooriteooria. Vaatluse all on peamiselt ikoonilised ja metafoorsed žestid. Dissertatsiooni käsitlevate artiklite aluseks olnud uurimistööst selguvad järgmised tulemused.

1. Žestide esiletulemine enne nendega seotud leksikaalset üksust
Žest võib alata hulk aega enne temaga assotsiatiivselt seotud leksikaalset üksust. Žestifraas võib sageli leida *otsetee* enne kõnefraasi, millega nad assotsiatiivse seose kaudu koos alustasid. Seda teemat olen lähemalt käsitlenud artiklis *Žestid kui pre-positsioonid suhtluses.*

Eksperimendi tulemusena oli näha, et žest, mis osutab "see seal", "see siin" jne, ilmub väga sageli *enne* kõige olulisemat mõistet lauses. Mõiste märgib enamasti kas objekti või tee kuju ja suunda. Andmetest võis järeldada, et nt kolm *osutajat* — žestid, mis viitavad lühikese viipega "siis", "ta" ja "see" — ilmusid just enne vastavat sõna.

Üldistatult võib väita, et kõik žestid algavad palju varem nende juurde kuuluvatest kõneüksusest. Nad *eelnevad* kõneüksustele ja *kujutavad eelnevalt* nendega suhestunud mõisteid. Semantiline seos žestiga kujutatu ja leksikaalsetesse üksustesse kodeeritu vahel on mitmekesine. Kui verbaalse ja žestilise kanali vahel on kognitiivne koordinatsioon, siis peavad need seotud protsessid osaliselt ajaliselt kattuma. Ikoonilised žestid algavad tavaliselt enne nendega seotud kõneüksust. On kindlaks tehtud, et enamikul juhtudel eelneb ikoonilise žesti algus temaga seotud kõneüksuse algusele. Uuringud näitasid, et žesti algus eelnes tema leksikaalsele liitlasele. Ikoonilised žestid kõnes on suures osas suunatud leksikaalsele otsingule ja sellistel žestidel on oluline funktsionaalne roll sõna taasleidmisel.

2. Vestlusžestide esiletulemine eestikeelses dialoogis
Žestide ülesandeks on vestluse kui sotsiaalse süsteemi alalhoidmine ja toetamine. Interaktiivsetel žestidel on dialoogis nii kuulaja kaasamise kui ka vestluste reguleerija funktsioon. Žest saavutab kuulaja tähelepanu ja muutub

26

seeläbi kontseptuaalse mõistmise komponendiks. Žestid on funktsionaalselt kohandatud vajadusele hõlbustada arusaamist inimestevahelises suhtluses.

Eestikeelse dialoogi analüüsimisel selgus, et see toetab küllaltki hästi J. B. Bavelase ja tema kolleegide pakutud käežestide jaotust vestlusžestideks. Loomulikult ei saanud kattuvus olla täielik ja selle tuvastamine polnud ka töö eesmärk. Et mingid kattuvused on võimalikud, näitab žestide algsemat olemist inimeses, kui võib olla on seda keel. J. B. Bavelase ja tema kolleegide pakutud mudel töötab ka väljaspool nende uuritud piirkonda — Eestis. *Žestidel võib olla rohkem kui üks funktsioon korraga.* Interaktiivsete žestide funktsioonid on juba ühel isikul vestluse jooksul küllaltki heterogeensed. Kuid kõigil neil on ühine joon — viitamine adressaadile. Interaktiivsetel žestidel on verbaalselt sõnastatav vaste. Kõneleja saab interaktiivseid žeste teha kõnevoolu katkestamata.

3. Osutavate žestide teatud universaalsus
Osutavatel žestidel, mis näitasid ruumisuhteid, on tugev kommunikatiivne roll ja nad võivad asendada sõna, mis tähistab ruumiseoseid. Antud uuring näitas, et osutavatel žestidel on *kaks rolli samal ajal*: 1) esile tuua ruumisuhteid ja 2) kujutada *kõige olulisemat* mõistet, mis lausungis *järgneb*. See tähendab, et katseisikud osutasid vasakule või paremale jne koos kaasneva sõnaga ("vasakul, näed" + liigutus vasakule) või ilma kaasneva sõnata ("siin" + liigutus vasakule/paremale). Lisatähendus kaasnes žestiga. Osutavad žestid ruumisuhetes ei sõltu keelest ja vastupidi.

4. Teoreetilised seisukohad ikoonilisuse ja metafoorsuse selgitamiseks keeles
Kui metafoor kuulub keele juurde ja kui spekuleerida teemal, et keel arenes käežestidest, siis on nii ikoonilisus, metafoorsus kui ka sümbol keeles täiesti mõistetavad. Käe osutavad ja viitavad žestid olid suhtluses esmasteks vahenditeks. Esmane nn metafoorne ülekanne toimus siis, kui käežestide ikoonilised tähendused läksid üle häälega väljendatud tähendusteks. Neid hakati kasutama kui sümboleid, millel on kindel tähendus. Aja jooksul toimunud väljendi permanentne ülekandumine teistesse samasugustesse situatsioonidesse oli nn teine metafoorne ülekanne. Õigem oleks öelda, et sellest alates toimubki nn metafoorne ülekandumine kui protsess, kus sümbolid muutuvad uuteks metafoorideks ja tekivad uued tähendused. Käsi ei saa selles protsessis olla enam esmase rolli kandja, kuna ta on selle rolli delegeerinud keelele.

5. Keeleline relativism seoses metafoorsete žestide ja eestikeelsete metafoorsete väljenditega
Metafoorid töötavad žestides nii, nagu metafoore võib leida verbaalsetes väljendites. Metafoor on mõtlemisprotsessi oluline osa. Olles uurinud, kuidas metafoorsed väljendid ja metafoorsed žestid funktsioneerivad eesti keeles, pean vajalikuks viidata teatud keelelisele relativismile. Keeles võib olla sügavam kiht, *sisevorm* W. von Humboldti järgi (sks *innere Sprachform*). Sealt tulevad žestid

27

ja seal sünnivad keelespetsiifilised metafoorid. Meie igapäevakeeles — verbaalses kihis — on vormistatud sõnad ja žestid. Metafoorid on verbaalses kihis, aga metafoor *sünnib* vahekihist. Viidates äsjaöeldud vahekihile keeles, võib öelda, et need keelespetsiifilised metafoorid pole keeles "kinni". Teatud keeleline relativism on olemas, samuti skeem. Metafoorid mitte niivõrd ei asu, vaid *sünnivad* vahekihist väga erinevate ja keeruliste murdumiste tulemusena. Murdumine on nagu valguse murdumine sfääril. Keeles võib olla ka n-ö keelealune süvakiht, mis on universaalne. Seega, keel on mitmekihiline ja metafoor pole universaalne. Igas keeles on keelespetsiifiline kiht, millest sünnivad metafoorid ja žestid. See on vahekiht. Vahekiht on ka žestidel, kus kõik murdub ja peegeldub. Universaalne kiht tuleb vahekihti, murdub ja killud lendavad pindmisse keelekihti laiali.

6. Žestide seos kognitiivsusega võib toimuda, protsessi, voo või infovoo kaudu

Keele ja käežestide puutepunktid on seotud inimese üldise kognitiivsusega. Vastavalt inimese üleüldisele kognitiivsusele võib aluseks olev seos žesti ja sõna vahel olla *protsess* või teatud liiki *informatsioon*. Žestid võivad olla kehastunud info tõlgendused kavatsusliku ja arusaava vaimu vahel. Žestidel ja mõistetel peab olema kattuv ala. See näitab seoseid sügaval inimmõistuse või inimvaimu psühholoogilisel tasandil. Selline kattuv ala märgitseb teatud heterogeensust. Heterogeensus on inimteadvuse igipõline omadus ja selle teadvuse mehhanismile on tingimata vajalik vähemalt kahe süsteemi kohalolek, mis poleks lõpuni teineteiseks tõlgitavad.

REFERENCES

Barasch, M. 1987. *Giotto and the Language of Gesture.* Cambridge: Cambridge University Press.

Bavelas, J. B. (in press). Gestures as Part of Speech: Methodological Implications. A. Kendon (ed.), *Research on Language and Social Interaction. Special Issue on Gestures.*

Bavelas, J. B., N. Chovil, L. Coates and L. Roe (in press). Gestures Specialized for Dialogue. *Personality and Social Psychology Bulletin.*

Battey, B. 1998. An Investigation into the Relationship between Language, Gesture, and Music. http://students.washington.edu/bbattey/Ideas/lang-gest-mus.html

Bell, C. 1865. *Anatomy and Philosophy of Expression.* London: H. B. Bohn.

Birdwhistell, R. L. 1952. *Introduction to Kinesics: An Annotation System for Analysis of Body Motion and Gesture.* Louisville, Kentucky: University of Louisville.

Birdwhistell, R. L. 1970. *Kinesics and Context. Essays on Body Motion Communication.* Philadelphia: Pennsylvania University Press.

Bulwer, J. 1644. *Chirologia; or the Natvrall Lanvage of the Hand. Composed of the Speaking Motions and Discoursing Gestures thereof.* London: T. Harper, to be sold by R. Whitaker.

Bulwer, J. 1644. *Chironomia; or the Art of Manuall Rhetoricke. Consisting of the Naturall Expressions, digested by Art in the Hand, as the chiefest Instrument of Eloquence, by Historicall Manifesto's, exemplified out of the Authentique Registers of Common Life, and Civill Conversation.* London: T. Harper, to be sold by R. Whitaker.

Butterworth, B. and G. Bettie 1978. Gesture and silence as indicators of planning in speech. R. Campbell and P. T. Smith (eds.), *Recent Advances in the Psychology of Language: Formal and Experimental Approaches.* London: Plenum, 347–360.

Calbris, G. 1990. *Semiotics of French Gesture.* Bloomington: Indiana University Press.

Cassell, J., D. McNeill, K.-E. McCullough 1999. Speech-gesture mismatches: Evidence for one underlying representation of linguistic and nonlinguistic information. *Pragmatics and Cognition* 7(1), 1–33.

Cienki, A. 1998. Metaphoric Gestures and Some of their Relations to Verbal Metaphorical Expressions. J.-P. Koenig (ed.), *Discourse and Cognition: Bridging the Gap.* Stanford, CA: Center for the Study of Language and Information, 189–204.

Corballis, M. C. 1999. The Gestural Origins of Language. *American Scientist* 87, 2, 138–145.

Darwin, C. 1965. *The Expressions of the Emotions in Man and Animals.* Chicago: University of Chicago Press (reissue). First published in 1872.

Dittmann, A. T. 1971. Review of R. L. Birdwhistell, "Kinesics and Context". *Psychiatry* 34, 334–342.

Duchenne, G. B. A. 1862. *Mechanisme de la physiognomie humaine.* Paris: Bailliere et fils.

Efron, D. 1972 [1941]. *Gesture, Race and Culture.* The Hague-Mouton. [First printed as *Gesture and Environment.* New York: King's Crown Press, 1941].

Ekman, P. 1973. Darwin and cross-cultural studies of facial expression. P. Ekman (ed.), *Darwin and Facial Expression: A Century of Research in Review.* New York: Academic Press.

Hadar, U. and B. Butterworth 1997. Iconic gestures, imagery, and word retrieval in speech. *Semiotica* 115, 1/2, 147–172.

Haiman, J. 1985. *Natural Syntax: Iconicity and Erosion.* New York: Cambridge University Press.

Harrison, R. P. 1973. *An Introduction to Nonverbal Communication.* Englewood Cliffs, New Jersey: Prentice-Hall.

Haviland, J. 1996. *Pointing, Gesture Spaces, and Mental Maps.* Language and Culture: Symposium 3. http://www.language-culture.org/archives/subs/haviland-john/1.html

Hiraga, M. K. 1998. Metaphor-Icon Link in Poetic Texts: A Cognitive Approach to Iconicity. *The Journal of the University of the Air* 16, 95–123.

Jakobson, R. and L. R. Waugh. 1979. *The Sound Shape of Language.* Bloomington: Indiana University Press.

Kaplinski, J. 1997. *Võimaluste võimalikkus.* Tallinn: Vagabund. (in Estonian)

Kendon, A. 1980. Gesticulation and speech: two aspects of the process of utterance. M. R. Key (ed.), *The Relationship of Verbal and Nonverbal Communication.* The Hague: Mouton and Co, 207–227.

Kendon, A. 1986. Current Issues in the Study of Gesture. J.-L. Nespoulous, P. Perron, A. R. Lecours (eds.), *The Biological Foundations of Gestures.* Hillsdale N.Y.: Lawrence Erlbaum Associates, 23–48.

Kendon, A. 1991. Implications of Recent Research on Gesture and Sign Languages for the Gesture Theory of Language Origins. http://welcome.to/LOS

Kendon, A. 1993. Gestures as Illocutionary and Discourse Structure Markers in Southern Italian Conversation. Paper presented in the Symposium "Recent Contributions to the Study of Gesture in the Context of Talk". *Linguistic Society of America*, January 8, Los Angeles, California.

Kendon, A. 1998. An agenda for gesture studies. *The Semiotic Review of Books* 7, 3, 9–12.

Kendon, A. 2000. Studying Gesture in Naples and Elsewhere. Based on a plenary lecture of the same title given at the conference *Gestures: Meaning and Use.* Oporto, Portugal, 31 March – 5 April.

Knapp, P. H. (ed.) 1963. *Expression of the Emotions in Man.* New York: International University Press.

Lakoff, G. and M. Johnson 1980. *Metaphors We Live By.* Chicago: University of Chicago Press.

Landis, C. 1924. Studies of emotional reactions. II. General behavior and facial expression. *Journal of Comparative Psychology* 4, 447–509.

Landis, C. 1929. The interpretation of facial expression in emotion. *Journal of Genetic Psychology* 2, 59–72.

Langacker, R. W. 1988. An Overview of Cognitive Grammar. B. Rudzka-Ostyn (ed.), *Topics in Linguistics.* Amsterdam/Philadelphia: John Benjamins Publishing Co., 3–48.

McNeill, D. 1985. So you think gestures are nonverbal? *Psychological Review* 92, 350–371.

McNeill, D. 1987. *Psycholinguistics: A New Approach.* New York: Harper and Row.

McNeill, D. 1992. *Hand and Mind: What Gestures Reveal About Thought.* Chicago: University of Chicago Press.

Morrel-Samuels, P. and R. M. Krauss 1992. Word familiarity predicts temporal asynchrony of hand gestures and speech. *Journal of Experimental Psychology: Learning, Memory and Cognition* 18, 615–623.

Osgood, C. E. 1959. The cross-cultural generality of visual-verbal synesthetic tendencies. *Behavioral Science* 5, 146–169.

Payrató, L. 1985. Comunicació no verbal, tipologies del gest i gest autònom. *Anuario de Filología, 11–12.* Barcelona: Universidad de Barcelona, 151–180.

Place, U. T. 1998. The role of the hand in the evolution of language. http://dbiref.kub.nl:2080/~place/utplace/HAND98.htm

Ruesch, J. 1955. Nonverbal language and therapy. *Psychiatry* 18, 323–330.

Ruesch, J., G. Bateson 1951. *Communication: The Social Matrix of Psychiatry.* New York: Norton.

Ruesch, J., W. Kees 1956. *Nonverbal Communication: Notes on the Visual Perception of Human Relations.* Berkeley, C.A.: University of California Press.

Schegloff, E. A. 1984. On Some Gestures' Relation to Talk. J. M. Atkinson and J. Heritage (eds.), *Structures of Social Action: Studies in Conversational Analysis.* Cambridge: Cambridge University Press, 266–296.

Schmitt, J.-C. 1992. The Rational Gestures in the West: A History from the 3rd to the 13th Centuries. F. Poyatos (ed.), *Advances in Nonverbal Communication.* Amsterdam/Philadelphia: John Benjamins, 77–95.

Sherman, M. 1927a. The differentiation of emotional responses in infants: I. Judgements of emotional responses from motion picture views and form actual observations. *Journal of Comparative Psychology* 7, 265–284.

Sherman, M. 1927b. The differentiation of emotional responses in infants: II. The ability of observers to judge the emotional characteristics of the crying of infants and of the voice of the adult. *Journal of Comparative Psychology* 7, 335–352.

Streeck, J. 1995. On projection. E. N. Goody (ed.), *Social intelligence and interaction.* Cambridge: Cambridge University Press, 87–110.

Talmy, L. 1996. Fictive Motion in Language and "Ception". P. Bloom, M. A. Peterson, L. Nadel, and M. F. Garrett (eds.), *Language and Space.* Cambridge, Massachusetts, London, England: A Bradford Book, The MIT Press, 211–276.

Tenjes, S. 1996. Gestures in Dialogue. H. Õim (ed.), *Estonian in the Changing World.* Tartu: University of Tartu, 163–192.

Tenjes, S. 2000. Gestures and space relationships in Estonian. Paper presented at the Conference *Gestures: Meaning and Use.* 1.–4. April. Oporto, Portugal. http://ufp.pt/gestures/

Tenjes, S. 2001a. Metaphoric Gestures and Concomitant Verbal Phrases: Estonian Evidence. Fourth International Conference on Researching and Applying Metaphor (RAAM IV) *Metaphor, Cognition, and Culture* (5–7 April 2001). *Conference Book.* Tunis, Manouba: University of Manouba, 39.

Tenjes, S. 2001b. Gestures in communication and their use for pointing and referring in space: Estonian examples. I. Tragel (ed.), *Papers in Estonian Cognitive Linguistics.* Tartu: University of Tartu, 216–248.

Tenjes, S. 2001 (in press). Keele žestilise päritolu hüpotees. *Keel ja Kirjandus.*

Tenjes, S. 2001a (submitted). Gestures as pre-positions in communication. *Trames.*

Tenjes, S. 2001b (submitted). Metaphoric Gestures and Concomitant Verbal Phrases: Estonian Evidence. *Metaphor and Symbol.*

Tenjes, S. a (in press). Žestid keskajal. *Akadeemia.*

Tenjes, S. b (in press). Gestures and spatial relationships in Estonian. Proceedings of the Conference *Gestures: Meaning and Use,* Oporto, Portugal, 31 March – 5 April, 2000.

Wollock, J. 1996. John Bulwer's (1606–1656) place in the history of the deaf. *Historiographica Linguistica* XXIII:1/2, 1–46.

ACKNOWLEDGEMENTS

PUBLICATIONS

Keele žestilise päritolu hüpotees
(The hypothesis of the gestural origins of language). —
In press for *Keel ja Kirjandus,* 2001, 27 pp. (in Estonian).

KEELE ŽESTILISE PÄRITOLU HÜPOTEES[1]

SILVI TENJES

1. Sissejuhatus

Uurides käežeste ja inimeste suhtlemist, võib küsida, miks me žestikuleerime, kui me kõneleme? Me teeme kindlasti žeste, kuigi me enamasti ise seda terava teadlikkusega ei taju. Seega, suhtluses kasutame me kõik ka žeste, mitte ainult itaallased! Millisel hetkel ilmub žest meie lausungi kaaslaseks? Kas on mõned olulisemad kategooriad, mida väljendades kaasame žesti? Kas žest on ka metafooriline? Kuidas on žestid ajaloos muutunud? Nendele ja paljudele teistele küsimustele vastuste otsimisega tegelevadki žestiuurijad nii meil kui mujal maailmas. Antud artiklis püüame ühelt poolt minna ajas tagasi ning võtame vaatluse alla hüpoteesi, et enne kõne tekkimist suhtles meie eellane hoopis käte vahendusel, teiselt poolt vaatame, kuhu on jäänud sellest suhtlusest jälgi tänasel päeval. Seejuures võime ka küsida, miks inimene üldse kõnelema hakkas? Michael Corballis (1999), Aucklandi ülikooli psühholoogiaprofessor Uus-Meremaalt väljendub poeetiliselt, et inimkeel võib olla tekkinud käežestidest, mis on tänaseks jäänud püsima kui kõnega paaris olev *käitumuslik fossiil.*

Siinkohal tahaksin teha ühe olulise kitsenduse käesoleva artikli jaoks. Nimelt on olemas ja aktiivselt käibiv teooria *kõnest kui žestist* ja *keelest kui žestist.* Neid ideid on viljelenud juba Wilhelm Wundt (1921), öeldes, et *hääl on žest* (sks *Der Laut is ein Gebärde*), ning arendanud edasi paljud uurijad, sealhulgas nt U. Neisser (1976), J. Kelso, E. Saltzman ja B. Tuller (1986), M. Studdert-Kennedy (1987), D. Armstrong, W. Stokoe ja S. Wilcox (1995) jt. Nende seisukohtade järgi käsitletakse kõneüksusi žestilise fonoloogia terminites, sõnu žestide koordineeritud mustritena jms, et mõista ja selgitada keelt ning kognitiivsust. See muidu igati huvitav *muskulaarne* teooria ei leia antud artiklis käsitlemist. Kuigi ei saa ka väita, et sel teoorial ja artiklis käsitletavatel seisukohtadel pole puutepunkte. Antud kirjutises vaatame inimkeele tekkimist käežestidest ning seda hüpoteesi toetavaid kaasaegseid žestiuuringuid.

Inimkeel on bioloogilise evolutsiooni üks kauneimaid ja keerulisemaid tulemusi. Inimese võime sekkuda ümbritsevasse maailma ja olla edukas on sõltuv tema keelevõimest luua uusi ideid, mis lubavad tal muuhulgas põgeneda vahetust reaalsusest või kirjeldada sündmusi ja nähtusi, mis pole kunagi eksisteerinud. Kuidas selline nähtus alguse sai? Tänapäeval on keele tekkimise võimalike teede kohta palju rohkem faktilist materjali (tänu eriti neuroloogia, antropoloogia, paleontoloogia jm teadusharude viimase sajakonna aasta saavutustele), kui näiteks keelte hilisema lahknemise, üksikkeelte, keelkondade

---

jne tekkimise kohta. Ja arutelud keele tekkimise üle on asjalikud. Eestikeelses kirjanduses seda probleemi peaaegu valgustatud pole. Varem on hüpoteese inimkeele tekkimise kohta vaadelnud prof H. Õim (1976), kes artiklis *Kas inimkeel on päritav?* käsitleb E. Lennebergi ideed keele võimalikust bioloogilisest alusest. Uuemaid artikleid on M. Ehala kirjutis, milles ta muuhulgas refereerib vokaalse hoolitsuse hüpoteesi kui olulist nähtust keele tekkimisel (Ehala 2000).

Keele žestilise päritolu teooria esitajate ajalugu läheb tagasi juba vähemalt 18. sajandisse (Condillac 1746/1947). Hiljem on seda teemat käsitlenud E. Tylor (1868; 1871), L. Morgan (1877), A. Wallace (1881; 1895), G. Romanes (1888), W. Wundt (1900), R. Paget (1930; 1944) ja A. Jóhanneson (1949; 1950). 20. sajandi teisel poolel on hüpoteesi üleval hoidnud G. Hewes (1973a; 1973b; 1976), A. Kendon (1991), U. Place (1998) ja M. Corballis (1999). Keele žestilise lähte ideid toetavad uuringud erinevatest valdkondadest: neuroloogilised, viipekeelte teoreetilised ja eri kultuuride lõikes uuringud ning ahvide võime suhelda viibete abil. Mõned kõnekeelele iseloomulikud jooned polegi žestidest nii radikaalselt erinevad, nagu üldiselt arvatakse. Võime kõnelda võib olla tekkinud eraldi keelevõimest ja kõne kasutamine kui vahend keele jaoks võib olla suhteliselt hilja arenenud. Žestide ja viipekeelte uuringud on samuti oluliselt toetanud ideed, et kõne *ei ole* keele olemuslik koostisosa (Kendon 1991). Keel on n-ö suurem, sügavam ja võib olla tõesti *kehastunud*, kõne on keele üks väljundeid. Žestiuuringud on näidanud, kuidas kõnelejad kasutavad žesti kui väljendusvahendit, mis on partneriks kõnele lausungi mõistelise tähenduse edastamisel.

Artiklis vaadeldakse, milliseid printsiipe saab rakendada keele evolutsioonilise arengu rekonstrueerimisel, arvestades keeletekke hüpoteesi käežestidest. Edasi arutletakse mõnede nimetatud printsiipide laiendatud ja süvendatud seisukohtade ning uurimuste üle seoses: 1) inimese evolutsioonilise arenguga; 2) aju-uuringutega; 3) viipekeeltega; 4) žestide ja kõne koostööga; 5) keele ikoonilisusega; 6) metafoorsusega žestides.

2. Printsiibid keelelise evolutsiooni rekonstrueerimiseks

Kuni kirja tekkimiseni pole keel jätnud *otsest*, arheoloogiliselt dateeritavat jälge. Seepärast on keele järkjärguline evolutsiooniline rekonstrueerimine alati spekulatiivne. On siiski kindlaid printsiipe, mida võime rakendada, kui tahame otsustada, milline võimalikest rekonstruktsioonidest on ilmsem. Mõned printsiibid on esitanud Ullin Place oma 1998. aastal taas läbi vaadatud artiklis *Käe rollist keele evolutsioonis* (Place 1998). Ta ütleb, et osa neist printsiipidest rakenduvad igasuguse evolutsioonilise rekonstruktsiooni puhul, aga mitmed on eriomased keele evolutsioonile. U. Place'i järgi on üldprintsiibid (Place 1998: 2):

2

1. *Valikulisuse e selektiivsuse printsiip*. Igasuguse keerulise bioloogilise karak-teristiku areng kulgeb väikeste *astmeliste* järgnevustena. Iga aste moodustub valiku tagajärjel juhusliku muutuse populatsioonist nii, et see muutus, milles ta avaldub, annab valikulise paremuse kogu grupile, ning see muutus pole esile tulnud üksikus muidu sobivas kohas liikide poolt hõivatud astmel evolutsiooniprotsessis.

2. *Printsiip, kuidas ontogenees asendab fülogeneesi*. Kuigi fülogeneetiline areng ei saa olla ontogeneetilise arenguprotsessi lihtne *äralugemine* (ingl *read off*), võime siiski eeldada, et need astmed, mis on äratuntavad onto-geneetilise arengu protsessis, vastavad astmetele, mis puudutavad karakteris-tikut fülogeneetilises arengus.

3. *Printsiip taandarengust varasematele kohastumistele*. Kui ühe adaptatsiooni ilming oma täiesti küpses vormis blokeeritakse, siis hakkavad organismid tagasi pöörduma evolutsiooniprotsessis eelnenud kohanemisvormi juurde.

Printsiibid, mis on eriomased keelelise evolutsiooni rekonstrueerimisele:

1. Lause kui lingvistilise kommunikatsiooni üksus. Keel on primaarselt kom-munikatsioonivahend. Vastupidiselt J. Fodori (1975) arvamusele on keel ainult sekundaarselt ja derivatiivselt mõtte vahend. Nagu teisedki interpersonaalsed kommunikatsioonisüsteemid, koosneb keel inimese, *märgi-tekitaja* või *kõneleja* poolt esile kutsutud vastustest, millel on sisu ja prognoositav käitumisele-orienteeritud mõju teisele inimesele, *märgi-saajale* või *kuulajale*, kellele kõne-leja lausung on suunatud. B. Skinner (1938) on nimetanud märgi-tekitajaks või kõnelejaks seda, kes teeb *märke* või *eraldavaid stiimuleid*.

2. Printsiip "mand'i" ontogeneetilisest primaarsusest. Lause kõige varaja-sem vorm keelelises evolutsioonis — nagu see avaldub laste keelelises aren-gus —, mida kõnelejad produtseerivad, oli tüüp, mida B. Skinner (1957) nimetab *mand'iks* (< ingl *command*, *request* or *question* — 'käsk', 'palve' või 'küsimus'). Tuues esile mand'i, *määratleb* kõneleja *täpsemalt* tegevuse, mis kuulajale esitatakse. Toetudes siinjuures taas Skinneri seisukohtadele, väidab Place, et kõik esimesed laused pidid olema imperatiivid.

3. Argumendistruktuur. Lause esitab oma tegevuse funktsioonid kui eral-davad stiimulid teate vastuvõtjale või kuulajale, *kujutades* seda, mida J. Barwise ja J. Perry (1983) nimetavad *situatsiooniks*. Situatsioon on *olukord*, mille puhul entiteedi omadused või suhted muutuvad kas ajamomendil (hetkeline sündmus) või ajaperioodi jooksul (protsess). Mand'i puhul on lause poolt kujutatud situatsioon kas sündmus, muutus, mille peab kuulaja sisse tooma, või olukord, mida kuulaja peab säilitama. Lause koosneb *mitmekohalisest* (ingl *multi-place*) predikaadist või verbifraasist ja nii paljudest argumentidest või noomenifraa-sidest, kui on vaja situatsiooni kujutamiseks. Argumendid representeerivad eri-nevaid objekte, mis on kujutatud situatsioonides, millest üks on agent (mand'i puhul kuulaja).

4. Lause interpretatsiooni ja lause konstruktsiooni juhtumid inimliinist allpool. Siin on mõeldud katsete tulemusi pudelnina-delfiinidega (*Zalophus*

3

californianus), Aafrika halli papagoiga (*Psittachus erithacus*) või šimpansitega 1980. aastatel. Uurimustest selgub, et nende liikide esindajatel on võime nii vastata stiimulitele kui ka tekitada selliseid stiimuleid, mis kohanduvad lause argumendistruktuuri karakteristikuga. Sellised loomade-maailmas produtseeritud laused koosnevad kahest elemendist — predikaadist ja argumendist. Tahtmata laskuda pikemasse arutellu eelnevate näidete ja väidete üle, kuna see viiks kõrvale artikli otsesest sisust, võib ainult mainida, et vastuväiteid nendele on sama palju kui pooldavaid seisukohti.

5. Lingvistiliste funktsioonide valik läbi oma tehnoloogilise kasulikkuse. Kõige varasemad mutatsioonid e muutused, mis valiti kõigepealt, tegid keele arengu võimalikuks. Valikul lähtuti mitte niivõrd nende kasulikkusest seoses interpersonaalse kommunikatsiooni protsessiga, kuivõrd kasulikkusest seoses küttimise ja koriluse tehnoloogiaga. Kaks mutatsiooni, mida võidi sel ajal valida, olid: 1) need, mis tegid võimalikuks referentsiaalse e viitava osutamise ning 2) need, mis tekitasid muutusi suus ja kõris, tehes võimalikuks häälelise kõne tekkimise.

6. Paabeli torni printsiip. Nagu Paabeli torni lugu Piiblis osutab, on sisemine seos inimkeele evolutsiooni lähte ja vastastikku mõistetamatute loomulike keelte pärastise arengu vahel, ning inimese usaldus pigem tehnoloogia kui füüsiliste karakteristikute arengu vastu uue keskkonnaga kohanemisel. Paabeli torni lugu viitab, et sellisele selektsioonile viis kasulikkus, mis oli ilmselt seotud tehnoloogiliste projektidega nagu küttimine, püüniste ehitamine suurtele loomadele või varjualuse rajamine sinna, kus looduslikke koopaid polnud. Kõik need tegevused nõudsid paljude inimeste koordineeritud tegevust.

7. Biheivioristlik ehk keeleõppimise printsiip. Erinevalt keele-eelsetest kommunikatsioonisüsteemidest on keel *õpitud käitumise* vorm. Arbitraarsed stiimulid keeles saavad oma funktsioonid sotsiaalsete konventsioonide läbi, mis varieeruvad ühest keelest teise.

8. Loomulike märkide ja keele-eelsete mõistete printsiip. Selleks, et keskkonnaga edukalt kohaneda, peab iga vabalt (s.t käte abita) liikuv elav organism koos oma keerulise käitumusliku repertuaariga olema võimeline ära tundma erinevat liiki objekte ja situatsioone, mida ta regulaarselt kohtab oma ümbruskonnas. Valikud tehakse erinevatest käitumuslikest strateegiatest selliselt, mis sobib konkreetsel ajal konkreetses kontekstis. Organism, mis omab korraldust käitumuslike paigutuste *heraldikas*, sobitub erinevate asjaolude mitmekesisusega, mille tõttu satub kokku konkreetse objekti või situatsiooniga. Kohatud objektil või situatsioonil on sama liigi asjade *keele-eelne kontsept e mõiste*.

9. Mõistete ette kindlaksmääramine keskkonnast tingitud juhuslike asjaolude poolt. Kõik elusorganismid, kes sõltuvad ellujäämiseks võimest kontseptualiseerida igasuguseid problemaatilisi stiimuleid, mida indiviid kohtab, jagavad sellist kontseptualiseerimise skeemi vaatamata erinevustele liikide poolt hõivatud ökoloogilises nišis. Lingvistiline kommunikatsioon, milles sama arbitraarne sümbol muutub kinnistunuks samale mõistele keelekollektiivi kõikide liik-

4

mete jaoks, poleks saanud kunagi areneda ilma sellise ühiselt kasutatud mõistelise skeemita oma baastasandil.

10. Ikoonilisest sümboliliseks arenemise printsiip. Uuringud sünnilt kurtide lastega, kel polnud mingeid kokkupuuteid olnud viipekeelega, kuid kes viiplesid *omatehtud* märke (Tervoort 1961; Morford 1996); ameerika viipekeele uuringud, ja Hiina piktogrammide arengu ajalugu näitavad, et häälelisest kõnest sõltumatu lingvistilise kommunikatsioonisüsteemi arengus on kõige varasemad märgid reeglipäraselt *ikoonilised.* Nad imiteerivad selle objekti visuaalset välimust, mida nad kujutavad. Kõikidel juhtudel oli näha märgisüsteemi arengutendentsi liikuda eemale ikoonilisusest ja suunduda *arbitraarsete sümbolite* poole, millel pole sarnasust sellega, mida nad esindavad.

11. Stiimuli ekvivalentsuse printsiip. Uuriti lapsi käitumuslik-analüütilise traditsiooni raames seoses stiimuli võrdväärsuse määramisega. Ilmselt on evolutsiooni käigus valitud muutus, mis annab inimestele erinevalt teistest olenditest võime antud tähendusse sisestatud assotsiatsioonid vormida arbitraarsetesse sümbolitesse.

12. Bickertoni proto-keel. Stiimulite ekvivalentsuse klasside moodustamine on suunatud staatilistele visuaalsetele stiimulitele, mis on otseselt relevantsed *objekti-nimede* tekkimisel. *(Tegevus-nimede* tekkimist siinjuures ei käsitleta.) Kui objekti-nimed ja tegevus-nimed on kord tekkinud, on võimalik konstrueerida lauseid *proto-keeles* (Bickerton 1990). Proto-keeles koosnevad laused objekti-nimest või noomenist, mis täpsustab agenti, tegevus-nimest ehk verbist, mis täpsustab tegevust, mida esitatakse, ja teisest objekti-nimest või noomenist, mis täpsustab agenti või lõppsihti.

13. Viitava tegevusulatuse progressiivse avardumise printsiip. Nii nagu keel areneb lapsel, nii arenes ta eeldatavasti ka inimliigil evolutsiooni käigus. Vastavalt ka eelpool nimetatud esimestele printsiipidele oli *viitamine* esmane ning see oli piiritletud objektidega märgi-produtseerija ja märgi-saaja üldises käibivas stiimulite keskkonnas. Märgi-tegija viitas objektidele, *osutades* neile. Koos ikoonilise representatsiooni kasutuselevõtmisega laiendati viitamist objektidele, mis puudusid üldises kõneleja ja kuulaja stiimulite keskkonnas, kuid ainult niikaua, kui nende *kuju* võis maalida miimiliste liigutustega või nende *heli* võis hääleliselt imiteerida. Koos ikoonilise representatsiooni kasutuselevõtmisega laiendati viitamist nii individuaalsetele kui liigilistele puuduvatele objektidele, mille *nimi* loovutati keele konventsioonidele. Koos süntaksi kasutuselevõtmisega, eelkõige kinnistunud lausetega (Place 1998: 8) muutus võimalikuks viidata puuduvatele objektidele *kirjelduses.*

Sellised printsiibid kirjeldavad ära peamise joone, kuidas keel võis areneda käežestidest hääleliseks kõneks. Võib olla ei saa kõikide U. Place printsiipide arendustega nõus olla, aga olulisi seisukohti pole võimalik ka ümber lükata, vähemalt mitte üheselt ja veenvalt. Järgnevalt vaatame lähemalt peamisi valdkondi, tõestamaks hüpoteesi keele tekkimisest käežestidest.

3. Keel kui hiline "avastus"

On teada, et inimese ja šimpansi ühised eellased elasid umbes 5-6 miljonit aastat tagasi. Seega on mõistlik järeldada, et grammatiline keel pidi tekkima (esile kerkima) *hominiidide liinis* mingil hetkel, kui nood lahknesid sellest liinist, mis viis tänapäeva šimpansite juurde. Vt ka tabelit 1 *Ülevaade ajalistest andmetest tekstis* artikli lõpus. Keele tekkimise alguse üle on palju vaidlusi seoses lahendamata küsimusega, mis seal siis ikkagi juhtus. Mõned lingvistid, nt Derek Bickerton Hawaii ülikoolist jt arvavad, et on võimatu luua (välja mõelda) grammatika kui miski, mis on vormunud evolutsioonilise arengu käigus. See pidi olema ühekordne n-ö katastroofiline sündmus, mis leidis aset ilmselt hominiidide arengu hilisperioodil (Bickerton 1995).

Bickerton jt on väitnud, et see sündmus võis kokku langeda *Homo sapiensi* väljumisega Aafrikast umbes 150 000 aastat tagasi. See võiks ka seletada, miks *Homo sapiens* sai domineerivaks ja asendas peagi täielikult teised hominiidid — neandertallased Euroopas ja *Homo erectuse* Kagu-Aasias. P. Lieberman ja E. Crelin (1971) on neandertallaste kohta arvanud, et kuigi nood polnud võimelised artikuleeritud kõneks, võib arheoloogiliste leidude põhjal arvata, et nad valmistasid tööriistu, matsid surnuid ja et neil võis esineda midagi keele-sarnast. G. Hewes järeldab eelöeldust, et neandertallaste keel pidi olema mitte kõnekeel, vaid žestiline keel (Hewes 1973b). Philip Lieberman on fossiilsete leidude põhjal väitnud, et hääleaparaat, mis peab kindlasti toetama artikulatoorset kõnet, ei tekkinud enne kui hominiidide evolutsiooni hilisperioodil. Ka ütleb ta, et neandertallased, kes pidasid vastu veel ajani umbes 30 000 aastat tagasi, said hääduslikkuselt tõsise väljakutse. Ta väidab samuti (Lieberman 1998), et see oli keel, mis eristas *meie* eellased teistest hominiididest. Katsed viia tänapäeva keeled tagasi originaal-emakeelele (nimetatakse ka *proto-maailmakeel*, ingl *Proto-World*) viitavad samuti keele tekkimise hilisele päritolule, mitte *Homo sapiensi* eelsele ajale.

Seisukoht, et keel on üsna hiljutine *avastus*, tekitab küsimuse, kas teiste elusolendite-primaatide häälitsused — nt ahvide hoiatushüüded ja tuututamine — on kuidagi seotud inimese kõnekeelega. Eeldatavasti olid meie eellased võimelised selliseid häälitsusi tegema. Miks need hüüded siis ei võinud muutuda keeleks, mida me tunneme? Kõige tugevam argument sellise stsenaariumi vastu on see, et inimkeel ja primaatide häälitsused on fundamentaalselt väga erinevad nähtused. N. Chomsky on oma raamatus *Cartesian Linguistics* 1966 ('Karteesiuslik keeleteadus') täheldanud, et inimkeel on sidumata oma võimes väljendada mõtteid ja selles vabaduses on ta vaba ka stiimulite kontrollist, aga loomade kommunikatsioonisüsteemid koosnevad kindlast arvust signaalidest või kindlast arvust lingvistilistest dimensioonidest, millest igaüks on seotud mittelingvistilise (ingl *nonlinguistic*) dimensiooniga. Peter MacNeilage Texase ülikoolist Austinist on märkinud, et primaatide häälitsemine on *holistiline*, sisaldades teadet häälitsuses eneses, s.t häälitsus ise ongi teade, aga inimese hääldamised võib kombineerida uuel viisil ja luua sõnumi. M. Corballis

ütleb, et meie eellaste hüüde-sarnased häälitsused on püsima jäänud kaasaegse inimese emotsionaalsetes häälitsustes: nutmises, naermises, kiljatustes, aga mitte kõnes.

Siiski on raske aktsepteerida seisukohta, et nii keeruline saavutus nagu inimkeel võis tekkida viisil *kõik või mitte midagi* — *Suure Paugu* teooria järgi — inimliigi evolutsiooni hilises staadiumis. Kui me vaatame semantikat kui pragmaatika ümmardajat ja süntaksit kui semantika ümmardajat, tekivad raskused N. Chomsky seisukohtadega. Selleks et seletada inimese keelevõimet moodustada keerulisi liitlauseid, peame postuleerima keelemeele kui kaasasündinud omaduse. See *miski* on ilmunud kui *deus ex machina* üksikust gigantsest mutatsioonist inimliigi eelajaloos. Muutused muidugi olema pidid. Kuidas me muidu seletame fakti, et meie kõneleme, aga loomad isegi parima tahtmise juures seda ei suuda? Võib olla ei peaks me otsima mutatsiooni, vaid paljusid muutusi, mis on miljonite aastate jooksul laiali levinud. Neist igaüks on ehitatud millestki, mis oli enne; igaüks kannab edasi selektiivset paremust kogu sellele grupile, milles ta ilmnes ning võimaldas oma liikmetel ellu jääda ja edasi kanda geene, ning need, kellel seda mutatsiooni polnud, *sõitsid vastu seina* (Place 1998: 4). Steven Pinker ja Paul Bloom Arizona ülikoolist väidavad, et keel on *välja võlvunud* järk-järgult loomuliku valiku teel (Pinker and Bloom 1990). Mõned primatoloogid nagu Richard Byrne St. Andrewsi ülikoolist ütlevad, et keele tekkimiseks vajalikud kognitiivsed eeltingimused (nt võime kohaneda teise inimese mentaalse perspektiiviga) on olemas suurtel ahvidel, inimahvidel, ja seepärast eelnesid just nemad meie hominiididest eellaste lahknemisele šimpansite liinist, ilmselt mitmete miljonite aastate jooksul.

Kuidas me sobitume eelnevate võimalustega? Vähemalt osaline vastus on, et keel võlvus välja mitte häälduslikkusest, vaid käežestidest ja lülitus ümber häälelisele suhteliselt hiljuti hominiidide evolutsioonis, võib olla isegi koos *Homo sapiensi* ilmumisega. Umbes sellise idee esitas 18. sajandil prantsuse filosoof Étienne Condillac[2] ning selle noppis üles ja taasesitas ameerika antropoloog Gordon W. Hewes (1973b). Siinkohal võib meenutada, et peale esmaste viipekeelte on kõik keeled *kõne*keeled. Veelgi enam, nagu teame vähemalt alates E. Lennebergi (1967) klassikalisest kokkuvõttest, on tohutu palju seisukohti, et inimolendid on neuro-anatoomiliselt *adapteerunud* kõnekeele jaoks. Hewes oma artiklis on sellega kursis, kuid ütleb veel, et *keele-žesti* hüpoteesi püstitasid teineteisest sõltumatult sir Richard Paget (1944) ja A. Jóhanneson (1950) kui mudeli, kuidas keel võis *üle minna* hääleliseks. See idee pole ei lingvistide ega antropoloogide seas leidnud entusiastlikku vastukaja, sest nende endi vahel puudub üksmeel ja pole ka kindlaid otseseid

---

2 Étienne Bonnot de Condillac (1715–1780), prantsuse filosoof, sündis Grenoble'is. Tal oli seisukoht, et kogu teadmise aluseks on meeled. Tema töödest on tuntumad nt *Essai sur l'origine des connaisances humaines* (1746, 'Essee inimteadmiste päritolust') ja *Traite des sensations* (1754, 'Traktaat aistingutest').
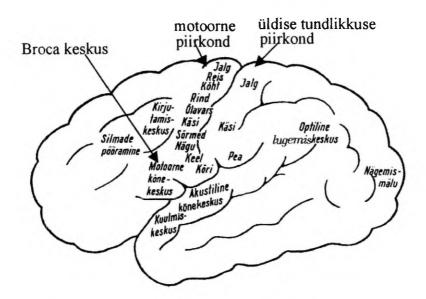
tõendeid, et keegi meie hominiididest eellastest pigem žestikuleeris kui kõneles. See ei takista väite üle edasi diskuteerimast.

4. Primaatide preadaptatsioon e eelkohastumine

Meenutame mõnesid fakte primaatide evolutsioonist. Primaadid on suurel määral nägemismeelega loomad. Nii inimestel kui ahvidel on nägemine oluliselt rohkem arenenud kui mõni muu meele võime (ingl *modality*), kuulmine kaasa arvatud. Primaatidel on ajukoore kontroll parem käeliigutuste kui häälitsuste üle. Häälitsused on oluliselt kitsendatud emotsioonidel baseeruvate häälitsustega, mis on ajukoore-aluste struktuuride kontrollida. See tähendab, et varastel hominiididel pidi olema palju parem võimalus kohaneda ekspressiivse, tahtele alluva kommunikatsiooniga, kasutades selleks käsi. Võib olla seletab see ka, miks katsed šimpansitele viipekeelt õpetada on märksa edukamad kui õpetada häälduslikku inimkeelt.

Žestide retsiprooksus kui eelsuunaja keele poole võib tagasi minna veelgi kaugemale meie ühiste eellaste juurde ahvidega, aega umbes 25 või 30 miljonit aastat tagasi. Giacomo Rizzolatti ja tema kolleegid Parma ülikoolist Itaaliast on kindlaks teinud üksikud neuronid (ahvide pretsentraalkääru motoorses piirkonnas), mis on aktiivsed, kui ahvid teevad konkreetset haaramise või küünitamise žesti. Mõned neist neuronitest, mida Rizzolatti ja tema kolleegid on nimetanud peegelneuroniteks, on aktiivsed ka siis, kui ahvid jälgivad isikut (või ka teist ahvi), kes teeb sama (haaramise) žesti. Need rakud on ahvidel ajukoore selles piirkonnas, mis on homoloogne Broca piirkonnaga inimese ajus. Broca keskus inimesel on oluline keele *programmeerimise* keskus. Võib olla on peegelneuronitel siiski rohkem seost toidu hankimisega — andmise ja saamise üksustega — kui keelega, aga G. Rizzolatti ja Michael Arbib Lõuna-California ülikoolist on arvamusel, et neil neuronitel on siiski oma roll keele järk-järgulisel väljatöötamisel (Arbib and Rizzolatti 1996). Need neuronid võivad olla ka selle omaduse eelkäijad, mis võttis üle mentaalse perspektiivi võime teistelt (neuronitelt), mis omakorda osutus oluliseks keele tekkimisel — nagu arvavad R. Byrne ja teised.

Joonisel 1 on kujutatud peaaju vasaku poolkera külgpind. Motoorne piirkond asub pretsentraalkäärus ning üldise tundlikkuse piirkond posttsentraalkäärus. Motoorset kõnekeskust nimetatakse ka Broca keskuseks.

Joonis 1. Peaaju vasaku poolkera külgpind (modifitseeritud Aul 1976: 176).

5. Žest ja aju

On mitmeid anatoomiliste seoste tõlgendusi käežestide ja keele vahekorrast ajus. Elizabeth Bates California ülikoolist San Diegost väidab, et keel on parasiitsüsteem, mis katab neid aju piirkondi, mis algselt arendati välja palju põhilisemat laadi sensomotoorseks tegevuseks. Ja on isegi nii, et piirkonnad, mis teenivad keelt, jätkavad samamoodi ka mitte-lingvistilise töö tegemist. *Nad pole loobunud oma igapäevasest tööst*, ütleb E. Bates (Bates, et al. 1979). Siia kuuluksid ajukoore otsmikusagara (ingl *frontal cortex*) motoorsed piirkonnad koos sensoorsete piirkondadega, mis vahendavad nii hääle tajumist kui ka paljude selliste ülesannete lahendamist, mis koonduvad mõiste alla *tähendus*. Sellisest sensomotoorsest seisukohast vaadatuna kavandatakse žest ja keel koos ning vormitakse koos kogu aeg, sest nad *jooksevad välja* mööda samu juhteid. Nii *imbub* keele planeerimine paratamatult *läbi* žestisse, mis on kaasprodukt. On võimalik, et fülogeneesis võis see imbumine toimuda vastassuunas.

Nagu kõnekeel, sõltub ka viipekeel kurtidel olulisel määral vasakust ajupoolkerast. Näiteks vasaku ajupoolkera kahjustuse korral võib tekkida puudujääk viiplemises, mis on paralleelne kõnekeele puudujäägiga. Broca keskuse läheduses olev eelnev kahjustus tekitab puudujäägi väljendusrikkas viiplemises.

Mitmed žestiuuringud on näidanud (McNeill 1987; 1992; 1999; Calbris 1990), et visuaalsed ja tajumuslik-motoorsed kujundid on pidevalt liikumises kui integraalne ja lahutamatu osa selles protsessis, mille läbi me organiseerime

oma tähendusi. D. McNeill (1979) on väitnud, et tähendus esitatakse kõigepealt sensomotoorse skeemi (ingl *schemata*) vormis. Niipea, kui indiviid on võimeline taas-esilekutsuma sensoorset kogemust mälus ja niipea, kui ta võib tegevusplaani ellu viia, ilma seda tegelikult tegematagi, võib ta öelda, et on opereerinud sensomotoorse skeemi terminites. Tegelike kogemuste ja tegevuse järgnevuste tõttu on selline skeem representatsiooni vorm. Indiviidi võime rakendada liigutuse mustrites seda, mida esitavad tema lausungite tähenduste aspektid — nagu see tipneb žestides — on tõend, et tähendused, mis on kodeeritud ja representeeritud lausungites, eksisteerivad tegelike kogemuste ja tegevuse mustrite vormis.

6. Käe vabanemine, ka suhtluseks

Mitteinimliigi primaatidel on käte kasutamine suhtluseks piiratud, kuna nende käed ja käsivarred on olulised kehatüve toetamiseks ning liikumiseks. Enamus primaate on kohanenud eluga puude otsas ja kasutavad käsi okstest kinnihoidmiseks ja oksalt oksale hüppamiseks. Suurekerelised ahvid on rohkem maapinnal toimetavad, aga liiguvad neljal jalal üle territooriumi. Šimpansid ja gorillad, meie lähimad sugulased primaatide hulgas, on kohandanud endale liikumis-viisi, kus ülemine kehapool toetub sõrmenukkidele. Vastupidiselt sellele on hominiidide liini (vähemalt 4 miljonit aastat tagasi) esmaseks iseloomustavaks jooneks püstiasend, mille puhul käed ja käsivarred on vabad igasugusest kehaasendi või liikumisega seotud toetavast tegevusest. Kahtlemata on see andnud olulise tõuke nende kasutamiseks muudeks tegevusteks, sealhulgas ekspressiivseks kommunikatsiooniks e väljendusrikkaks suhtlemiseks. Just kahele jalale tõusmine on olnud paljude spekulatsioonide alus. Nende hulgas on siis seisukohad, et käte vabanemine andis võimaluse kasutada tööriistu, aga väljendusrikas kommunikatsioon võis samuti saada siin oluliseks.

Lõhe hominiidide ja inimahvide vahel võis suuremaks paisutada veel Ida-Aafrika alangu (ingl *Rift Valley*) formatsioon. Ahve, kes muutusid hominiidideks, ahistati oluliselt alangu idaküljelt. Hiljuti Tšaadist avastatud 3,5 miljoni aasta vanuse australopiteekuse säilmed, mis leiti Ida-Aafrika alangu lääneosast, on tekitanud mõnesid kahtlusi *idapoolsete* (ingl *East-Side Story*) kohta. Seni olid kõik teised hominiidide fossiilsed leiud — dateeritud üle 4 miljoni aasta kuni 2 miljonit aastat tagasi — leitud ida poolt, kus metsane ala läheb üle puisrohtlaks. Sellises ümbruskonnas pidid varased hominiidid olema eriti kaitsetud palju rohkem tapmisele spetsialiseerunud ja efektiivsemate jahimeeste rünnakute vastu, kelleks olid kaasaegsete tiigrite, lõvide ja hüäänide eellased. Need siis olidki ahistajad. Selline situatsioon võis viia valikuni, mis suurendas koostööd ja kokkukuuluvust. Nende mõlema mõju suhtluses peaks olema eriti oluline.

Sellises keskkonnas pidi žestiline kommunikatsioon olema palju efektiivsem kui hääleline suhtlus. Esiteks, žestiline suhtlus on vaikne ja nii on väiksem risk,

et keegi kuuleb. Žestid võimaldasid hiilida. Teiseks, žestiline suhtlus on fundamentaalselt ruumiline, ja enamus infot, mida edastati, oligi ruumiline, nt kus umbes oht võis asuda, kuidas oleks kergem saaki püüda või isegi kuidas oma väljanägemist korrastada. Ilmselt oli *osutamine* kõige esmane kommunikatiivne žest rohtlas. Nagu tänapäeval on teada, õpivad väikesed lapsed osutama väga varajases eas, kusjuures primaadid ei osuta kunagi. Merlin Donald Queen'si ülikoolist Kingstonist, Ontario piirkonnast, väitis, et esmane kommunikatsioon baseerus miimikal, kaasates kogu keha, mitte ainult käsi ja käsivarsi. See suhtlusviis elab täna edasi tantsus ja kehakeeles. M. Donaldi seisukoha järgi on selline suhtlusvorm keelest eraldiseisev (Donald 1998), aga M. Corballise seisukoha järgi oli see suhtlusvorm hoopis eelkäijaks. Nii ehk teisiti, aga seda võib küll öelda, et žestiline keel on ikoonilisem kui hääleline keel. See tähendab, et žestiline keel on palju otsesemalt tabanud asjade kujud ja nende paigutuse (ka: 'loomuse' — ingl *disposition*) ruumis. Andes *preadaptatsioonile* e eelkohastumisele vaba kontrolli ülemise kehapoole jäsemete üle ja kandes manuaalset tegevust üle tegevuse tajumiseks, võisid meie varased eellased endastmõistetavalt arendada intentsioonilise kommunikatsiooni eesmärkidel pigem žesti kui häält.

7. Peost suhu

Kui keel pärineb käežestidest, miks siis tänapäeva inimene üldse rääkima hakkas? Kuigi varastel hominiididel võis olla palju parem eelkohastumus käeliseks kommunikatsiooniks ja puisrohtlas eelistati vaikselt viiplemist, olid kindlasti olemas ka võimalikud eelised häälduslikkusele ümberlülitumiseks: 1) kõne eelistuseks oli teate pimedas edastamise võimalus, 2) kõne oli eelisolukorras, kui suhtluse osapooled teineteist ei näinud või 3) kui suheldi suhteliselt pika maa tagant. S. Goldin-Meadow kolleegidega on teinud järgmise järelduse: kui kätel ja häälel on ühine jagatud suhtlustuum, siis on see eriti efektiivne süntaksi jaoks. Süntaks saab võimaluse edastada grammatilisi komponente, jättes ikoonilise komponendi kätele, selle asemel et lasta kätel kanda nii süntaksit kui tähendust. Võib olla veel olulisem on see, et kõne on vabastanud käed n-ö veel kord, lubades meie eellastel verbaalselt instrueerida teisi käelisest kunstist. Siin on mõeldud, et samal ajal tööriistade kasutamise või valmistamisega saab neid ka demonstreerida.

Pole usutav, et ümberlülitumine žestiliselt suhtluselt kõnekeelele toimus äkki. Häälelised ühmatused ja kiunatused võisid üsna ilmselt hakata vahemärgistama varast žestilist suhtlemist — üsna samamoodi, nagu žestid illustreerivad häälelist kõnet praegu. Hääleline suhtlus nõudis olulisi muutusi kõnetraktis, nagu ta nõudis olulisi ümberlülitusi seoses kontrolliga häälduslikkuse üle, kus kontroll läks predominantsetelt ajukoore-alustelt struktuuridelt ajukoore kontrolli alla. Philip Lieberman on väitnud, et need muutused polnud

ilmselt lõppenud veel suhteliselt hilises hominiidide arengufaasis. Võib olla nad lõppesid alles *Homo sapiensi* ilmumisega umbes 100 000 kuni 150 000 aastat tagasi. Enamgi veel, kõnekeel nõuab motoorse järjestatuse palju täpsemat programmeerimist, kuna teade nõuab tähelepanuväärset ajalist järjestatust. Viipekeeles, vastupidi, antakse grammatiline informatsioon tihti edasi paralleelselt teiste teate aspektidega. Näiteks samal ajal, kui lauset viibeldakse, võib lause üle kanda väitest küsimuseks kulmukergitusega või muuta see eituseks pearaputusega. Surve korrektseks ajaliseks jaotuseks kõnesignaalis võis samuti soodustada selektiivset suundumust unilateraalseks kontrolliks, samas kui igasugune neuraalse (e närvi-) info väljavahetamine kahe ajupoolkera vahel võis anda tulemuseks mõningase ajalise täpsuse kao. Vastavalt sellele stsenaariumile polnud see keel, mis unikaalsena iseloomustab *Homo sapiensi*, vaid pigem nihe väljendusvormis, mille tulemusel häälduslikkus hakkas kandma esmast kommunikatiivset koormat, sealhulgas kõige tähtsamat — grammatilist komponenti. See võis tõepoolest olla *Eva*, kes rääkis, kuid ta eellane suhtles ilmselt efektiivselt žestide ja häälduslikkuse kombinatsiooni vahendusel.

Keel võib olla alanud kui generatiivne, grammatiline süsteem alates inimlaste-liigi (ingl + ld *species of Homo*) tekkimisega üle 2 miljoni aasta tagasi. Varastel inimlastel näeme kõigepealt selget märki aju suurenemisest ja esimesi üritamisi kivist tööriistu teha. Kuigi kivist tööriistad muutusid keerulisemaks inimlaste-liigi arenedes, on tehnoloogia olnud tähelepanuväärselt staatiline peaaegu 2 miljonit aastat — mis ilmselt on ka periood käte kasutamiseks kommunikatsioonis. Ilmselt alles 40 000 aastat tagasi hakkasid tööriistad muutuma suurema variatiivsuse ja keerukuse suunas. Siiski, keerulise tehnoloogia esiletõus Euroopas näib olevat kokku sattunud *Homo sapiensi* Euroopasse saabumisega, kes omakorda järk-järgult asendas seal laiutanud neandertallased. Hiljutised avastused, sealhulgas nt 90 000 aasta vanused luust artefaktid Zairest (end. Kongo DV) lubavad arvata, et tehnoloogiline revolutsioon algas palju varem ja võis oma lähte saada *Homo sapiensist* Aafrikas. Siinkohal võiks meenutada katket antropoloogiateaduste doktori Edouard Boné 1994. aastal peetud ettekandest *Inimese päritolu ja inimese evolutsiooni tähendus*:

"Hiljuti oli mul võimalus külastada tähelepanuväärset näitust *Viis miljonit aastat inimese olemasolu*. Kohe alguses võis näha Tansaanias asuva Laetolil'i vulkaani tuhka ja mudasse jäänud jälgi, mis kuulusid kahele kõrvuti kõndinud kahejalgsele olendile /.../ Samuti on leitud matmispaiku: näiteks avastati Skandinaavias Bögebakkenis[3] koos oma luigetiivale asetatud lapsega maetud noor ema. Iraagis Shanidaris, Iraagi ja Türgi piiril asetati üks surnukeha 80 000 aastat tagasi lilledest voodisse. Lilled olid närtsinud, kuid seemned olid muutunud fossiilideks. Tänapäeval saab taastada lillede liike. Botaanikutel õnnestus kindlaks määrata erinevad liilialised ja tulikalised; võis taastada värvide harmoonia. Saab täpsustada, millisel aastaajal matmine toimus: see oli maikuus,

---

[3]   Taanis

mil Iraagi kiltmaal õitsesid oranžide õielehtedega tulikad ..." (Boné 1996: 34) Nagu näeme, olid meie eellastel kujunenud mitmed suhtluseks ja ühiseluks olulised omadused.

Praegu arvatakse, et *Homo sapiens* sai alguse Aafrikast ja levis sealt laiali vahemikus umbes 60 000 kuni 100 000 aastat tagasi, asendades teised hominiidsed liigid, kes olid migreerinud varem, sealhulgas neandertallased Euroopas ja *Homo erectuse*, kes võis jääda püsima Jaaval veel hilise ajani — umbes 27 000 aastat tagasi. Mis oli see, mis võimaldas meie liigi olenditel võitu saada nendest suure ajuga hominiididest, kelle eellased olid migreerinud palju varem? Kõige tõenäolisem vastus on, et nad said võitu tänu paremale tehnoloogiale. Aga tehnoloogia paremus võis tuleneda mitte aju suurusest, vaid üleminekust manuaalselt keelelt häälelisele keelele, mis lubas neil kasutada käsi tööriistade ja relvade tegemiseks ning häält juhtnööride jagamiseks. Hääle kasutamine õpetamiseks tagas oskuste ja teadmiste edasikandmise, milles on ka kultuuri läte.

8. Autonoomsed žestid ja žestilised keeled

Kuigi žestid on sümbolilised ja kuigi nad on olulised kommunikatsioonis, on nad siiski väga erinevad suulisest kõnest. Kõnega kaasnevate žestide tähendusi esitatakse globaalses, kujundilises vormis, aga tähenduse lingvistilise interpretatsiooni leksikaalsed vormid töötatakse läbi süntaktilistes struktuurides. Siiski saab žeste kasutada samal viisil nagu sõnu. Mitmesugustes kogukondades leidub žestilisi vorme, mis on veidi vähem variaablid vormis, kuid mida võib käsitleda kui keelt. Selliseid žeste nimetatakse *embleemideks* ja mõnedel neist on funktsiooniks asendada kõneakt täielikult. Näiteks asetades vertikaalses asendis nimetissõrme vastu huuli, edastame kellelegi palve olla tasa. Itaalias on žest, milles kahe käe nimetissõrmed on algul laiali ning siis külgepidi puutes (lateraalne kontakt). See žest tähendab *võrdselt*, aga nagu sõnagi, sõltub tema tähendus kasutusest koos lingvistilise konstruktsiooniga.

Žestilist keelt on jälgitud religioossetes kommuunides, kus on vaikimisnõue (vt ka 'trapistid' — Kimmel-Tenjes 1993: 554) või ka olukordades, kus kõnelda on raske või kõne on keelatud. Ühed kõige keerulisemad aktiivselt kasutatavatest viipekeeltest on Austraalia aborigeenidel. Nende keelte näited iseenesest pole veel otsene tõend, et žestiline keel eelnes häälelisele keelele, kuna need viipekeeled baseeruvad tegelikult häälelisel keelel, kuid nad võivad funktsioneerida ka iseseisvalt ja on täisgrammatilised. Arvatavalt pärinevad nad Austraalia kesk-põhja kõrbealalt ja on levinud sealt laiali. Neid kasutatakse osaliselt kõnelemiskeelu ületamiseks, mida peavad järgima kesk-põhja kõrbeala naised peale lähedase sugulase surma ja osaliselt kasutavad neid noviitsidest noormehed initsiatsiooni ajal. Viipekeeled on laialt kasutusel veel Põhja-Ameerika tasandikuala indiaanlaste juures. Ilmselt teenisid viipekeeled seal peamiselt üksteisest arusaamise hõlbustamise rolli erinevaid keeli kõnelenud omavahel suhelnud hõimude vahel.

Kõige külluslikumate võimalustega ja kõige rohkem uuritud käelised keeled on kurtide viipekeeled. Kurtide viipekeelte kohta on kaks mõnevõrra erinevat seisukohta: 1) viipekeeled on silmapaistvad loomupärased iseseisvad keeled oma arenenud grammatikaga (Corballis 1999) ning 2) viipekeeled on *süsteemid*, mis on ellu kutsutud välistest, sotsiaalsetest vajadustest tingituna ning nad pole sõna otseses mõttes *keeled* (Kendon 1991). Vaatamata eriarvamustele viipe-keelte olemuse suhtes, ei sega see mõlema seisukoha esindajaid ühtmoodi arva-mast, et viipekeeled aitavad kinnitada keele žestilise päritolu hüpoteesi.

8.1. Viipekeeled kui loomupärased iseseisvad keeled

Viipekeeled polnud ametlikud, seadustatud keeled kuni 18. sajandi lõpuni. Esi-mesed seadustajad olid prantslased. 1864 andis Ameerika Ühendriikide Kongress välja seadusandluse rahvusliku kurttummade kolledži rajamise kohta. Kolledžit hakati nimetama Gallaudet' kolledžiks (praegune Gallaudet' ülikool) tema esimese juhataja järgi. Veel 19. sajandi lõpus oli tugev vastuseis viipe-keele kasutamise ja kurtidele kõnelemise õpetamise suhtes. Kurtide Hariduse Rahvusvaheline Kongress Milanos 1880 hääletas *oralismi*[4] poolt, ja see oligi ametlikult tunnustatud viipekeel. Selline olukord andvat kurtidele lastele väide-tavalt kooli lõpetades kesised lugemise-kirjutamise oskused.

Muutus algas 1950ndatel tänu William Stokoe'i, tollase Gallaudet' ülikooli professori jõupingutustele. Kuigi viipekeel polnud täielikult tunnustatud veel isegi siis, näitas W. Stokoe, et tudengid kasutasid seda rohkesti ja et viipekeelel olid tõelise keele tunnused. Selles on Stokoe ja teised rohkesti kinnitust saanud oma uuringutes, ja *ameerika viipekeel* (ingl *American Sign Language, ASL*) on nüüd tunnustatud Gallaudet' ülikoolis. Üliõpilastele õpetatakse kõiki vajalikke aineid — matemaatikat, keemiat, filosoofiat ja isegi poeesiat — ilma et sõnagi kõneldakse. Viipekeeltes on samuti lõputu erinevus, mida viljelevad kurdid üle maailma, ja pole kahtlust, et need on loomupärased (genuiinsed) keeled täieli-kult arenenud grammatikaga. Viipekeelte spontaanne esilekerkimine kõikjal kurtide kogukondades kinnitab, et žestiline kommunikatsioon on sama loomulik inimese omadus kui kõneldav keel (Corballis 1999). Tõepoolest, lapsed, kes teevad väga varajasest east peale ainult viipeid, teevad järk-järgult läbi ka samasugused keele tekkimise ja arengu staadiumid kui lapsed, kes õpivad kõnelema, sealhulgas muuseas staadiumi, mida me nimetame *lalisemiseks*. Nad viiplevad vaikselt!

Kui osutub tõeks N. Chomsky universaalgrammatika mõiste, siis rakendub see viipekeelele samavõrra kui kõnekeelele. Susan Goldin-Meadow ja Carolyn Mylander Chicago ülikoolist uurisid 8 kurti last, kelle vanemad olid kuuljad. Uurijad leidsid, et lapsed olid loonud viipekeeled, mis olid palju keerulisemad,

---

[4] Oralism — kurtidele huulte pealt lugema õpetamine või õpetamine, kasutades ära nende ükskõik kui vähest kuulmisjääki.

kui need lihtsad žestid, mida kasutasid nende vanemad neid õpetades. Kuigi neli last kasvasid üles Ameerika Ühendriikides ja neli Hiinas, oli nende laste viipekeeltes rohkem ühist kui laste ja nende vanemate viipežestides. Lapsed mõlemalt maalt viiplesid spontaanselt liitlauseid, väljendades rohkem kui üht propositsiooni (väidet) ja nad järjestasid oma žeste sarnaselt. Lapsed kohandasid spontaanselt ergatiivi[5] struktuuri oma viibetesse, milledes intransitiivsed tegijad (ingl *actor*) on eraldi transitiivsetest. Näiteks sõna *hiir* on intransitiivne tegija lauses *Hiir läheb urgu*, samas kui see on transitiivne tegija lauses *Hiir sööb juustu*. Keeltes, kus on ergatiiv, peaks viibe *hiire* jaoks olema kummaski kontekstis erinev. Hiina ja inglise keeled ei tee sellist eristust. Sellised uuringud toetavad ideed, et lastel on nii kõnekeele kui viipekeele arengus kaasasündinud komponent.

8.2. Viipekeeled kui süsteemid, mitte keeled

Kus suulisi väljendeid pole võimalik kasutada — kas rituaalsetel, keskkondlikel või füsioloogilistel põhjustel, võib žest mobiliseerida end kõne komplementaarse asendajana. Kurtide viipekeelte uuringud näitavad, et need süsteemid võivad olla nii täielikult läbi töötatud nagu kõnekeeledki. Tänaseks on viipekeelte näol olemas võimalus, kuidas žestilist vahendajat saab kasutada keelesüsteemi loomiseks, nii et iseloomulikud jooned on analoogsed kõnekeele omadele, aga süsteem on kõnest sõltumatu.

See, mis teeb viipekeelte uurimise atraktiivseks, ongi keele päritolu probleem — nad võimaldavad meil jälgida keele formeerimise (e moodustamise) protsesse. Näiteks on mitmed autorid kirjeldanud uute leksikaalsete vormide loomist nii juba välja kujunenud viipekeelte kasutajate poolt — nagu nt ameerika viipekeel — kui ka lokaalsete viipekeelte puhul. Selles loomisprotsessis teevad konkreetsete objektide või tegevuste pantomiimilised representatsioonid läbi muutused stilisatsiooni, reduktsiooni ja assimilatsiooni kaudu, et moodustada viipekeele struktuur (Tervoort 1961; Klima and Bellugi 1979; Scroggs 1981). Ilmneb, et väga suur osa *küpse* viipekeele silmnähtavalt suvalisi viipeid, mida saab analüüsida, nagu nad oleksid loodud moodustavate elementide süsteemist analoogselt kõnekeele fonoloogilistele elementidele, tuletatakse tegelikult konkreetsete objektide pantomiimi-sarnastest representatsioonidest reduktsiooni ja stilisatsiooni regulaarsete protsesside kaudu.

---

[5] Ergatiiv (< kr *ergatēs* 'tegija'), mõnes keeles, nt baski keeles ja kaukaasia keeltes tegevuse subjekti kääne e lõpuga alusekääne, mida kasutatakse, kui öeldis on sihiline pöördsõna. Sihitis on siis nimetavas käändes. Alus on neis keeltes lõputa nimetavas käändes ainult siis, kui öeldis on sihitu pöördsõna. Ergatiivseks on peetud ka mõnd läänemeresoome keelte tarindit, nt eesti *poja tehtud töö*, soome *isän ostama* 'isa ostetud'.

Keelemoodustamise protsessidele heidavad rohkem valgust uuringud, mis võrdlevad viipekeelte kasutust stabiilsetes kurtide kogukondades nagu ameerika või briti kurtide kogukonnad ja kurtidel, kes pole väljakujunenud kogukondade liikmed. Uuringud on näidanud, et peab esinema variatsioone süsteemis nimega *keel*. Variatsioon on seotud erinevustega nendes interaktsioonilistes asjaoludes, mis panevad viibet kasutama. Seda on leidnud nii W. Washabaugh (1986), uurides viipekeelt Providence Islandi kurtide hulgas, kus ei olnud kurtide kogukonda, ja J. Jepson (1991), kes uuris Indias kurtide viipeid tavalises ühiskonnas võrrelduna nendega, mida kasutasid kurdid linnas oma kogukondades. Mõlemad uurijad tegid spetsiifilised järeldused, et välised tingimused on need, mis kutsuvad ellu süsteemi tekkimise, mida saab nimetada *keeleks*. See kinnitab seisukohta, et erinevad strukturaalsed jooned käituvad keele diagnostikana. Sellisteks joonteks on paarid nagu *musterdamine* ja süntaktilisus, ning need jooned on süsteemi sotsiaalsete vajaduste tagajärg. Keelt ellukutsuvad jooned pole seega mitte autonoomsed, või isegi kaasasündinud ega ka mitte mingid sisemised protsessid (Kendon 1991).

Kurtide viipesüsteemide analüüsid, nagu ka kurtide laste uurimised ei paljastanud mingit viipe*keelt*, märkide *keelt* (Feldman, Goldin-Meadow and Gleitman 1978; Goldin-Meadow 1990). See näitab, et kui inimesed on jäetud ilma igasugusest otsesest sidemest olemasoleva keelega, siis nad võivad kujustada omaenese süsteemi, mis täidab keskseid keele funktsioone, kasutades selleks *ainult žeste*. Siit saab teha olulise järelduse, mis toetab keele žestilise päritolu positsiooni.

Kas käežestid on *viies ratas* keelelise evolutsiooni vankri all, kuigi ka sõitmiseks? M. Corballis väidab, et inimeste viipekeelte ja käežestide rikkalikkus tõestab evolutsioonilise lättena just vastupidist. Žestid pole kõnega juhuslikult seotud; nad võivad edasi anda informatsiooni süstemaatilisel viisil. Näiteks žestid viipekeeltes kannavad infot täiesti vabalt, eraldi kõneldud sõnast. Nii et žest pole mitte viies ratas, vaid võib olla universaalratas ehk ainuline ratas, millest esmalt lähtus keel.

9. Žestide ja kõne koostöö mõningaid iseloomulikke jooni

Žestid pole mitte kujud kujuteldavast minevikust. David McNeill (1992; 1999) Chicago ülikoolist on näidanud, et käežestid on keerulisel viisil põimunud meie igapäevase kõne mustritega. Kõne kannab grammatika koormat ja enamust sümbolilise representatsiooni kandamist. Kui kuuleme lindistatud loenguid või kuulame raadiot, siis läheb väga vähe infot kaduma. Sellegipoolest lisavad žestid visuaalse, ikoonilise komponendi, mis võib nt kanda lisainformatsiooni või lõpetada venima kippuva seletuse. Paluge kedagi seletada, mis on spiraal, või kalameest jutustada, kui suure kala ta on püüdnud! Eriti ilmekalt on näha, kuidas inimesed võtavad väga loomulikult abiks käežestid siis, kui nad püüavad suhelda inimesega, kes räägib mingit võõrkeelt. Susan Goldin-Meadow kollee-

gidega Chicago ülikoolist on näidanud, kuidas žest võtab kiiresti üle grammatilise rolli, kui inimesed väldivad kõnelemist.

Kõnega kaasnevate žestide liigutusfraaside analüüs näitab, kuidas nad on koordineeritud kaasnema kõnefraasidega. Kui kõnelemise ajal žestikuleeritakse, siis iga tähenduslikult olulise grupi e tähendusgrupi (ingl *sense-group*) jaoks kõnes on vastav žestifraas. Enamgi veel — on leitud, et kui žestifraas väljendab lausungi sisu, siis karakteristikud, mis kujutavad seda arengut — esinedes kas enne tähendusgrupi tuumsilpi või samaaegselt tuumsilbiga — vastavad kõige olulisemale informatiivsele punktile kõnefraasis (Kendon 1991: 2, Tenjes 2000). Žestifraas võib sageli leida *otsetee* enne kõnefraasi, millega nad assotsiatiivse seose läbi koos alustasid. See annab kindla aluse väita, et žestifraas on täielikult valmis organiseeritud kas enne kõnefraasi või kõnefraasiga samaaegselt.

Erinevate näidete võrdlusest on selgunud, et kõnefraasi ja žestifraasi koordinatsioon pole automaatne. Ühelt poolt on näiteid, kus žestifraasi kõige ekspressiivsemate aspektide esitamine lükatakse edasi nii, et see toimub koordineeritult kõnefraasi keskete silpidega, teiselt poolt on näiteid, kus kõne *hoitakse õhus* nii, et käed jõuavad tagasiasendisse, et esitada järgmisena tulev žestifraas. Seega, kõne ja žest õigustavad teineteise olemasolu (Kendon 1990). Ei ole ka nii, et ühte liiki väljendused oleksid *alati* seotud teistega samal viisil. Žest ei *jälita* kõnet automaatselt, samuti ei tee seda kõne žesti suhtes. Selles, mida võib väljendada žestiga, valitseb tõeline mitmekesisus. Kõnega kaasneval žestil on oma osa väljenduse sisu esitamisel, suulise diskursuse struktuuri nähtavaks tegemisel. Žestid võivad märkida diskursuse üksuste retoorilist staatust; nad võivad mängida olulist rolli vooruvahetuse reguleerimisel ja end maksma panna kuulajaskonnas, kellele lausung adresseeritakse. Kus iganes žest kannab sisu, võib see olla antud paljudel erinevatel viisidel. Väljendatav sisu võib olla nii abstraktne kui konkreetne. Näiteks deiktilised žestid osutavad kohtadele virtuaalses ruumis viidatavate objektide kaudu nii, et kujutletakse, kus nad võivad seal asuda. On žeste, mis joonistavad jälje läbi ruumi või läbi aja, luues ruumi. Žestid, mis tähistavad millegi visuaalset ilmumist, esitavad suurusi või kujusid. Osad žestid esitavad mingit liiki tegevusmustreid. Nii võime jälgida haaramisliigutusi, millegi lahtipakkimise või lahtiharutamise sugestiivseid liigutusi, kinni- või lahtikeeramise liigutusi jne. Taolised žestid edastavad liigutusmustreid, mida võib kasutada selleks, et osutada konkreetsetele tegevustele, kuid kasutada ka metafooridena mõtlemisprotsessis (McNeill 1987; 1992; Calbris 1990).

Žestid, mis kaasnevad kõnega, võivad edastada konkreetset ja äärmiselt täpset infot, mida ei saa üldse esitada kaasneva kõnefraasiga. Näiteks vestluses kahe inglase vahel, mis leidis aset Ameerika Ühendriikide idarannikul, ütles üks teisele: *Kas sa oled "Sunday New York Times'i" näinud?*, tehes kahe käega žesti, mis kujutas midagi paksu ja piklikku. Ta tegi viite *New York Times*'i pühapäevalehe suurusele ja paksusele (suur võrreldes Briti lehega). Kõneleja küsimuse kõige olulisem osa oli tähelepanu juhtimine ajalehe füüsilistele

karakteristikutele, mida kandis edasi žest, mitte kõnevorm (Kendon 1986[6]). Näiteks vestluses suitsetamisest loobumise kohta (Kendon 1990) kirjeldab kõneleja, kuidas tal ei õnnestunud lahti saada automaatsest harjumusest sigarettide järele haarata. Žestiga, mis kaasneb just kirjeldusega samal ajal, liigutab kõneleja oma kätt nii, et ülespoole avatud pihuga vasak käsi liigub särgi rinnataskusse, ning seda liigutust tehakse üksikasjalikul moel, edastades spetsiifilist infot nii koha kohta, kus ta tavatses sigarette hoida kui ka tegevuse automaatse iseloomu kohta, millest ta parajasti rääkis. On teisigi eksperimentaalseid uuringuid, mis näitavad, et kõnega kaasnevad (ingl *co-speech*) žestid võivad olla olulised retsipiendile lausungite mõistmisel (Graham, Argyle 1975; Riseborough 1985; McNeill 1992).

Inimolendite keelevõime võis alata suhtlusega žestide abil, nagu oleme juba näidanud. Selle tõenduseks on ka sünnilt pimedate inimestega tehtud uuringud — inimesed, kel polnud võimalik teist inimest näha. S. Goldin-Meadow ja tema toonane kolleeg Jana Iverson Indiana ülikoolist uurisid 12 pimeda žeste, kui nood vestlesid (Iverson, Goldin-Meadow 1998). Pimedad kasutasid žeste samal määral, kui nägijad. Nende žestid kandsid samamoodi infot edasi ja nende žestid olid vormilt sama ulatuslikud! (Näiteks kasutati kaldu C-kuju joonistamist käega õhus, et juhtida tähelepanu anumast välja valatud vedelikule.) J. Iverson ja S. Goldin-Meadow ütlevad (1998: 228), et võib olla žestiku-leerivad kõnelejad, kuna nad mõistavad, et žestid võivad kanda kasulikku informatsiooni kuulajani. Tähelepanuväärne oligi see, et pimedad žestiku-leerisid, kui nad kõnelesid, vaatamata sellele, kas kuulaja oli nägija või mitte. See on kinnitanud ideed, et žestid on tihedalt paaris kõneaktiga. Sellistel paaridel on oma lätted ajus.

A. Kendon esitab kaks kõne ja žesti suhet pehmendavat asjaolu. 1. Kõnekeelel on neid aspekte, mis näitavad, et ta on *vähem* erinev žestilisest väljendist, kui ta võiks esmapilgul olla. Kõnekeele väljendusviisides võib leida žestile iseloomulikke jooni. See tähendab, et kasutades kõnet keele jaoks või kasutades žesti keele jaoks, pole neis nii radikaalset erinevust, nagu võiks eeldada. 2. Kõnel on neid funktsioone, mida tavaliselt ei peeta lingvistiliseks selle sõna otseses mõttes, kuid mis on sellegipoolest väga olulised ja mis järelduvad tema oraal-auditiivsest olemusest. A. Kendon nimetab neid *faatilisteks* (ingl *phatic*)[7] funktsioonideks. Nende kaudu töötati kõnevõime rohkem läbi, enne kui ta võeti üle kui vahend sümboliliseks kommunikatsiooniks, mis on *lingvistiline* kommunikatsioon.

---

[6] Detailsemalt sellest näitest eesti keeles vt ka S. Tenjes, Žestid eestikeelses dialoogis. Magistritöö. Tartu: Tartu Ülikool (käsikiri), 1995, lk 59.

[7] Mõiste pärineb Bronislaw Kasper Malinowskilt, kes tuletas selle ingliskeelsest sõnast *emphatic* — 'emfaatiline, (tunde)rõhuline'. Ta on öelnud näiteks, et "tervitused on *faatilise suhtlemise* osa, millega inimesed loovad liidusidemeid ja hoiduvad vaikusest, mis on alati hoiatav ja kardetav" (lk 314) — B. Malinowski, The Problem of Meaning in Primitive Languages. C. K. Ogden and I. A. Richards (eds), The Meaning of Meaning. New York: Harcourt, Brace and World, 1923, lk 296–336.

9.1. Kõne faatiline funktsioon

Kõnekeeles on palju paralleele žestiliste väljenditega. Ühisosa nende vahel ainult tundub väiksem, kui see tegelikult on. Kahe väljendusviisi integratsioon on vähem müstiline, kui see arvatakse olevat. Kõneldes me sageli osutame ja viitame, nii on keele referentsiaalne funktsioon üks olulisemaid. Kuid keelel on teisigi funktsioone. Kuigi neid funktsioone tuuakse vähem esile keele üle peetavates diskussioonides, on nad samavõrd olulised, sest nad arvestavad meie võimete läbitöötamisega kõnelemiseks, enne kui me kasutame keelt. A. Kendon peab siin silmas kõnelise kommunikatsiooni *faatilist* funktsiooni (Kendon 1991: 8) — viis, kuidas häälduslikkust muudetakse, kui me arvestame üksteisega. Küllap on kõigil mõnikord ette tulnud vajadus teha pööre vestluse käigus — mitte seoses sellega, millest parajasti räägiti, vaid *koosolu* pärast, *jagatuse* pärast. A. Kendon väidab, et keele päritolu küsimuses tuleb sellele probleemile rohkem tähelepanu pöörata. *Kõne* kui selline võib olla läbi töötatud häälelisuse kasutamise arendamise käigus *faatiliste* funktsioonide jaoks. Kui sotsiaalne elu hominiididel oli keeruline ja muutuv, küllap siis pidi olema väga oluline *ühenduse pidamine*, pidev üksteise hoiatamine või muidu teada andmine selle kohta, mis kellelgi kavas oli või kuidas üksteisesse suhtutakse.[8] See pidi olema kergelt ja efektiivselt tehtav häälelisuse painduvate, õrnade vahenditega. Paljud uurijad on kirjeldanud, kuidas erinevad mitte-inimliigi primaadid kasutavad enam-vähem läbitöötatud häälduslikkust, millel on olnud sotsiaal-koordinatiivsed ehk faatilised funktsioonid. R. Andrew (1976) on kirjeldanud keerulisi *kruntivaid* mustreid ahvide liigutustes üksteise suhtes, B. Richman (1980) on arutanud keeruliste rütmiliste laulu-sarnaste häälitsuslike muutuste üle samuti teatud liiki ahvidel. C. Snowden (1990) on oma uuringute põhjal järeldanud, et paljudel primaatidel on häälitsustes dialoogilised muutused — teatud võimelisus dialoogiks. Eelnev lubab kujutada, et kui sotsiaalsed suhted arenesid keerulisemaks, pidi toimuma vastav areng keerulisuse suunas ka häälduslikkuses. A. Kendon arvab, et seesugusel viisil võis jõuda olemuslike tingimusteni, mis viisid kõnevõime arengu suunas.

Kui kõne oli läbi töötatud, siis oli ta pigem esmaseks vahendiks sotsiaalsete suhete koordineerimisel kui sümbolilise referentsi süsteemiks. Kuidas selline koordinatsioon sai sümbolilise funktsiooni, nagu ta on? Kendon arvab, et see toimus läbi teatud assotsiatiivsete protsesside. Kui proto-referentsiaalse kommunikatsiooni pantomiimilised dialoogid olid talletatud, pidid osapooled sageli olema võimelised orienteeruma üksteise tegevustes. Igaüks pidi olema kindel, et tema kavatsust teise tegevuse suhtes — nagu ta oli selle *dialoogiliselt* esitanud — mõisteti. Häälitsused võisid teenida seda funktsiooni hästi. Näiteks võib tuua inimestele omast soovi hüüda üksteist tähelepanu äratamiseks. Võib

---

[8] Keele tekkimisest, kollektiivsest petmisest ja hoolitsevast sugemisest vt ka M. Ehala, Uued tuuled ajaloolises keeleteaduses. — J. Engelbrecht, E. Ergma (vastut. toim), Noored teaduses. Tallinn: Eesti Teaduste Akadeemia, 2000, lk 11–16.

kujutada, et niisuguseid keerulisi häälikute järgnevusi nagu *sädistamine* tähelepanu köitmiseks hääduslikkuse kaudu — signaliseerides nii teateid *Vaata mind!* ja samuti vastu võttes teateid *Ma mõistan* — pidi säilitatama kui pantomiimilise dialoogi integraalseid osi. Kui sellised situatsioonid olid küllaldaselt korduvad, tekkis hääldusele sümboliline funktsioon ning hääldus assotsieerus representatsioonilise tegevusega näiteks nii, et konkreetne häädus-likkuse muster võis siis tulla kasutusele tegevuste eneste *asemel*.

10. Ikoonilisus kõnekeeltes ja žestides

10.1. Keele arbitraarsus

Kui varaseim keel oli tõepoolest žestiline, siis aitab see ehk seletada üht kõne evolutsiooni müsteeriumi: kuidas sõnad hakkasid tähistama objekte ja sündmusi arbitraarsel viisil. Ka siin on kaks esmapilgul erinevat seisukohta: üks rõhutab sõnade arbitraarsust, teine ikoonilisust. Usutavasti on sõnal mõlemad omadused, ikoonilisust pole me lihtsalt viimased 100 aastat rõhutanud ja seepärast tundub selline vaateviis pisut dissidentlik.

Esimese üldlevinud seisukoha järgi on sõnad pigem abstraktsed kui ikoonilised. On väike hulk erandeid nagu näiteks onomatopoeetilised sõnad (nt 'bzz', arvukate mesilaste sumisemise hääl, aga ka 'kolisema', 'susisema', 'mürts' jne). Pole midagi sõna hääduses, mis annaks alust arvata, et see peaks olema tema tähendus. On väidetud, et kõige varasemad sõnad olid tegelikult oma referentside, viidatavate, järeleaimamine. Idee, millele andis hüüdnime *auh-auh teooria* 19. sajandi filoloog Max Müller. Seda ideed keele tekkimise teooriana peetakse siiski üsna võimatuks; eelkõige sellepärast, et kõnekeel on ühedimensiooniline, struktureeritud ajas ja mitte ruumis, samas kui olulised sündmused meie maailmas on neljadimensioonilised, struktureeritud ajas ja ruumis. Selline piirang ei rakendu käežestidele, mis võisid esile kerkida varasematest katsetest füüsiliselt jäljendada füüsikalist maailma. Kuid see, mis võis alata kui ikooniline süsteem, võis tõenäoliselt areneda abstraktsemateks omadusteks aja jooksul, ja mõnes suhtes arbitraarsed häälemustrid võisid seostuda žestidega nii, et muutusid ise pigem abstraktseteks sümboliteks kui ikoonideks. Tundub, et siin ei ole asi kaugeltki nii ühene ja selge, nagu M. Corballis (1999) on arvanud.

10.2. Keele ikoonilisus

Kui vaatame žesti, nagu seda kasutatakse kõnes ja nagu seda kasutavad viip-lejad, saame külluslikku hulga kujutavaid ja pantomiimilisi väljendeid. Kui žesti kasutatakse tema enda pärast (viipekeeled jmt), muutub ta palju modifitseeri-tumaks ja me võime näha süsteemide esilekerkimist. Need on tõeliselt

süsteemsed, aga ka suvalisuse karakteristikuga — kõigega, mida me kujutame ette keelel olevat. Me võime näha juba väljaarendatud viipekeeltes ekspressiivsete leiutiste esitamist, mis tuletatakse ilmselt väljendi vormist, mis omakorda sõltub visuaalsest, ikoonilisest representatsioonist. Siinjuures on ahvatlev näha seda kui väljendi fundamentaalset viisi, midagi, mis on täiesti aluseks igat liiki referentsiaalsele väljendile.

Kui see nii on, võime loota, et kaasaegne kõnekeel peaks samuti neid jooni näitama. Seda, et keel just *ei ole* kujutav, on enamasti esitatud kui keele tähtsaimat printsiipi. Väljendi pildilisi, ikoonilisi esitusviise, mida leiame žestidel, nimetatakse üldiselt *mittelingvistilisteks*. Paljud viipekeele uurijad on eitanud selliste joonte olemasolu. Nad on teinud jõupingutusi, et tõestada viipekeelte staatust iseseisvate keeltena (Herbert and Waltensperger 1979). Keelemärgi arbitraarsus, nagu selle on välja hõiganud F. de Saussure, on *Keele Printsiipidest* esimene ja paljud lingvistid on võtnud seda nii südamesse, et nad pole tähelepanu pööranud inimesele tervikuna, tema *kehalisusele* ning on seetõttu jätnud kõrvale olulisi fakte, mis näitavad, et arbitraarsus — või pigem *keele mitteikoonilisus* — on parimal juhul suhteline (Kendon 1991)! Samal seisukohal on ka mitmed teised uurijad. Stan Voronin (1991) ütleb, et F. Saussure'i keelemärgi arbitraarsuse printsiibi ületähtsustamisega ignoreeritakse *hääle-sümbolismi* ja onomatopoeetilisi elemente maailma keeltes. Luues ja kasutades keelt me kõnelejatena tõepoolest kasutame seda piltide loomiseks sellest, mida me räägime ja see pildiloome või ikoonilisuse võime teavitab meid olulisel määral isegi näivalt täiesti formaalsest lingvistilisest struktuurist.

See näib töötavat igal keeleanalüüsi tasandil. R. Wescott (1971) ning R. Jakobson ja L. Waugh (1979) näitasid häälelise sümbolismi nähtuse allesjäämist keeles ja seda, kuidas sõnad kõlavad ning kuidas nad on rütmiliselt *musterdatud*. Siinjuures oli oluline, kuidas kõnelejad näitasid ja järkjärgult organiseerisid kõnet. Seega näib (kui keel on inimeste looming), nagu oleks musterdamine mänginud olulist rolli keele moodustamisel. On palju uuringuid spontaanse kõne kohta, mis näitasid, et me võime mõnikord osaleda protsessis, mille läbi sõnad saavad vormid väljaspool hääle kujutamist. D. Tannen (1983) uuris Kreeka naisi vestluses ja P. Nordberg (1986) uuris vestlusi Rootsi täiskasvanute hulgas. Nad juhivad tähelepanu *häälesõnade* laialdasele kasutusele — need on mitteleksikaalsed vokaalsed üksused, mis on äärmiselt onomatopoeetilise iseloomuga. Inglise keeles nt *vroom* viitab kihutava auto mürale, *brr!* tehakse külma puhul, *whoosh* väljatulistatava raketi kirjelduseks. Nordberg näitab, kuidas selliseid häälesõnu kasutati erinevatel eesmärkidel Rootsi täiskasvanute kõnes, sageli süntaktiliselt täielikult integreeritud lause sees, milles nad ilmnesid, ja tihti olid nad lokaalselt konventsionaliseeritud. On ilmne, et sellised häälesõnad või *vokaalsed žestid* muutuvad konventsionaalseteks ja saavad sõnavara osaks. Mõnedes keeltes on häälesõnu leksikonis rohkem ja neid nimetatakse *ideofoonideks*. Neid on palju Aafrika keeltes, aga ka mujal. Need on leksikaalsed üksused hälbiva fonoloogiaga, tüüpiliselt onomato-

poeetilised ning neid võib kasutada adjektiividena ja verbina. Ideofoon sageli kas intensiivistab või täpsustab.

Ikoonilisus morfoloogias on samuti laialt levinud. R. Wescott (1971) meenutab, et pluurali vormid on sageli üldiselt pikemad kui singulari vormid ja komparatiivides on tavaline, et võrdluse *kangem* osa on pikem kui lähe: 'pikk' — *'pikem'*. G. Lakoff ja M. Johnson (1980) meenutavad reduplikatsiooni[9] kui intensiivistavat või *mitmustavat* (e *pluraliseerivat*) nähtust paljudes keeltes, mis on ilmselt ikoonilise alusega.

Ka süntaksis võib ikoonilisust demonstreerida. J. Haiman (1985) räägib kausaalsete suhete väljenditest mittesugulaskeeltes, kus on rohkem otseseid seoseid enamate morfeemide vahel pigem siis, kui neid rakendatakse agendi ja kogeja *vahelistes* suhetes. J. Haiman ütleb, et süntaks organiseeritakse sageli kui semantiliste seoste lineaarne diagramm. Ta ütleb ka, et on veel palju süntaktilisi jooni, mida tuleks ikoonilisusena arvesse võtta.

Ikoonilisusest keeles on huvitavaid tähelepanekuid teinud Bret Battey oma artiklis, mis käsitleb keelt, žesti ja muusikat (Battey 1998). Ta väidab, et keel peegeldab meie kogemuse struktuuri. Kuigi lingvistid rõhutavad sõnade ja keeleliste konstruktsioonide arbitraarsust ja konventsionaalsust, on keeles neid aspekte, mis kindlalt näitavad ikoonilisust — strukturaalset sarnasust — viidatava suhtes. Kõige käepärasem näide siinjuures oleks subjekti, objekti ja verbi kategoriseerimine. SOV-konstruktsioon määratleb suhet: on mingi element, mis teeb midagi; on miski, mida tehakse; tehakse midagi millegi suhtes. B. Battey möönab, et riskides ülelihtsustada G. Fauconnier' ideid mentaalsetest ruumidest (vt ka Fauconnier 1985: 1) võib öelda, et objekt ja subjekt reastatakse mentaalses ruumis ning verb määratletakse suhtena nende vahel. Võrdlevaks näiteks on siin ameerika viipekeel, mis paneb paika subjekti ja objekti füüsilises ruumis ning siis modelleerib verbi suhtena nende vahel. Muidugi kerkib siinjuures küsimusi. Kas kolmnurk *subjekt-objekt-verb* implitseerib (~ sisaldub järeldatavana) meie maailmakogemuses ja seepärast peegeldub see ikooniliselt meie keeles? Või on need kolm kategooriat arbitraarsed märgisüsteemid? Või midagi vahepealset?

Üks huvitav valdkond on *keelelised külmikud* (ingl *linguistic freeze*). Termin viitab seotud lausungitele, mis on muutunud *külmunuiks* keele sees, kuigi nad on teoreetiliselt arbitraarsed. Neid me kutsume ka idiomaatilisteks väljenditeks. Nii eesti kui inglise keeles võiks sellisteks olla väljendid nagu nt 'üles ja alla' (ingl *up and down*), 'siin ja seal' (ingl *here and there*), 'pead ja jalad' (ingl *head over heels*, eesti keeles ka 'uperpalli'; 'ülepeakaela'). Mõnede selliste *külmikute* seletamiseks on pakutud erinevaid teooriaid. Nende seletuste juures on üks huvitav joon: külmikute läbi usk ideesse, et meie eksistentsiaalne positsioon, meie maailmavaade võib mõjutada keelevorme. Marge Landsberg (1995) on

---

[9] Reduplikatsioonist eesti keeles vt ka M. Erelt, Reduplication in Estonian. — M. Erelt (ed.), Estoninan: Typological Studies II. Tartu: University of Tartu, 1997, 2–41.

uurinud, kuidas inimese enesetajumine peegeldatakse külmikutes, tuues seeläbi esile meie egotsentrilise perspektiivi ja kultuurilised normid. Meie enesetaju kui kõikide asjade kese peegeldab tendentsi näha osutuste nullpunkti lausungis seal, kus meie ise oleme — nii ajas kui ruumis. Me ütlemegi pigem 'sees ja väljas' (ingl *in and out*) kui 'väljas ja sees', 'siin ja seal, mitte 'seal ja siin'. Selline *mina kõigepealt*-printsiip kombineerub maskuliinsuse domineerimisega maailmapildis (Battey 1998: 9), andes selliseid külmikuid nagu 'isa ja ema' (ingl *father and mother*), 'mees ja naine' (ingl *husband and wife*), 'poisid ja tüdrukud' (ingl *boys and girls*). Et asi oleks vähegi õiglane, tuleks nimetada ka vastupidist külmikut: 'pruut ja peigmees' (ingl *bride and groom*). Kirjeldatud keelenähtuse juures võib veel nimetada kalduvust osutada enne elusale kui elutule, vanemale enne kui nooremale, tugevamale enne kui nõrgemale ('džinn ja toonik', ingl *gin and tonic*). Palju külmikuid võib seletada hääleliste eelistustega, kuid antud näidete puhul jääb jõusse ka midagi enamat kui lihtsalt arbitraarne sotsiaalne konventsioon. B. Battey väidab, et verbaalsel vormil on isomorfism millelegi veel sügavamal, mis on sisestatud meie isiku kogemusse (Battey 1998: 9).

Nagu võtab kokku R. Wescott (1971): *Kõik keeled on küllastatud ikooniliste elementidega* ja lisab, et *Keelte võrdlemisel näivad paljud sümbolid (s.t arbitraarsed märgid) olevat olnud kord ikoonid.* Eelnevatest töödest selgub, et kui inimesed seisavad vajaduse ees luua midagi uut väljendi esitamisel, siis tihti nad ei leia keelevaramust olemasolevate terminite hulgast seda õiget. Siis nad improviseerivad visuaalsusega, kujutamisega, kuuldelisusega või nende kombinatsiooniga. Oletame, et see kujutamine on teistele mõistetav. Seejärel võib see muutuda vormiks ja lõpuks arbitraarseks vormiks. Seega, ikoonilisus siseneb keelde pidevalt ning transformeerub pidevalt mitteikooniliseks.

11. Metafoorsus kõnes ja žestilistes väljendites

Kõnel ja žestil on palju ühist. Kõnega kaasnevad žestid edastavad visuaalse kujutamise kaudu konkreetseid tegevusi, kujundeid, ruumisuhteid või liikumisi läbi ruumi, mis on metafoorid abstraktsete mõistete jaoks (McNeill 1987, Calbris 1990). On tähelepanuväärne, et metafoorid töötavad žestides nii, nagu metafoore võib leida verbaalsetes väljendites.

Ka verbaalne metafoor *elab läbi*, kogeb žestilist väljendit. Näiteks loos 5 psühhiaatri ja 1 sotsiaaltöötajaga (Kendon 1991: 7) küsib üks arst sotsiaaltöötajalt, mis kasu ta sai intervjuust patsiendiga. Vastus: *Nägin teda ühe korra, ei saanud palju, aga ma "korjasin selle üles" vestluse käigus temaga.* Samal ajal teeb ta avatud peoga 3 korda ülespidi liigutuse, nagu korjaks maast midagi. Ning teine vastus sama situatsiooni kirjeldusest: *Ta rääkis väga kiiresti ja "see kõik tuli välja" väga spontaanselt.* Siin kasutab sotsiaaltöötaja isikumetafoori nagu konteinerit, kus tulevad välja ideed või tundmused. Lausungit öeldes väljendas ta sisu ka metafoorselt žestiga, tehes laia pühkiva liigutuse.

23

Järgmine laialt kasutatav metafoor on rääkida ajast ruumi terminites. G. Calbris (1990) on uurinud ruumi kujutamise žeste prantslastel, ja võrdlevalt prantslastel, ungarlastel ning jaapanlastel (Calbris 1987). Ka eestlased teevad osutavat žesti minevikus toimunu puhul pigem üle õla selja taha ja tuleviku puhul on liigutus ettepoole, kuid möödaniku puhul kasutatakse ka täiesti teistsuguseid žeste. Ettepoole või tahapoole viidatakse seoses ruumiga või objektiga (Tenjes 1996: 187–189). Kui samu metafoore võib leida nii žestidest kui kõnest, kas siis pole mitte mõlemad omadused paigutatud samale substraadile? Selleks võiks olla võime, mis pärineb meie sensoorsete tajude sisemiseks muutumisest, eelkõige nägemistajust, ja füüsilise maailma käsitamisest. Metafoorid, mis on predominantsed diskursuses, ja sensoorne kogemus, eriti visuaalne kogemus, töötavad vahenditena ruumi ja objektide motoorseks käsitamiseks diskursuse sees. Intellektuaalne tegevus esitatakse kõnekeeles suures osas läbi metafooride, mis on üles ehitatud meie visuaalsel maailmakogemusel (Lakoff 1987, Johnson 1987, Danesi 1990, Sweester 1990). Kui mõtlemine on välismaailma üle kandmine sisemiseks, siis pole juhus, et keel — kui teda võetakse selle protsessi esitusvahendina teiste jaoks sotsiaalselt jagatud sümbolite kaudu — peaks andma väljapoole metafoorse kasutuse visuaalsele kogemusele ja tajumuslik-motoorsetele protsessidele. Vähemalt ei peaks olema üllatav, kui žest töötab selle heaks, et väljendada abstraktset sisu.

12. Kokkuvõtteks

Inimese käelise suhtluse hüpotees ei saa olla halvem mistahes muust hüpoteesist seoses häädusliku keele tekkimisega. Kui meenutada, et praeguste teadmiste kohaselt tekkis elu Maal 4 550 000 000 aastat tagasi, siis on hominiidide 5 miljoniline iga suhteliselt lühiajaline ja eriti lühiajaline on *Homo sapiensi*, 'aruka inimese' eluiga — vaid 60 000 kuni 100 000 aastat. Kui võtta maakera iga võrdseks 12 tunniga, pole inimene maakeral olnud veel ühte minutitki. Siiski on ta palju jõudnud — näiteks on ta õppinud kasutama nii käsi kui häält.

Artiklis vaadeldi erinevaid printsiipe ja arvamusi seoses kõne arenguga käežestidest. Käsitleti seisukohti seoses inimese evolutsiooniga, aju-uuringutega, viipekeeltega, žestide ja kõne koostööga, keele ikoonilisusega ja metafoorsusega žestides. Keel, nagu me teda täna mõistame, on keeruline kombinatsioon paljudest erinevatest võimetest. See kombinatsioon pole tulnud mitte kohe ja korraga, vaid järk-järgult koos erinevate võimete tulemisega kokku erineval ajal. Häälelisus alustas tegevust kui kommunikatiivne süsteem, milles sotsiaalne süsteem funktsioneeris keskena. See tuli läbi assotsiatsiooni, mida kasutati vahendina sümboliliseks representatsiooniks. Selektiivsus, mida on eriti palju rõhutatud, võis viia selle funktsiooni suhteliselt kiirema kasutamise juurde. Žestiline võime on modaalsus, milles referentsiaalne funktsioon arenes esmalt, ja see näib praegu olevat paljuski asendunud.

Kokkuvõtteks meenutame, et kuigi meil pole otseseid tõendeid, et meie kauged eellased suhtlesid käte abil enne hääldusliku kõne esiletõusmist, pole see väide siiski rajatud tühjale kohale. On selge, et käsi ja kõne käivad *käsikäes*. Žesti suurimaks vooruseks on tema kolmedimensioonilisus: meil on *omast käest võtta ruumiline kunstnik*. Žesti abil saame oluliselt hõlbustada teate edastamist. Me võime kõnelemise ajal kogu vajaliku kirjelduse usaldada käežestide hoolde. Žesti puuduseks ainulise suhtlusvahendina on tema vähene nüansseerimisvõime ja ilmselt piiratum *sõnavara*. Meie liigutused ei ole piisavalt täpsed, nagu seda on keel. Kõne oluliseks eeliseks žesti ees ongi tema nüansirikkus ja täpsus; puuduseks on kõne lineaarsus: häälikute ajaline järgnevus, mis aeglustab teate edastamist. Lõpetuseks võite kujutleda, kuidas te peaksite seletama kellelegi, kes pole kunagi *tooli* näinud, mis on *tool*; aga seletama peaksite nii, et te käsi üldse ei kasuta!

Kirjandus

Andrew, R. J. 1976. Use of formants in the grunts of baboons and other nonhuman primates. S. R. Harnad, H. D. Steklis, and J. Lancaster (eds.), *Origins and evolution of language and speech. Annals of the New York Academy of Sciences* 280: 673–93.

Arbib, M. and Rizzolatti, G. 1996. Neural Expectations: A Possible Evolutionary Path from Manual Skills to Language. *Communication and Cognition* 29, 393–424.

Armstrong, D. F., W. C. Stokoe, S. E. Wilcox 1995. *Gesture and the Nature of Language.* Cambridge: Cambridge University Press.

Aul, J. 1976. *Inimese anatoomia.* 2. tr. Tallinn: Valgus.

Barwise, J. and J. Perry 1983. *Situations and attitudes.* Cambridge, Massachusetts: The MIT Press.

Bates, E., *et al.* 1979. *On the evolution and develpoment of symbols.* New York: Academic Press.

Battey, B. 1998. An Investigation into the Relationship between Language, Gesture, and Music. http://students.washington.edu/bbattey/Ideas/lang-gest-mus.html

Bickerton, D. 1990. *Language and species.* University of Chicago Press.

Bickerton, D. 1995. *Language and Human Behavior.* Seattle, Washington: University of Washington Press.

Boné, E. 1996. Inimese päritolu ja inimese evolutsiooni tähendus. S. Tenjes ja J. Malin (toimet.), *Teaduse ja religiooni dialoog.* Tartu: Johannes Esto Ühing, 30–44.

Calbris, G. 1987. Geste et motivation. *Semiotica* 65, 1/2: 57–96.

Calbris, G. 1990. *Semiotics of French Gesture.* Bloomington: Indiana University Press.

Condillac, É. B. de 1746/1947. Essai sur l'origine des connaisances humaines, ouvrage ou l'on réduit `a un seul principe tout ce concerne l'entendement. *Ouvres Philosophiques de Condillac.* Paris: Georges LeRoy.

Corballis, M. C. 1999. The Gestural Origins of Language. *American Scientist* 87, 2: 138–145.

Danesi, M. 1990. Thinking as seeing. *Semiotica* 80: 221–237.

Donald, M. 1998. Preconditions for the evolution of protolanguages. http://baserv.uci.kun.nl/~los/Articles/donald.html

Ehala, M. 2000. Uued tuuled ajaloolises keeleteaduses. J. Engelbrecht, E. Ergma (vastut. toim), *Noored teaduses*. Tallinn: Eesti Teaduste Akadeemia, 11–16.

Fauconnier, G. 1985. *Mental Spaces: Aspects of Meaning Costruction in Natural Language*. Cambridge, Massachusetts: The MIT Press.

Feldman, H., S. Goldin-Meadow and L. Gleitman 1978. Beyond Herodotus: The creation of language by linguistically deprived deaf children. A. Lock (ed.), *Action, Symbol and Gesture: The Emergence of Language*. New York: Academic Press.

Fodor, J. 1975. *The language of thought*. Cambridge, Massachusetts: The MIT Press.

Goldin-Meadow, S. 1990. When does gesture become a language? Paper prepared in advance for participants in Symposium no. 110, *Tools, Language and Intelligence: Evolutionary Implications*. Cascais, Portugal: Wenner-Gren Foundation.

Graham, J. A. and M. A. Argyle 1975. A cross cultural study of the communication of extra verbal meaning by gestures. *International Journal of Psychology* 10: 56–67.

Haiman, J. 1985. *Natural Syntax: Iconicity and Erosion*. New York: Cambridge University Press.

Herbert, R. K. and K. Z. Waltensperger 1979. American sign language and its demythologization. *Papers from the Regional Meetings. Chicago Linguistic Society* 15: 138–48.

Hewes, G. W. 1973a. An explicit formulation of the relationship between tool-using, tool-making and emergence of language. *Visible Language* 7: 101–127.

Hewes, G. W. 1973b. Primate communication and the gestural origins of language. *Current Anthropology* 14: 5–24.

Hewes, G. W. 1976. The current status of the gestural theory of language origins. S. R. Harnad, H. D. Steklis, and J. Lancaster (eds.), *Origins and evolution of language and speech. Annals of the New York Academy of Sciences* 280.

Iverson, J. and S. Goldin-Meadow 1998. Why people gesture when they speak. *Nature*, 396: 228.

Jakobson, R. and L. R. Waugh. 1979. *The Sound Shape of Language*. Bloomington: Indiana University Press.

Jepson, J. 1991. Urban and rural sign language in India. *Language in Society* 20: 37–57.

Jóhanneson, A. 1949. *Origins of language: Four essays*. Leiftur.

Jóhanneson, A. 1950. The gestural origin of language. *Nature* 166: 60–61.

Johnson, M. 1987. *The Body in the Mind: The Bodily Basis of Meaning, Imagination and Reason*. Chicago: University of Chicago Press.

Kelso, J. A. S., E. L. Saltzman and B. Tuller 1986. The dynamical perspective on speech production: data and theory. *Journal of Phonetics* 14: 29–59.

Kendon, A. 1986. Current issues in the study of gesture. J.-L. Nespoulous, P. Perron and A. R. Lecours (eds.), *The Biological Foundations of Gestures: Motor and Semiotic Aspects*. Hillsdale, NJ: Lawrence Erlbaum Associates, 23–47.

Kendon, A. 1990. Human gesture. Paper prepared in advance for participants in Symposium no. 110, *Tools, Language and Intelligence: Evolutionary Implications*. Cascais, Portugal: Wenner-Gren Foundation.

Kendon, A. 1991. Implications of Recent Research on Gesture and Sign Languages for the Gesture Theory of Language Origins. http://welcome.to/LOS

Kilma, E. A. and V. Bellugi 1979. *The Sign of Language*. Cambridge, Mass: Harvard University Press.

Kimmel-Tenjes, S. 1993. Mitteverbaalsest kommunikatsioonist. *Akadeemia* 3, 535–560.

Lakoff, G. 1987. *Woman, Fire and Dangerous Things*. Chicago: University of Chicago Press.

Lakoff, G. and M. Johnson 1980. *Metaphors We Live By*. Chicago: University of Chicago Press.

Landsberg, M. 1995. Semantic Constraints on Phonologically Independent Freezes. Marge E. Landsberg (ed.), *Syntactic Iconicity and Linguistic Freezes: The Human Dimension*. Berlin and New York: Mouton de Gruyter.

Lenneberg, E. 1967. *The Biological Foundations of Language*. New York: John Wiley.

Lieberman, P. 1998. *Eve Spoke: Human Language and Human Evolution*. W. W. Norton & Co.

Lieberman, P. and E. Crelin 1971. On the speech of Neanderthal Man. *Linguistic Inquiry* 11: 203–222.

McNeill, D. 1979. Language origins. M. Von Cranach, K. Foppa, W. Lepenies and D. Ploog (eds.), *Human Ethology: Claims and Limits of a New Discipline*. Cambridge: Cambridge University Press, 715–728.

McNeill, D. 1987. *Psycholinguistics: A New Approach*. New York: Harper and Row.

McNeill, D. 1992. *Hand and Mind*. Chicago: University of Chicago Press.

McNeill, D. 1999. One ontogenetic universal and several cross-linguistic differences in thinking for speaking. Based on a plenary lecture of the same title given at the 6th International Cognitive Linguistics Conference, 13 July. Stockholm, Sweden.

Morford, J. P. 1996. Insights into language from the study of gesture: A review of research on the gestural communication of non-signing deaf people. *Language and Communication* 16: 165–178.

Morgan, L. H. 1877. *Ancient society*. Holt.

Neisser, U. 1976. *Cognitive psychology*. New York: Appleton-Century-Crofts.

Nordberg, P. 1986. The Use of onomatopoeia in the conversational style of adolescents. *Forskning och Utbildning i Modern Svenska (FUMS)*, Rapport Nr. 132, Uppsala Universitet.

Paget, R. 1930. *Human Speech*. Harcourt, Brace.

Paget, R. A. S. 1944. The origin of language. *Science* 99: 14–15.

Pinker, S. and Bloom, P. 1990. Natural Language and Natural Selection. *Behavioral and Brain Sciences* 13, 707–784.

Place, U. T. 1998. The role of the hand in the evolution of language. http://dbiref.kub.nl:2080/~place/utplace/HAND98.htm

Richman, B. 1980. Did human speech originate in coordinated vocal music? *Semiotica* 32: 233–244.

Riseborough, M. G. 1985. Physiographic gestures as decoding facilitators: three experiments exploring a neglected facet of communication. *Journal of Nonverbal Behavior* 5: 172–183.

Romanes, G. J. 1888. *Mental evolution in man: Origin of human faculty*. Kegan Paul.

Scroggs, C. 1981. The use of gesturing and pantomiming: the language of a nine year old deaf boy. *Sign Language Studies* 30: 61–77.

Skinner, B. F. 1938. *The behavior of organisms*. Appleton-Century.

Skinner, B. F. 1957. *Verbal behavior*. Appleton-Century-Crofts.

Snowden, C. T. 1990. Language parallels in animal communication: the Emperor's new clothes? Paper prepared in advance for participants in Symposium no. 110, *Tools, Language and Intelligence: Evolutionary Implications*. Cascais, Portugal: Wenner-Gren Foundation.

Studdert-Kennedy, M. 1987. The phoneme as a perceptuomotor structure. D. A. Allport (ed.), *Language perception and production: relationships between listening, speaking, reading and writing*. London: Academic Press.

Sweester, E. 1990. *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure*. Cambridge: Cambridge University Press.

Tannen, D. 1983. "I take out the rock-DOK": How Greek women tell about being molested (and create involvement). *Anthropological Linguistics* 25: 359–74.

Tenjes, S. 1996. Gestures in Dialogue. H. Õim (ed.), *Estonian in the Changing World*. Tartu: University of Tartu, 163-192.

Tenjes, S. 2000. Gestures and space relationships in Estonian. Paper presented at the Conference *Gestures: Meaning and Use*. 1.–4. April. Oporto, Portugal.
http://ufp.pt/gestures/

Tervoort, B. T. 1961. Esoteric Symbolism in the communication behavior of young deaf children. *American Annals of the Deaf* 106: 436–480.

Tylor, E. B. 1868. On the origin of language. *Fortnightly Review* 1: 22.

Tylor, E. B. 1871. *Primitive culture*. John Murray.

Wallace, A. R. 1881. Review of Anthropolgy by Edward B. Tylor. *Nature* 24: 242–245.

Wallace, A. R. 1895. Expressiveness of speech, the mouth gesture as a factor in the origin of language. *Fortnightly Review* 64: 528–543.

Washabaugh, W. 1986. *Five Fingers for Survival*. Ann Arbor: Karoma Publishers, Inc.

Wescott, R. W. 1971. Linguistic iconism. *Language* 47: 416–428.

Voronin, S. 1991. Approching the Iconic Theory of Language Origin: Pertinent Laws and Tendencies from Phonosemantics.
http://baserv.uci.kun.nl/~los/Articles/voron.html

Wundt, W. 1900. *Völkerpsychologie. Vol I: Die Sprache*. Engelmann.

Wundt, W. 1921. *Völkerpsychologie: Eine Untersuchung der Entwicklungsgesetze von Sprache Mythus und Zitte* 1, 4th ed. Kröner, Stuttgart.

Õim, H. 1976. Kas inimkeel on päritav? *Keel, mida me uurime*. M. Mäger (koost.). Tallinn: Valgus, 158–161.

Tabel 1. Ülevaade ajalistest andmetest tekstis. (Loe *'...aastat tagasi'* suunaga alt üles.)

27 000	viimased *Homo erectused* Jaaval
30 000	viimased neandertallased Euroopas
80 000	Iraagis Shanidaris asetati surnukeha lilledest voodisse
90 000	luust artefaktid Zairest
100 000	*Homo sapiens* lülitus ümber kõnele kui esmasele kommunikatsioonivahendile, žestidele jäi sekundaarne roll
60 000–150 000	*Homo sapiensi* ilmumine ja Aafrikast välja rändamine
2 miljonit	suureajuliste inimlaste-liigi tekkimine; käežestid olid muutunud täielikult süntaktiliseks, kuid ka häälelisus oli saanud oluliseks
4 miljonit – 2 miljonit	hominiidide fossiilsed leiud
3,5 miljonit	australopiteekuse säilmed Ida-Aafrika alangult
4 miljonit – 5 miljonit	püstiasend hominiididel; žestid on muutunud keerulisemaks, hõlmates ka viipeid, mida kasutasid varased hominiidid nagu nt australopiteekused
5 miljonit – 7 miljonit	hominiidide lahknemine inimahvidest, inimese ja šimpansi ühistest eellastest; lihtsad žestid muutuvad keerulisemaks, häälega edastatakse ainult emotsionaalseid karjeid ja hoiatushüüdeid.
25–30 miljonit	viiped ahvide suhtluses
4 550 miljonit e ~ 4, 5 miljardit	elu tekkimine Maal

SILVI TENJES. The Hypothesis of the Gestural Origins of Language.
This study attempts to clarify the relationship between hand gestures and speech in the context of language acquisition. Our pre-ancestors communicated with manual gestures before switched to vocal mode. Language emerged not from vocalization, but from manual gestures. This hypothesis is supported by 1) human evolution; 2) brain-researches; 3) sign languages; 4) cooperation between gestures and speech; 5) iconicity in language; 6) metaphors in gestures. Iconicity seems to be present at every level at which language is analyzed. The 20th century linguistics has put arbitrariness at the center of the stage, displacing iconicity. The theory of gestural origin may help to explain the transition from a non-symbolic use of behaviour to its symbolic use if this is regarded as occurring in the gestural medium.

II

Žestid keskajal (Gestures in the Middle Ages). —
In press for *Akadeemia*, 15 pp. (in Estonian).

ŽESTID KESKAJAL

Silvi Tenjes

KESKAEG KUI ŽESTILINE KULTUUR

Euroopa keskaegset kultuuri on mõnikord nimetatud žestide kultuuriks või "žestiliseks kultuuriks" (Schmitt 1992: 77). Olgu kohe märgitud, et mõistel *žest* oli siis laiem tähendus kui *käeliigutus*, nagu seda eelkõige kasutatakse tänapäeval. Žest oli *keha liigutus*, oli *tegu*. Sõna *žest* (lad *gesta* — 1) 'teod', 2) 'notariaalsed lepingud' — tuleneb väljendist *res gesta* — 'tehtud teod') on multivalentne. Mõiste hõlmab nii eeposte kangelasi kui ka narratiive (erinevad kroonikaid, lugulaule või legende), mis on nende kangelaste tegudega seotud, hiljem aga nii kangelase põlvnemist kui tsükleid, millesse need põlvnemislood on põimitud (*DMA* 1983: 257). Žestikultuuril oli kahesugune tähendus: 1) inimese keha liigutustel ja -hoiakutel oli tollal oluline osa *sotsiaalsetes suhetes*; 2) keskaegne kultuur ise lõi oma žestid, mis koos moodustasid *keskaegse žestiteooria*.

Mitmeski suhtes on meie praegused arusaamad žestidest pärit nendest tähendustest, mida nad kandsid antiigis. Näiteks idee, et žest võib *väljendada* meie tundeid, emotsioone või ideid, või et žestid võivad moodustada *keha keele*. Läbi keskaja olid nii tekstid kui kujutised (ikonograafia) mõlemad loodud kiriku poolt ja kiriku jaoks. Tekstid ja kujutised — s.h. žestide tähendused ja funktsioonid, keha väärtus ja inimese elu eesmärk — väljendasid igasuguste ideede ja seisukohtade puhul kiriklikku vaatepunkti. See tõik iseloomustab lääne ajalugu väga pika perioodi jooksul. Keskaeg oli "feodaaltsivilisatsioon, mille ideoloogia aluseks oli ristiusu õpetus ja mida hoidsid koos maaomandil põhinevad alluvussuhted" (Aleksejev 1996: 759).

Žestid, nagu sõnad, kuuluvad efemeersesse maailma. Tavaliselt ei jäta nad endast mingit jälge, mida uurijad saaksid hiljem kasutada. Siin on vähe erandeid. Üks neist on kirja kuju (ld *ductus*), mille järgi paleograafid rekonstrueerivad käeliigutusi, mis vedasid jooni sajandeid varem. Mõnedelt skulptuuridelt või maalidelt saab leida kunstniku käeliigutuse või -surve. Kontide ja luude deformatsioon lubab arheoloogidel oletada muistseid kükitamise ja küürutamise viise. Kuid tavaliselt pole uurijatel haarata mitte millestki muust kui žestide tekstilisest või ikonograafilisest "kujutamisest". Siinjuures on palju erinevusi. Mõned tekstid lihtsalt mainivad eraldi žeste, aga ei kirjelda neid. Lood kuningas Arthurist ja tema rüütlitest kirjeldavad, *mida* nad tegid, aga ei anna teavet, *kuidas* nad seda tegid. Selles suhtes paremaid kirjeldusi on Karl Suure kurbuse väljendamisest: ta sakutanud habet ja nutnud ohjeldamatult (Schmitt 1992: 82). On leitud isegi moraalseid ja eetilisi otsuseid või abstraktset mõtlemist väljendavate žestide kirjeldusi. Kuid sellegipoolest *ei jõua me kunagi žestide enesteni*.

1

See tähendab, et me peame arvestama igasuguseid mõjutusi: ulatuslikku sõnavara ja ideoloogiaid, mis astuvad žestide, tekstide ja meie vahele.

Vastavalt mõnede uurijate seisukohtadele oli žestide tähtsuse üheks oluliseks põhjuseks keskajal madal kirjaoskus. Feodaalühiskonnas olid kombed ja tavad, mida väljendati pigem žestide ja sõnadega kui kirjalikult. Tänapäeval on vaevalt võimalik kujutada, et lihtsal žestil võis olla seaduse jõud või et inimesed usaldasid žesti rohkem kui notari juures allkirjastatud formulari. Ja ometi olid žestid palju mõjuvamad igasugustest dokumentidest vähemalt kuni 13. sajandini, kui hakkasid arenema linnad ja kaubanduslik tegevus ning kasvav riigibürokraatia aitas kirjaoskust arendada.

Täielikult ei saa siiski vastandada *žestiline kultuur* versus *kirjaoskus*. Esiteks, keskaeg on alati tundnud nii žeste kui kirja, kuigi tasakaal nende vahel muutus ühest sajandist teise ja ühelt sotsiaalselt grupilt teisele. Keskaegne kultuur pani kirjutamisele ja lugemisele suurt rõhku, kuid neid viljeleti vähe ja kasutati peamiselt jumalasõna e *pühakirja* levitamiseks. Kuid siin oli ka põhjus, miks kirjaoskuse monopoliseerisid sajanditeks kirik ja vaimulikud, kes kirjutasid ladina keeles. Teiseks, kirjutamine ise oli teatud žesti liik ajal, mil kirjutati käsitsi — see oli käejoone isikupärane jälg. Kuid inimesi, kes oskasid kirjutada, oli väga vähe ja seepärast tuli üksteisega suhelda läbi rituaalsete žestide, sõnade ja sümboliliste objektide (reliikviate hoiulaegas, hostia, mõõk jne). Žestid kandsid endaga ja andsid edasi poliitilist ja religioosset võimu, tegid selle avalikuks, kõikidele mõistetavaks ja andsid seaduslikule tegevusele elava kujutise. Žestid sidusid inimlikke soove ja inimeste kehi.

Ühiskond oli metafoorne kujutlus "kehast", kelle "liikmed" — pea, käsivarred, küljed, kõht, sääred ja pöiad — peegeldasid erinevaid sotsiaalseid gruppe oma erinevate funktsioonide ja väärtustega, keelega, märkidega, vappidega, ja ka oma individuaalsete žestidega. Ilmikud, mungad, kanoonikud, rüütlid, kaupmehed ja õpetlased moodustasid erinevaid "žestilisi ühendusi". Sellises ühiskonnas oli vähe ruumi individuaalsusel, kõik kuulusid *ordo*sse. *Ordo* — sõna, mis mitte juhuslikult ei pärine rituaalsest liturgiakorrast, *ordines*ist (lad *ordo* — 'kord'; 'ordu'). Selline ühiskond oli tugevasti ritualiseeritud ja žestid kindlustasid igaühe kuulumise ühte kindlasse gruppi.

Žestid väljendasid ka hierarhiat sotsiaalsete gruppide vahel, igaühe sees ja erinevate ühiskonnaklasside ning ametite vahel. Nii oli kõikidel žestidel oma tähendus — mitte ainult kõige pühalikumates rituaalides, vaid ka igapäevaelu žestidel, näiteks ristimärgi tegemisel kirikusse sisenemisel, enne sööki, või ohuga silmitsi seistes. Inimene polnud kunagi üksi, kui ta oma žesti tegi. Isegi eremiit kõrbes (s.t Euroopas keskajal metsas) või munk oma kongis tegid oma žesti Jumala "kõikenägeva silma" all. Žeste esitati alati veel kellegi suunas, kellegi poole, rääkides või võideldes, tervitades või vaieldes. Suhtluses inimeste vahel või inimese ja Jumala vahel või palvetades ei jäetud kunagi tegemata žeste, milles väljendusid nii keha kui hing. Inimesed andsid žestidele oma usu kõik väärtused, oma sotsiaalse klassi kõik sümbolilised väärtused ja kogu oma elu lootused kuni surmani ja pärast surma.

2

ŽESTID MUUTUVAS AJAS

Me teeme rohkem žeste kui neid tähele paneme. Žestid muutuvad ühest kohast teise või ühest ajast teise. Ajaloos mõned žestid kaovad, teised tekkivad. Mõned kujundlikud väljendid nagu "vaenukinnast heitma" või "kaabut kergitama" meenutavad žeste minevikust, kuid esimene neist pole enam liigutusena aktuaalne ja kauaks teistki?

Sageli kasutatakse väljendit "valitsus *tegi žesti*" kas teise maa suhtes või streikivate tööliste suhtes vms. Väljend on üsna mitmetähenduslik. See näitab, et reaalsed žestid ei lahenda enam sotsiaalseid või diplomaatilisi konflikte, kuid osutab ka, et me ei identifitseeri "žesti" peaaegu mitte millegi materiaalsega, vaid sellega, mida me nimetame "sümboolseks" tegevuseks. Me märkame, et sellele vaatamata tekitavad sellised sümboolsed aktid midagi, mis on reaalselt mõjus. Just seda tõdes keskaegne kultuur: žestidel ja rituaalidel on sümboolne jõud. Samuti ei tohi unustada, et kaua aega ei tehtud vahet väljamõeldise ja tõeluse vahel. Käe sümbolilise kasutamise esmaseks näiteks oli Jumala käsi (lad *dextera domini*), mis nii Vanas kui Uues Testamendis tegi igasuguseid tegusid: lõi universumi ja inimese, õnnistas, tervendas jne. Nii said need tegevused preestri ja kuninga käe žestilise tegevuse mudeliteks. Inimese käel oli oluline osa erinevates rituaalsetes žestides läbi keskaja: vaimuliku käte peale panemine, õnnistamine, ristimärgi tegemine, kätega tervendamine (vastavalt Kristuse eeskujule järgisid seda pühakud ja piiskopid), vandetõotuse žestid (tõstetud käsi, habet hoidev käsi, reliikviat puudutavad sõrmed jms), lausumise "maagilised" žestid, sõrmede heasoovlikkuse või pahatahtlikkuse asendid jne.

Käsitledes kirjanduslikke või juriidilisi tekste, on mõned uurijad üritanud koostada keskaegsete žestide tüpoloogiaid kas vastavalt kehaosadele, millega žestid olid seotud: pea-, käežestid, käsivarte žestid jne, või vastavalt žestide võimalikule tähendusele: kurbuse, rõõmu, tervituse, kohtumise, lahkumise, austuse, vasallitõotuse (ustavusvande), õnnistamise žestid, palvežestid vms. Paljud uurijad on piirdunud ka üksikute käsikirjade kaunistuste refereerimisega (eelkõige *Sachsenspiegel — Saksi peegel*)[1], ühte liiki žestide käsitlemisega (nt palvežestid) või ühe konkreetse kunstniku tööde üksikasjaliku uurimisega (nt Giotto)[2]. Et üldse oleks võimalik üldistada, tuleks küsida, mis oli žesti tegemine keskajal, kuidas ja kes tegid žeste ning mida seejuures mõeldi, kujutati või püüti klassifitseerida? Millised kultuurilised jooned, millised hoiakud olid inimeste ja keha suhtes või inimeste ja ümbritseva suhtes? Milliseid sotsiaalseid suhteid väljendati? Et täpselt vastata, tuleks uurida teoloogilisi, ilmalikke, kirjanduslikke, pedagoogilisi ja meditsiinilisi tekste, kloostrireeglistikke ja -tavasid, liturgia korda, lugusid nägemustest, traktaate palvetajatest ja jutlustajatest, tolleaegseid näidendeid, võimalikult tõetruid pilte vürstide elust jne.

---

[1] Saksi õiguseraamat aastatest 1220–1235. Kõlblusega seotud temaatikat selles jm vt Sootak 1991: 456, 458.

[2] Giotto di Bondone, elas 1266 või 1276–1337.

ŽESTID ÕIGUSEMÕISTMISES JA KUNSTIS

Üks valdkond, kust me leiame keskaegseid žeste, on kohus, eelkõige juriidilised protseduurid. Õigusküsimuste taaselustamine 12. ja 13. sajandil oli üks tähelepanuväärsemaid intellektuaalseid liikumisi. Taasvirgumise allikad pärinesid nii antiigi tekstidest kui ka kohalikest ja regionaalsetest tavadest. Ilmselt üks kõige detailsem ja kõige kuulsam õigusalane tekst 13. sajandi algusest on *Sachsenspiegel*. See raamat on üsna detailne ja küllaltki usaldusväärne kohtupraktika ülestähendus ühest konkreetsest Saksamaa piirkonnast. *Sachsenspiegel*, nagu teisedki tolle perioodi õigustekstid, ei hiilga analüütiliste käsitlustega; reegliks oli kombineerida erinevaid aspekte ja jutustada lugejatele lisaks õigusteooriale sobivatest juriidilistest protseduuridest. Samas pandi tollal alus ja korraldati seaduseks nii mõnigi juriidiline protseduur. Mõned käsikirjad sisaldasid peale vormelite ka kaunistusi. Kunstiajaloolastele on sellised protseduuride koodeksiks ühendamised ikka huvi pakkunud, sest juriidiliste protsesside juures oli kujutatud palju visuaalset, nt värve, mis olid kindlalt kodifitseeritud. Mitte kõige vähem tähtsad selliste joonte hulgas polnud sümboolsed žestid.

Õiguslike žestide kodifikatsiooni võime tundma õppida erinevatest allikatest, eelkõige juriidiliste käsikirjade kaunistustest. Esmane allikas *Sachsenspiegel* on jõudnud meieni neljas kaunistustega käsikirjas, mis kõik pärinevad samast (hävinud) eeskujust. Nii mõnigi kord on uurijad pisut ennatlikult arvanud, et kõigel käsikirjas kujutatul on täpne vaste reaalsusega, et žestid kujutavad piltlikult usaldusväärset peegeldust tegelikult esitatud žestidest. Aga siis on nad varsti pidanud endalt küsima, kui palju sellest, mis on kujutatud, on kunstniku "väljamõeldis" või mis pärineb kunstnike varasematest väljakujunenud tavadest, mis pole tingimata kattuvad juurapraksisega. Sellistele küsimustele vastuseid otsides tuleb tõdeda, et *Sachsenspiegel*i miniatuuridel on mõnevõrra piiratud väärtus (Barasch 1987).

Antud juhul on olulisem õigusliku žesti kujutamine — olgu nad usaldusväärses vastavuses reaalsusega või mitte —, mis kinnitab täielikult tollast teadmist žestist kui sümboolsest vormist. Lahutuse puhul kohtus kujutatakse kohtunikku lükkamas kätega teine teisele poole lahutatud abikaasasid. Kas ta ka tegelikult tõukas meest ja naist teineteisest eemale või mitte, see polnud peamine. 13. sajandil uskus rahvas ilmselt, et midagi niisugust võis kohtus sündida ja selline žest oli õigusprotseduuri lahutamatu osa.

Käsikiri, millele Moshe Barasch oma raamatus viitab seoses *Sachsenspiegel*iga, *Codex Palatinus Germanicus* 164, asub Heidelbergi ülikooli raamatukogus ning arvatakse olevat kõige sarnasem *Sachsenspiegel*i käsikirjade (hävinud) originaalile. M. Barasch ütleb samas, et kahjuks on selles käsikirjas vähem kaunistusi kui teistes käsikirjades, mis on hilisemad, aga vähem usaldusväärsed originaali suhtes.

Kas keegi, kes väidab kohtus, et ta keeldub midagi tegemast, hoides vasema käega kinni oma paremat kätt, muutes tööd tegeva käe liikumatuks, annab niiviisi teada oma teovõimetusest? Kaasaegne inimene võib selles kahelda. Kuid

keskajal kujutati seda akti ilmselt just nii. Selliseid žestilisi liigutusi kujutati sümboolsete tegevustena, nende kuju ja konfiguratsioon oli täielikult determineeritud, nende tähendus oli nähtavasti ühemõtteline. Kas sellistel kodifitseeritud žestidel oli ainult sümboolne väärtus või oli neil ka mingi praktiline eesmärk igapäevaelus? Selle kohta pole tõsikindlaid andmeid. Ühiskonnas, kus lugemisoskus ei olnud endastmõistetav, täitis paljusid "arhiivi" funktsioone elav mälu.

Veel saab õiguslike žestide kodifitseerimise protsessi uurimistest tuletada individuaalsete sümboolsete žestide konkreetset "sõnavara". Selgelt joonistusid välja žestide spetsiifilised vormid, samuti tähendused, mis olid nendega suhestatud ja ühetähenduslikud. Sellise "sõnavara" ulatus piirdus mõistagi sellega, mis juhtus kohtus. Konkreetsete sümboolsete žestide "sõnastik" lõi eelduse pildilisele traditsioonile, kuhu kuulus ka struktuur, mida iga kunstnik võis julgelt kasutada. Kasutamiseks laenati žest sellisest žestikogumist.

*Sachsenspiegel*i käsikirjade kaunistustes on näha juriidilise žestikulatsiooni selgesti väljajoonistunud tüübid (joonised 1 ja 2). Üks käsi, kas parem või vasem, haarab teist, mille käeselg on väljapoole, randmeliigesest või käsivarrest, sulgedes liigesekoha. Mõlemad käed on kas rippu, tõstetud rinna kõrgusele või kord isegi pea kohale. Oma esmases tähenduses näib žest ilmutavat võimetust kohut mõista (Barasch 1987: 91, 92). Sama žest ilmub *Sachsenspiegel*is mitmel korral, küll väikeste variatsioonidega, kuid säilitades oma iseloomulikud jooned.

Joonis 1. *Saksi peegel*, MS, fol. 37. Dresden (Barasch 1987: 92)

Joonis 2. *Saksi peegel*, MS, fol. 11. Dresden (Barasch 1987: 92).

*Sachsenspiegel*i illustratsioonid ei mõtle seda žesti välja. Varasemate sajandi te kunst tunneb žesti kannatuse ja suutmatuse väljendajana, millega püütakse ära hoida viimsepäevakohtu (hukkamõistu, kohtuotsuse) saabumist. 12. sajandi lõpust on teada tekst, kus kimbatuse ja võimetuse väljendamiseks haarab kujutatud figuur oma vasaku käega paremast käest randme kohalt (Garnier 1982). See žest on väga sarnane tunnistaja žestile Giotto freskomaalil *Süütu laste tapmine* (joonis 3, fragment) Padovas Arena kabelis (it *Capella dell' Arena*; Barasch 1987: 31). Giotto freskod *Capella dell' Arena*'s Padovas pärinevad umbes aastast 1305.

6

Joonis 3. Giotto, *Süütalaste tapmine* (fragment).
Padova, Arena kabel (Barasch 1987: 31).

Keskaegne pildiloome paistab silma *Süütalaste tapmise* teema detailide ilmeka kujutamise poolest. Tänapäeva teadlased on eristanud mitmeid kujutamisviise, kasutades näiteid nii visuaalsest representatsioonist kui kirjandusest. Loomulikult on kesksel kohal meeleheites emade kujutamine. Olulised on žestid: emasid on kirjeldatud ja kujutatud võitlemas julmade sõduritega, rünnates neid lausa paljaste kätega. On sümboolseid ja pateetilisi žeste nagu nt vastu rinda tagumine. Vähem keskel kohal olevana, kuid siiski sagedasti on kujutatud Herodest, eriti tema nägu ja käskivat žesti. *Tapatalgute* tõlgendustes keskajal ei asetunud stseeni tunnistajad eraldi, vaid olid sealsamas. Selgesti väljajoonistunud pealtvaatajate grupp oli samuti haaratud hirmust ja kurbusest. Nii kaugele, kui on võimalik leida näiteid, on näha, et selline kujutamisviis kristalliseerus 13.–14. sajandil. Sageli oli tunnistajatena kujutatud sõdureid, enamasti keisri ihukaitsjaid, kes ise ei võtnud laste tapmisest osa.

Giotto freskol *Süütalaste tapmine* on käed näha ühel tunnistajal kolmest. Kui ühe figuuri žestil on mingi tähendus, siis on see esindatud kogu grupil. Me näeme, kuidas mees on haaranud oma vasema käega kinni paremast käest randme kohalt nii, et teine käsi on peaaegu peidus. Selle kummalise žesti tähendus pole intuitiivselt tõlgendatav. Vaevalt oleks Giotto kujutanud seda žesti, kui sel poleks mõnd funktsiooni kompositsiooni terviklikuks mõistmiseks.

7

Hiliskeskaja ikonograafilist traditsiooni uurides võime sellele käeliigutuse leida seletuse. Kuni 12. sajandini oli sama, Giotto freskol kujutatud žesti tähen dus peamiselt seotud võimetusega muuta saatust või tuua päästet ehk vabanemist.

Sama žesti näeme ka 13. sajandi sarkofaagil kujutatud figuuridel (joonis 4, fragment, Barasch 1987: 94). Kuidas kunstnik kujutab naisterahva armetut seisukorda? Ta näitab, kuidas naine haarab ühe käega teisest, hoides neid oma rinna all. Ka Garnier' uurimuses (1982) *Keskaja kujutamise keelest* on näiteid samast žestist. Mõned neist pärinevad 11. sajandist.

Joonis 4. Fragment Gautier de Sully'i sarkofaagilt
Sully'i lossis (Barasch 1987: 94).

Giotto pidi sellise žestitõlgendusega tuttav olema: jõetus, võimetus muuta kohutavat saatust. Kasutades sama tõlgendust, teeb Giotto järgmise otsustuse: tunnistaja pole vaadeldavas kuriteos süüdi, ta pole võimeline asjade käiku muutma. Selline otsustus ei kuulu *Süütalaste* loo originaali juurde, kuid sellel freskol on muidki lisandusi. Tagapool asuv kuusnurkne ehitis paistab olevat tüüpiline baptisteerium, millega kaasneb tähendus, et "süütute tapmine" on "verega ristimine". Vere tähendus religioossetes stseenides hiliskeskajal oli üld teada ja seda on erinevates kontekstides ka analüüsitud. Siinjuures tavatsetakse näiteks mainida, et Arena kabelis on *Kristuse piitsutamine* maalitud kohe *Süütalaste tapmise* fresko alla (Barasch 1987: 94). Küllap polnud juhus, et Giotto need freskod lähestikku üksteise alla asetas. Igatahes *Süütalaste* loos näitavad mõlemad — ehituse kuju ja tunnistaja — pealtnägija võimetust muuta

seda, mida ta näeb. Ning seda ongi kunstnik muuhulgas tahtnud öelda, tehes seda konventsionaalsete vormelite abil.

On öeldud, et keskajal tunti ainult rakenduskunsti, mis teenis enamasti ülemaist, transtsendentaalset inspiratsiooni *ad maiorem gloriam Dei* ('kõik Jumala suuremaks kiituseks') (von Wright 1996). Keskaegne kunst oli põhiolemuselt antropomorfne. Inimfiguuri kujutati kõikjal ja nähtamatud olendid (kuri, inglid, ka Jumal) olid antud inimfiguuridena. Seepärast oli piltidel žeste arvutu hulk. Kuid žestide sellised kujutamised sõltusid lõpuks ikkagi teatud reeglitest, mis domineerisid keskaegses kunstis ja millest kunstnikud hoolega kinni pidasid. Seepärast on fikseeritud žestide uurimine piltidel suur probleem. Ka lihtsad liigutused, nt õnnistamine ristimärki tehes, olid kunstniku poolt fikseeritud. Kuid millisel hetkel? Kunstnik valis, kas rõhutada üleval või all hoitavat kätt, kuid ta ei saanud suunata liigutust ennast, selle suunda või kiirust.

Üks valdkond, kus žeste edukalt kasutati, oli teater. Teatrietendusi ja müsteeriume peeti mitmetes Euroopa maades. Itaalia oli ses suhtes tuntud alates 13. sajandist, ka prantslased olid aktiivsed. Sellest perioodist on säilinud mitmeid vastavateemalisi ikonograafialisi kujutisi ja freskosid. Teatris arenesid ka nn individuaalsed žestid. Need olid tähelepanuväärsed sõnumiga žestid. Freskodel ja teatril oli ühiseid jooni: teatris polnud lava ja seepärast ei paistnud kogu tegevus hästi — tuli valida žeste, mis olid antud etenduse puhul kõige iseloomustavamad.

KEHA JA HING KESKAEGSETES ŽESTIDES

Inimese kehal oli suurim tähtsus keskaegses ühiskonnas ja kultuuris. Inimolend oli mõeldud kahesugusena: ta koosnes hingest ja kehast, nähtamatust "sisemisest" ja nähtavast "välimisest", mis olid omavahel dünaamilises seoses. Selline metafoorne ruumikasutus ja kategoriseerimine aitasid klassifitseerida inimesi ja ideid ning olid kasutusel žestide puhul iseäranis kahes valdkonnas — eetikas ja meditsiinis. Meditsiini mõiste tähendust keskajal võiks iseloomustada järgnevaga: see oli "arstide-nõidade aeg, piinatud ja põlatud keha aeg, kus puuduvad staadionid ning ei tegelda spordiga" (Le Goff 1998: 103). Keha oli ambivalentne. Ühelt poolt oli see "hinge vangla", patu teener ja takistus teel lunastusele. Selline arvamus ei säästnud žeste, eriti siis, kui tundus, et nad astuvad üle eetika ja sotsiaalse tava poolt kehtestatud õigetest piiridest. Nii keskaegne kui antiikeetika mõlemad rõhutasid *modestia* ('mõõt', 'määr') mõistet, pidades silmas *mõõdukust*, mis oli õige viis vooruslike žestide (lad *gestus*) tegemiseks. Sellisele ideaalsele liigutusele vastandati žestikuleerimine (lad *gesticulatio*), vooruliku liigutuse patune vastandpoolus.

Ideaalne žest oli oma liigutuse kaudu seotud mõistliku ja vastutustundliku individuaalse mõttega. See ideaal taandus varakeskaegsetes kloostrites askeetliku žesti ees. Pääsemine jõudis kohale läbi keha ja eriti läbi halastuse, patu-

kahetsuse ja vagaduse rituaalsete žestide. Kristlastele (erinevalt dualistidest-hereetikutest) oli keha teatud mõttes paratamatu kurja paik, mida pidi kasutama positiivselt. Piibel illustreeris ja õpetas alates Aadamast Vanas Testamendis Kristuseni Uues Testamendis kõiksuguseid žeste: nii patuseid, mis kandsid languse märki, kui vooruslikke, mis võimaldasid kogu inimkonna lunastust. Veel üks tähelepanek keskajast: igasuguse, isegi lubatud individuaalsust väljendava žesti kadumine. Kõik žestid olid kaasatud suuremasse kogukonna/ ühiskonna liturgilistesse liigutustesse. Kogudus ise oli osa kosmilisest liiku- misest, kuhu kuulusid inimesed, laulvad inglikoorid ja Jumala tahe.

Oraator polnud enam reetor, vaid usklike palvetav kaaslane või preester. Tolle aja kristlikule eetikale oli tüüpiline patu mõiste interiorisatsioon[3], mille tulemusena keha ja temaga koos ka žeste umbusaldati. Žeste peeti selliste pahede väljendajaiks nagu kõrkus (lad *superbia*) ja himu (lad *luxuria*), mida pidi ohjeldama ja nuhtlema. Munklus arendas välja täiesti uued žestilised tavad koos range askeetluse ja patukahetsuse žestidega ning kollektiivse palve ja liturgia uute vormidega. Oraatorivõimeid vajati nüüd kirikus. Oli ka "püha žestikulatsioon", inspireeritud Jumalast. Selle illustratsiooniks tavatseti tuua Piiblist (2. Sa 6, 14) Taaveti püha tants, kus ta hüples paljalt seaduselaeka ees. See kandus üle kirikusse ja muutus liturgiliseks protsessiooniks. Keskajast on teada ka žeste käsitlev teoreetiline töö. Pariisi õpetlane Saint-Victori Hugo (1096–1141) kirjutas *De institutione novitiorum*i (*Õpetus noviitsidele*), kõige enam läbitöötatud žestiteooria tol perioodil (Schmitt 1992). Mõeldud oli see eelkõige noviitside abistamiseks. Žestide õpetamine muutus hädavajalikuks kõikides kloostrites, sest noviitsid pidid mungaks saades unustama kõige ilmalikumad žestid. Hugo võrdles žestide korraldust kuningriigi valitsusega ja inimkeha poliitilise kehaga. Hugo žestiteooria oli osa laiemast eetilisest, polii- tilisest ja esteetilisest ideoloogiast, mis sai tuntuks 12. sajandi Pariisi koolides. Keskajal õpetati ka elukutseid, mis vajasid intellektuaalset koolitust. Õpeta- miseks olid ühendatud asutused (ld *collegiate units*), millest aegamööda tekkis kombineeritud uurimistöö ja õpetamise institutsioon — ülikool. Siin valitses teadmiste andmist ja hankimist rangelt see, mida von Wright nimetab Sõna autoriteediks: Pühakiri ja "kanoniseeritud" antiikautorid (von Wright 1996: 65).

11.–13. sajandi vahemikus proovis kirik saavutada kontrolli igapäevaelu oluliste valdkondade üle ja preestri käe sakraliseerimine oli üks sellistest kontrollimehhanismidest. Kõrgkeskajal hakkasid Prantsusmaa ja Inglismaa kuningad puudutama skrofuloosi (kaelalümfisõlmede paistetus, "näärmeti- isikus") kohe peale kroonimist ja "pühaks saamist" ning ka kirik soosis usku kuninga käe imelisse väesse. Sellele on viidanud ka paljud teised keskaja uurijad (vt Le Goff 1998: 99–100).

---

[3] Interiorisatsioon — välise, esemelise tegevuse muundumine seesmiseks, psüühiliste protsesside või omaduste kujunemine välise tegevuse tagajärjel.

KÕNELEV KÄSI

Euroopa kultuuris oli ka *kõne* kesksel kohal. Nii judaism kui selle edasiarendus kristlusena on sõna, kõne ja kirja religioonid. Klassikalisel antiigiperioodil oli kõne hariduse osa. Ka keskajal, kui aeg kosus, muutus kõne osa olulisemaks. Seda, kuidas see toimus, saab jälgida eelkõige piltidelt ja skulptuuridelt. *Mis on kõne visuaalne ekvivalent?* Kuidas saab *näidata*, et keegi kõneleb? On võib olla üllatav, et kõne näitamiseks, visualiseerimiseks, on parim kehaosa *käsi*. Käsi võib näidata seda väga erineval moel: osutades, nipsutades, ringitades jms. Käsi kui "kõneorgan" on võimeline edastama tähenduste ja emotsioonide erinevaid varjundeid. Sedagi teati juba antiigis. Marcus Fabius Quintilianus, kõnekunsti "isa" ja õpetaja, ütleb *Institutio oratorias* (*Kõnekunsti õpetus*) (XI. 3.85–87, vt Barasch 1987: 16): "Oma kätega me küsime, lubame, hüüame teisi enda juurde ja saadame nad ära, ähvardame, anume, vihjame vastumeelsusele või hirmule; oma kätega me tähistame rõõmu, kurbust, kahtlust, tunnustust, patukahetsust ning näitame mõõtu, hulka, arvu ja aega. /.../ Keelte tohutu mitmekesisuse hulgas, läbi kõikide rahvuste ja rahvaste, on käte keel, mis näib olevat ühine kõikidele inimestele." Quintilianus rõhutab käe võimet mõistetavalt edastada erinevaid emotsioone. Mida ta ei ütle, on see, kuidas käsi peaks edastama konkreetset fakti, millest kuju (nt pildil) kõneleb. Siiski on püütud mõnesid käežeste kui kõnetegevuse tähistajaid esile tuua.

1. *Adlocutio* ('kõnetus', 'kõne') — žest, mis näitab kõneakti. Žest on pärit juba etruskide kujukestelt (Riis 1953: 109 jj), hiljem levis see eriti Roomas ja jõudis sealtkaudu Euroopasse. *Adlocutio* oli keisri oma armee kõnetus. Keiser seisis platvormil armee keskel. *Adlocutio*t alustas ta käe tõstmisega, nõudes vaikust ja tähelepanu.

2. *Acclamatio* ('hüüatus') oli samuti kõnesituatsiooni žest, eelnevast võib olla väiksema kaaluga. *Acclamatio* oli vähem individualiseeritud kui *adlocutio*, samuti ka vähem formaliseeritud. Tavaliselt žestikuleeris seda rahvahulk. Žesti võis esitada erineval viisil, hüüdes või karjudes. Hilisantiigi ja keskaegne kunst, eriti bütsantsi kunst idas leiutas *acclamatio* variante. Kuid ka nende variantide puhul on kõnelev käsi *acclamatio* tuumaks ja südameks. Üks paremaid näiteid on 5. sajandi algusest eKr pärinev elevandiluust plaadike, kus kujutatakse Probianust troonile asumas ning kaht figuuri teda hüüdmas. Hüüdjad tõstavad oma paremad käsivarred ja hoiavad neid selles konkreetses asendis, mida me tunneme ühest muust kontekstist: pöial ja kaks esimest sõrme tõstetud, kaks järgmist sõrme painutatud nii, et pöial puudutab neid. See žest, mida me praegu tunneme õnnistamise žestina, annab tunnistust kõnežestist.

Keskaegses kunstikeeles, mis avaldus nii kunstis kui äärmiselt formaliseeritud sotsiaalsetes tegevustes, olid kõnele osutavad liigutused kesksel kohal. Isegi niivõrd, et nad võisid varjutada kõik teised žestid. Seega pole imestada, et neid leidub kõige sagedamini tolle aja sakraalkunsti motiivide hulgas. Näiteks oli Kristust kujutavas ikonograafias (L'Orange 1953: 171) ülim kõikvõimsuse žest (ülestõstetud käed avatud pihkudega, mis on pööratud pealtvaataja poole) — pärit idamaistelt jumalatelt ja valitsejatelt — muutunud nüüd kõnežestiks. Spetsiifilisi kõnežeste, mis kristalliseerusid keskajal võib tänapäeval näha veel kristlikul missal, eelkõige rituaalset õnnistamise žesti: *benedictio latina*t roomakatoliku kirikus ja *benedictio graeca*t (kreeka) ortodoksi kirikus, või mõnedel protestantlikel jumalateenistusel. *Benedictio latina* puhul on kolm sõrme (pöial, nimetissõrm ja keskmine sõrm) välja sirutatud, kaks ülejäänud sõrme ("sõrmusesõrm" ja väike sõrm) aga painutatud peopessa. *Benedictio graeca* on võreldav *benedictio latina*ga, ainus erinevus on selles, et väike sõrm on ka tõstetud. Mõlema žest päritolu on sama. *Codex Rossanensis*es, tuntud 6. sajandi käsikirjas selgitavad Vana Testamendi prohvetid ja kuningad üksikasjalikult oma sõnu kas "ladina" või "kreeka" kõnežestiga (Zarnecki 1975). Nii prohvetid kui kuningad esitavad mõlemaid žeste. Hilisem areng, nagu me teame, põhjustas ka kahe žesti lahknemise nii, et kreeka vormi võis leida ainult bütsantsi riituses, ladina žesti aga ainult lääne kirikus. Tänapäeval on siiski nn ladina žest leitav ka mõnedelt õigeusu kirku ikoonidelt. Kõige tuntum kõnežest oli see, "mille puhul keskmine sõrm liikus pöidla poole ja ülejäänud kolm sõrme olid "avatult"" (Quintilianus *Institutio oratoria* XI. 3.92; jooniseid selle kohta vt Tenjes 1996: 165).

Jumala käsi piltidel ei näita mitte Jumala kohalolu, vaid on visualiseeritud Jumala sõna, Tema kõneakt. Seda sai väljendada nt inglite-sõnumitoojate kaudu. See, mida ingel ütleb maa peal, ongi Jumala nähtav sõna. Giotto on kuulutavat kätt kasutanud oma loomingus nt freskol *Sakarias*[4] *templis*[5] (joonis 5, Barasch 1987: 25).

---

[4]   *Sakarias* — kr *Zacharias*, hbr > 'Jahve mäletab'.
[5]   Asub Firenzes, Santa Croce kiriku Peruzzi kabeli vasakul seinal.

Joonis 5. Giotto, *Sakarias templis* (fragment). Firenze,
Santa Croce kirik, Peruzzi kabel (Barasch 1987: 25).

PALVEŽESTID

Liturgilisi žeste iseloomustab kõrge formaliseerituse aste. Isegi kui on võimalik
näidata, et enamus liturgilisi žeste arenes "loomulikest" kõnežestidest ja kommu-
nikatsiooni muudest tüüpidest, on tõsi, et kord juba korrapärase liigutusena
liturgia osaks saanud, oli neil peaaegu plaanipäraselt kunstlikke, sihilikult
kavandatud jooni. Kodifitseeritud palvežeste võib leida igast inimühiskonnast.
Nad on teadaolevalt ühed kõige universaalsemad žestid (Ohm 1948; Heiler 1923;
Sittl 1890). Ristatud käsi võib kõige varasemate teadaolevate palvežestide hulgast
väga harva leida. Kaks palvežesti, mis domineerivad euroopa kultuuritraditsioonis
ja mida võib leida paljudest kultuuridest väljaspool Euroopat, on:
1) ülespoole tõstetud käed,
2) avatud pihkudega laiali käed.
Ülestõstetud käed tunduvad olevat vanimad, kõige universaalsemad palvežestid.
Neid võib leida vanades kultuurides ning nad on intuitiivselt mõistetavad
kaasajal. Avatud pihkudega laiali käed, pihud pööratud pealtvaataja poole, on
samuti tuntud juba iidsetest aegadest. "Kui te *käsi laotate*, peidan ma oma
silmad teie eest, kui te ka palju palvetate, ei kuule ma mitte — ... " (Jesaja 1:
15). Neid Jesaja sõnu tsiteeriti ka keskajal. Keskaegseid palvežeste pole

13

süstemaatiliselt uuritud, seepärast ei saa me kindlad olla iga üksiku liigutuse päritolus ja tuletuses. Kuid seda võib küll öelda, et isegi ilmalikus kirjanduses enne 13. sajandit moodustasid palvežesti laialisirutatud käsivarred (Barasch 1987). Tolleaegse ilmaliku kirjanduse näiteks võib nimetada *Tegude laule* (pr *Chansons de geste*), vanaprantsuse eepilisi lugulaule, mis pärinevad 11.– 14. sajandi vahemikust. Nad koosnevad 10- või 12-silbilistest stroofidest, mida lauldi või deklameeriti. Peaaegu kõik laulud on anonüümset päritolu (*DMA* 1983: 257).

Alates 12. sajandist hakkas kristlikus liturgias kiiresti arenema uus palvežest: ristatud käed. Žest on välja kasvanud keskaegsest rituaalist, kus vasall suhtleb oma isandaga, nt vasallitõotuse andmisel. Sellegi žesti läte on aga vähemalt antiigis, kui vallutatutel seoti käed randmest kinni. Ka eesti keeles on selle teema kohta huvitavat lugemist, kuigi antud käsitlus kannab paratamatult oma aja pitserit. "Tavaliselt seisab palvežest selles, et pannakse käed kokku, peopesad vastamisi, vahel ka sõrmed risti. Kuidas seletada seda žesti? Looduseuurija Darvin, tuginedes kellegi tähtsusetu inglise kirjaniku väitele, kirjutab, et palvežest on sama liigutus, mida sooritab põgenemiselt tabatud ori, ulatades käed ahelatele. Lugeda võime veel ühest vanast ning haruldasest itaalia raamatust (autor Giovanni Bonifaccio — a. 1616): "Kes hoiab käed ees ühendatud peopesadega, tunnistab end otsekohe süüdlaseks, kelle käed on seotud ja kes kannab teenitud karistust." /.../ Loomulikult ei motiveeri Darvin ja teised palvežesti dogmaatiliselt, vaid nad juhivad meie tähelepanu ainult välisele asjaolule, kuidas omaaegsest orjaliigutusest olevat kujunenud palvetaja žest. Aga just sellane jäljendav, pantomiimiline teke ei taha olla kuigi mõeldav intiimseima, psühhooloogilisema žesti juures, nagu seda on palvežest." (Kuljus 1939)

Joonis 6. Monfaucon, *Prantsuse monarhia mälestusmärgid.*
Joonistatud kadunud sarkofaagi järgi (Barasch 1987: 60).

Näib, et Bütsantsi etikett pole sellest žestist teadlik olnud. Ristatud käed jõudsid Lääne-Euroopasse 9. sajandil. Üks varasematest sellekohastest näidetest on Reimsi peapiiskopi Hincmari sarkofaag. Hincmar suri aastal 882. Sarkofaag on kaotsi läinud, kuid me teame sellest joonise järgi Montfauconi raamatus *Monuments de la monarchie française* (*Prantsuse monarhia mälestusmärgid*) 1729–1733. Sarkofaagi keskpaneelist vasakul on kujutatud peapiiskoppi ristatud kätega, ilmselt palvetamas. Montfaucon interpreteeris žesti kui ustavusvannet kuningale, kes istub paneeli keskel (joonis 6, Barasch 1987: 60). E. Panofsky (1964: 48) arvab, et peapiiskop võib paluda Kristuse eeskostet. Mis iganes võib olla selle žesti täpne tähendus, on tema esinemine tollal ikkagi harukordne. See muutus feodalismi kõrgajal. Ristatud käed said feodaalse soovitusrituaali kohustuslikuks osaks, mis omakorda oli osa feodaalsest ustavusvandest. Rituaal jõudis haripunkti, kui vasall pani oma ristatud käed isanda kätesse. See oli alistumise märk, aga tähendas ka sõltuvuslikkust, samuti usaldust ja truudust. *Sachsenspiegel*i 14. sajandi käsikirjast leiame põlvitava läänimehe, kes tõstab oma ristatud käed. Tema ees istub krooniga isand, kes võtab läänimehe ristatud käed enda omadesse (joonis 7, Barasch 1987: 61). Selline feodaalõukonna tseremoniaalžest on otseses suguluses palvežestiga ikonograafias. Žest tungis kiriklikku rituaali ja muutus seal domineerivaks palvežestiks. See protsess võttis aega mitmeid sajandeid, kuid 13. sajandiks oli tema kulg juba kindlasti jõudnud haripunkti. Kuidas selline väljaspool kirikut, "sekulaarsfääris" arenenud žest sai liturgia osaks, seda on raske seletada. Oletatakse frantsiskaanlaste aktiivse liikumise mõju. Frantsiskaanluse algperioodi allikates, nt Thomas Celano *Püha Franciscuse elu*s soovitatakse tõepoolest — kuigi mitte sõnaselgelt — palvetada ristatud kätega (Ladner 1961: 270).

Joonis 7. *Saksi peegel*, MS, fol. 8. Dresden (Barasch 1987: 61).

15

KOKKUVÕTTEKS

Mõtteid keskaegsetest žestidest, nende funktsioonidest ja nende väärtustest võib kokku võtta kolme mõistega. Esiteks *ekspressiivsus*: žestid olid inimese moraalsete väärtuste, tundmuste, hinge sisemiste liigutuste väljendajad. Ekspressiivsuse mõistel on läänes väga vana traditsioon. Erinevatel aegadel on ta saanud erinevaid konnotatsioone: eetilisi antiigis või kristlikus traditsioonis, psühholoogilisi tänapäeval. Ilmselt polnud žestid keskajal "hingeliigutuste" väljendajad *tundmuste* mõttes, nagu meie seda mõistet tänapäeval tunneme. Teiseks, *mitteverbaalne kommunikatsioon* tänapäeva terminina on välja kasvanud vanast retoorikatraditsioonist, mille lätted omakorda ulatuvad paganlikku elutarkusesse. Koos kristlusega muutis *sõna* sümboolset väärtust kõne ja žestide vahel, samuti muutusid avaliku suhtluse sotsiaalsed tingimused. Ruum ja aeg vahetasid asukohta. Keskaegne *pulpit* ('kantsel'; 'jutlustamine') asendas antiikteatri. Samuti muutusid antiikteatri näitlejate põhilised retoorilised žestid preestri, õpetaja või rändnäitlejate žestideks. Kolmandaks *mõju*, millel oli kahesugune tähendus: 1) tehniliste žestide (lausumise, liigutamise, kirjutamise) praktiline mõju ja 2) poliitiliste või sakraalsete rituaalide sümboolne mõju.

Keskaeg päris antiigist palju žeste, nt retoorilised žestid *declamatio* ('kõne'; 'ilulugemine') jaoks, *dextrarum iunctio* ('seotud parem käsi') õiguslikud žestid või palvetaja *orans* ('kõne'; 'kõnelemisviis') žestid, aga ka intellektuaalsed vahendid, millega mõelda ja rääkida žestidest. Antiigist jõudsid meieni sõnad ja mõisted nagu *gestus; gesticulatio; motus* ('kehaliigutus') koos oma intellektuaalse, moraalse või teadusliku kontekstiga, milleks olid nt sotsiaalse käitumise eetika, retoorikakunst, muusika, meditsiin. Kristlus valitseva ideoloogiana muutis keskajal neid mõisteid, ühendades neid joontega, mis pärinesid Piiblist. Nii pidid žestid täitma uusi sotsiaalseid ja religioosseid mudeleid. Lõpetuseks on hea meeles pidada ka J. Le Goffi tabavat tähelepanekut, et "feodalism, see ei ole kirjutatud sõna, vaid žestide maailm" (Gurevitš 1992: 40). Keskaeg on vaid üks viiv žestide ja inimkeha pikas ajaloos.

KIRJANDUS

Aleksejev, T. 1996. Piiritletud keskaeg. — *Akadeemia* 4, lk. 754–776

Barasch, Moshe 1987. *Giotto and the Language of Gesture.* Cambridge: Cambridge University Press

DMA = Dictionary of the Middle Ages 1983. Vol. 3. Joseph R. Strayer (Ed. in Chief). New York: Charles Scribner's Sons, p. 257

Garnier, F. 1982. *Le langage de l'image au Moyen Âge, I: Signification et Symbolique; II: Grammaire des gestes.* Paris

Gurevitš, A. 1992. *Keskaja inimese maailmapilt.* Tõlk. E. Laigna. Tallinn: Kunst

Heiler, Fr. 1923. *Das Gebet: Eine religionsgeschichtliche und religionspsychologische Untersuchung.* 5th ed. Munich

Kuljus, V. 1939. Palvežestist. — *Teater,* 6, lk. 261–262

Ladner, G. 1961. The Gestures of Prayer in Papal Iconography of the Thirteenth and Early Fourteenth Centuries. — *Didascaliae: Studies in Honour of Anselm M. Albareda*. S. Prete (ed.). Rome, pp. 247–275

Le Goff, J. 1998. Pikk keskaeg. Tõlk. M. Tamm. — *Vikerkaar*, 4–5, lk. 98–104 (Le Goff, J. 1985. Pour un long moyen âge. *L'imaginaire médiéval*. Paris: Gallimard, p-s. 7–13)

L'Orange, A. P. 1953. *Studies on the Iconography of Cosmic Kingship in the Ancient World*. Oslo

Ohm, T. 1948. *Die Gebetsgebärden der Völker und das Christentum*. Leiden

Panofsky, E. 1964. *Tomb Sculpture*. New York

Riis, P. J. 1953. *An Introduction to Etruscan Art*. Copenhagen

Schmitt, Jean-Claude 1992. The Rational Gestures in the West: A History from the 3rd to the 13th Centuries. — *Advances in Nonverbal Communication*. Fernando Poyatos (ed.), Amsterdam/Philadelphia: John Benjamins, 77–95

Sittl, C. 1890. *Die Gebärden der Griechen und Römer*. Leipzig (reprint Hildesheim-New York, 1970)

Sootak, Jaan 1991. Keelatud, järelikult paha: Kui kriminaalõigus kaitseb kõlblust, siis mida ta kaitseb. — *Akadeemia* 3, 451–471

Zarnecki, G. 1975. *Art of the Medieval World*. New York

Tenjes, S. 1996. Gestures in dialogue. — *Estonian in the Changing World*. Haldur Õim (ed.), Tartu: Tartu University, 163–192

von Wright, G. H. 1996. *Minerva öökull*. Tõlkinud Jaan Kaplinski jt. Tallinn: Vagabund.

III

GESTURES IN DIALOGUE

Silvi Tenjes

University of Tartu

1. Introduction

It is clear that ancient men and women communicated — that is, exchanged messages — within and between their societies very much like all other species of animals do and have always done: by means of nonverbal signs. Each and every member of each and every species alive or existing has come into the world with its unique repertoire of nonverbal signs which decidedly promotes its survival. This holds for moderns man no less than for his ancestors: that is, we ourselves communicate with other human beings, as well as with the other forms of animal life. We share an ecological niche and regularly interact with, most of the time by means of a large variety of nonverbal messages (Sebeok 1987). In their sense, it can be argued that while language was a primary evolutionary adaptation, speech — which appeared, with Homo sapiens, not more than about 300,000 years ago — is but a recent secondary exaptation (Sebeok 1987). This means that this vocal-auditory, temporal (and hence linear) expression of language has acquired, in its manifestation as speech, an important incremental function: namely, to serve the current utility of a communicative function, thus supplementing, in a subtle and intricate fashion, the entire human repertoire of nonverbal devices inherited from our primate ancestry.

It is reasonable to suppose that the adjustment, or fine-tuning, of the encoding capacity required by speaking to the decoding capacity required to understand speech, and vice versa, took about two million years to achieve at least partially.

Full understanding is a rare commodity; most of the time most of us do not quite grasps what another human being is trying to tell us.

Even today, humans have no special organ for speech, which is formed by a tract originally designed for two entirely different biological functions: the alimentary and the respiratory. Speech is then received, like any other sound, by the ear, which has still another phylogenetic source, and is a rather newly acquired sensory receptor (Sebeok 1987). Without going further in this a bit "disrespectful" attitude towards such a substantial ability — human ability to speak — I would like to consider the communicative signs accompanying speech, i.e. gestures. One cannot but agree that the supposition about the importance of gestures in forming the verbal language holds to a great degree. A number of relationships hold between a gesture and a word, verbality and non-verbality.

The present paper provides a synopsis of the history of investigating gestures (Chapter 2. Investigation of gestures), an attempt at their classification (Chapter 3. Classification of gestures), a discussion about the complexity of defining a gesture and its "working definition" (Chapter 4. Defining gestures). A close consideration is given to dialogue (Chapter 5. Dialogue as a social system) and gestures occurring in it. The functions of topic and interactive gestures are supplemented on the basis of the analysis of specific Estonian material (Chapter 6. Interactive and topic gestures in dialogue). A table 1 summarizes the gestures treated.

2. Investigation of gestures

The question of the meaning and functions of gestures has arisen time and again over the long period of their investigation. Gestures have been treated together with language; have been used in providing explanation to the rise and origin of language.

The history of investigating gestures dates back to ancient times. Expressive behavior caught the attention of several Greek philosophers, the most influential being Aristotle whose analyses were recorded in "Physiognomia", "De Anima", "Parva Naturalia".

Roman studies of gestures did not transcend delimiting certain types of gestures and notifying some of their specific features. Thus, Cicero differentiates between significative and demonstrative gestures and Quintilian makes a difference between gestures that naturally accompany words and gestures that signify something by imitating it (Payrató 1985).

A. Kendon remarks that the earliest book devoted exclusively to gestures appeared at the beginning of the 17th century (Kendon 1986). He must have had in mind the work "Chirologia: Or the Natural Language of the Hand" (1644/1974) by J. Bulwer. John Bulwer was an English physician who invented the deaf-and-dumb language and who also dreamed of an international language of gestures. Man has two sources of discourse, "his mouth and his hand", words and gestures; "... the Hand, that busie instrument, is most talkative, whose language is easily perceived and understood as if Man had another mouth or fountaine of course in his Hand" (Bulwer 1644, see Barasch 1987: 2).

"La mimica degli antichi investigata nel gestire napoletano" ("The Mimic Art of the Ancients Investigated in Neopolitan Gesture") (1832), written by Andrea de Jorio is perhaps one of the most complex and systematic treatises of kinesics published in the 19th century. His work provides us with one of the most valuable traditional collection of gestures. But Jorio himself did not do anything with gestures besides grouping them into serious, indifferent or obscene (Payrató 1985). Typical de Jorio hand gestures have been presented by A. Kendon in his paper (Kendon 1993) (see Fig. 1a, 1b).

Figure 1.a.
The "ring" from de Jorio (1832)
(Kendon 1993: 24).

Figure 1.b.
Typical handshake of the mano a brosa
("purse hand").
From de Jorio (1832)
(Kendon 1993: 25).

A number of summarizing treatises about the social and psychological importance of understanding gestures were written before World War II. In 1941 D. Efron published his by now classical work "Gesture and Environment" (Efron 1941/1972). His extensively cited book belongs, among other things, to "cultural-difference-related" gesture investigations. D. Efron undertook an extensive study of the gesturing styles of Southern Italians and East European Jews and showed that there were marked differences. The most intriguing fact was probably that Southern Italians used in their conversations extensively illustrative gestures — as if the speaker always used slides to accompany his talk, Efron has noted. Jews used comparatively abstract gestures compared to the content of their talk. In other words, Jewish immigrants used more batons and ideographs while the Italians employed more kinetographs. He further traced the attrition of these gestural patterns among offspring with looser ties to traditional custom (Efron 1941/1972).

Paradoxically, the growth of interest in what came to be known as "nonverbal communication" did not stimulate the study of gesture as one might have expected, especially during the triumph of behaviorism. Psychology, too, neglected gesture because it seemed too much connected with deliberate action and social convention to be of use for the understanding of the irrational or to be easily accommodated in terms of behaviorist doctrine. Linguists have neglected it because it has seemed too much a matter of individual expression. A revival of interest in speculation about the evolution of language, and in particular Gordon Hewes' discussions of gestural origins theory, the discovery that chimpanzees can be taught sign language (Hewes 1973), have all created a climate in which the study of gesture once again seems to be important. The last two decades have witnessed extensive study of gestures in speech and the investigation of both of them in connection with thinking.

3. Classification of gestures

Remarkable efforts have been made to classify gestures exhaustively. The overall impression is that are as many different classifications as there are investigators. But without conceptualization there would not be any later results. Interlocutors perceive different communicative signals and are fully aware of that: they use them, can identify them and group them into different chunks, classes or types departing either from one's perceptual abilities, traditions or upbringing. The investigators have tried to classify these differences from their point of view (perspective).

Below we present several classifications in order to demonstrate how difficult it is to delimit the part of nonverbal communication — gestures.

The author of the first substantial and clarifying classification should, without doubt, be considered D. Efron (1941/1972). Although he limited himself only to head and hand movements, this is the first classification based on a comprehensive and strictly empirical study. He is the first to fix the classes and categories clearly and logically. In a nutshell, the analysis involves three strata and subdivisions.

A. Spatial-temporal. He first studies the spatial-temporal aspects of gestures. Here, a gesture is just a movement that portrays relationships in space:

    (1) radius (span of movement);
    (2) shape (straightforward, circular);
    (3) direction (relationship between the speaker and the listener);
    (4) parts of the body (head, fingers; unilateral or bilateral movement).

B. Interlocutive, i.e. involving interactive aspects of gestures:

    (1) familiarity;
    (2) performance of simultaneous gestures;
    (3) use of space and distance;
    (4) gestures towards objects.

C. Linguistic. Efron investigates the referential meaning of a gesture and provides the following classification:

    (1) Logical-discursive: Gestures not related to an object or idea but to the process of expressing these ideas in action. They stress the verbal-vocal behavior or the content of the message, and are related to the presented ideas on the how-rather than on the what-level.

        (a) batons, movements that accent a particular word or phrase. They denote the tempo of the mental activity accompanying speech.

    (b) ideographs: movements that trace the flow of an idea;

    (2) Objective: gestures possessing their own, speech-independent meaning which may or may not change the meaning of the message:

        (a) deictic: gestures referring to an observable object, pointing to available referents

    (b) pictographs: gestures conveying their meaning in an observable way:

    (b.1) iconographs: gestures depicting the form of the observable object;

(b.2) kinetographs: movements that depict a bodily action;

(c) emblems or symbols: gestures that replace words and are encoded arbitrarily and with intent (e.g., the hand signals of a baseball catcher or a coach). They have a standard meaning in a culture that is specifically attached to the meaning. If an emblem possesses a morphological similarity to the depicted object it is considered a hybrid emblem.

This classification as well as the terms used became truly valued only years later.

The development in the area of research into nonverbal behavior that started in the 50's became clearly noticeable in the 60's and 70's. It helped to place gestures — as a more or less defined concept — into a wider context. The work of P. Ekman and W. Friesen "The Repertoire of Nonverbal Behavior: Categories, Origins, Usage, and Coding" published in the journal "Semiotica" in 1969 has greatly enhanced the "placing" of the phenomenon of gestures and shed light on the problems involved in their classification. This study has become the most influential work in the history of research in non-verbal behavior, especially concerning the categorization of gestures. It has a direct link to the study of Efron. The authors rely on Efron's analysis and supply it with new factors. The work has become a cornerstone in gesture categorization that also introduced radical changes in the research perspectives and the orientation of analysis. The value of their classification lies in the fact that by examine the parameters of origin, usage, and coding of nonverbal behaviors, Ekman and Friesen distinguished five well-defined key categories. The work is also highly acclaimed from the point of view of empirical research and theoretical justification. Ekman and Friesen use this classification for all the body gestures, especially for the gestures of the head and hands (also arms). Departing from these three parameters they distinguish emblems, illustrators, affect displays, regulators, adaptors (self-directed, alter-directed, object-directed). Each of these categories is definable and distinguishable.

Emblems — may substitute verbal behavior, for example a gesture to stop a car or a gesture to show being offended. Emblems are those nonverbal acts that have a direct verbal translation, or dictionary definition.

Illustrators — complement speech, for example when describing a busy highway. They are movements that are directly tied to speech, serving to illustrate what is being said verbally. There are 6 types of illustrators:

(1) batons — movements which time out, accent or emphasize a particular word or phrase;

(2) ideographs — movements which sketch a path or direction of thought;

(3) deictic movements — pointing to a present object;

(4) spatial movements — depicting a spatial relationship;

(5) kinetographs — movements which depict a bodily action;

(6) pictographs — which draw a picture of their referent.

Illustrators can also include the use of an emblem to substitute for, repeat or contradict a word or phrase.

Affect Displays — they convey what affects a person lives through. The face is primary site of affect displays. Primary affects include happiness, surprise, fear, sadness, anger, disgust and interest.

Regulators help to stress the character of the conversation and thus regulate communication. These are acts that maintain and regulate the back-and-forth nature of speaking and listening between two or more interactants. The regulators are related to the conversational flow, the pacing of the exchange.

Adaptors — these movements imitate something, for example making a bed or grasping somebody from behind, or instrumental actions with an object, e.g. "playing" with a pencil or a cigarette. This category of nonverbal behavior is the most difficult to describe.

These movements were first learned as part of adaptive efforts to satisfy self or bodily needs, or to perform bodily actions, or to manage emotions, or to develop or maintain prototypic interpersonal contacts, or to learn instrumental activities. We may distinguish

(1) self-adaptors;

(2) alter-adaptors;

(3) object-adaptors.

Cf. also the table in Ekman and Friesen 1969: 94–95.

The typology of Ekman and Friesen has remained, despite possible interpretation and shade differences, the peak of achievement for epistemological research aimed at defining and classifying gestures.

Various typologies of gestures have been proposed later as well. They are more incomplete but still valuable from the point of view of different studies.

M. Wiener, S. Devoe, S. Rubinow and J. Geller (1972) distinguish the following gestures: pantomimic, semantic modifying and relational. The freedom of interpretation is quite big here. D. McNeill and P. Levy (1982, see Kendon 1986) proposed another classification:

(1) iconic;

(2) metaphoric;

(3) beats (gestures, which seem to relate only to the rhythmic structure of speech).

J.-L. Nespoulous and A.R. Lecours proposed three basic categories of gestures and theirs subcategories:

(a) arbitrary gestures:

– quasilinguistic gestures, they can be used instead of speech;

– referential or modalizing;

(b) mimetic gestures (characterized by their iconicity):

– strictly mimetic gestures;

– connotative gestures;

(c) deictic gestures:

– specific deictic gestures;

– generic deictic gestures;

– deictic gestures referring to the function of the object (Nespoulous, Lecours 1986).

Considering all the above-mentioned it is understandable that providing a single definition of what is called non-verbal behavior would be very complicated for two reasons. On the one hand, it is impossible to group different criteria of classification (which should be taken a priori as usable until proved the opposite by profound empirical studies); on the other hand — non-verbal behavior as a starting point is convenient but too fuzzy. It entails heterogeneous aspects and signals with very different meaning (from syntactic, semantic and pragmatic point of view). It would be illusory to attempt to establish some kind of final classification.

4. Defining gestures

It is reasonable to admit that on cannot possibly classify phenomena that cannot be defined prior to that classification. We need a working definition (Payrató 1985) which would enable us, pertaining a topic, to move around within certain limits. Would it be possible to define gesture per se or necessarily for the classification at the moment? The situation is fully comparable to that where a linguist finds oneself when attempting to define the word. One way or another, the definition of gesture unavoidably has to be provisional and one should consider various definitions put forward over the period of studying gestures.

A definition of gesture that has been fixed without taking into account the context or generality is inexact and historically very "unproductive", considering the progress made in investigating that phenomenon in interpersonal communication. It is not possible to provide the exact definition of what is a gesture though it is possible to delimit it to a certain degree.

One could take, for example, a modern definition of gesture (as given in the Oxford English Dictionary): "A movement of the body, or any part of it that is considered as expressive of thought or feeling". This is an extremely broad definition. At first sight it would seem to include practically everything that a person might do. However, a brief consideration of how the word is commonly used shows that the word gesture refers to only certain kinds of bodily movements that are considered expressive of thought or feeling.

Here's a nice citation from G. Marañón (1937): "A gesture is an expression of any desire or emotion whether expressed by the face, hands or body." Speaking of facial expressions he differentiates between different movements (using means of differentiation available in language) and finally point out that "by a gesture we mean ways of materializing the state of one's soul through ways of expressing ordinary affects when we could see or imagine them through a certain social activity" (Payrató 1985).

Here's my working definition of gesture: a gesture is a hand movement accompanying speech and acquiring its meaning in the context of conversation or possessing a language-independent meaning.

5. Conversation as a social system

The most common setting for discourse is face-to-face dialogue. Because it is face-to-face, it includes some nonverbal (e.g. facial displays and gestures) as well as verbal acts, and because it is dialogue, it has social as well as semantic and syntactic aspects. Linking these two, J.B. Bavelas, N. Chovil, D.A. Lawrie, A. Wade (1992) investigated a subclass of conversational hand gestures that they called interactive gestures and whose function is to aid the maintenance of conversation as a social system.

Conversation must be seen not as alternating monologues but as a social system. Many researchers have observed this. That is, dialogue makes significant social or interpersonal demands as well as semantic and syntactic ones. The interlocutors must, without any formal structure or rules, manage to organize their conversation,

co-ordinate their contributions, and calibrate their meanings as they go along. The intrinsic problem in dialogue thus conceived is that, although both partners must remain involved, only one person can talk at once. Whenever a speaker has the floor, there exists the possibility that the conversation could veer off into monologue. One solution to the problem is for the speaker to involve the listener regularly. The speaker can do this by inserting phrases such as "You know?" or "As you just said", or even "What do you think?" However, the frequent use of such verbal by-play would constantly interrupt the verbal narrative, so nonverbal means of seeking or maintaining listener involvement is well suited to this function. It is proposed that interactive gestures, for all of their many specific forms and meanings, constitute a class with the common function of including the listener and thereby counteracting the beginning of a drift toward monologue that is necessarily created every time one person has the floor. Such gestures, especially when delivered simultaneously with the verbal narrative, can efficiently exert countervailing force in the direction of dialogue.

The observations of J.B. Bavelas et al. and other researchers have identified several verbal and nonverbal "topic-free" acts that can serve the complex interactive demands of conversation.

Interactive gestures are uniquely affected by the requirements of dialogue. One of these several requirements implies including another person. Dialogue in conversation is collaborative. That is, dialogue requires social processes, such as co-ordination and calibration, in addition to the individual processes of language production and comprehension.

Most gestural research was based on monologue data (where, for example, an interviewer asks a subject to narrate specified material). The examination of dialogue data revealed an apparent subclass of illustrators that may be understood as making a reference to the interlocutor rather than to topic of the discourse.

5.1. Interactive and topic gestures

In 1989 J.B. Bavelas, D. Hagen, L. Lane and D.A. Lawrie proposed a new division of illustrators at the annual meeting of the International Communication Association. They proposed to divide conversational gestures into topic gestures and interactive gestures. Interactive gestures refer to the interlocutor rather than the topic of the conversation and help maintain conversation as a social system.

There are hand gestures that have the previously unnoticed function of helping the interlocutors' co-ordinate their dialogue. J.B. Bavelas and her group have called them interactive gestures and assume that they address and maintain the interaction required by dialogue rather than convey meaning within the dialogue as other gestures do. J.B. Bavelas and others are developing a theory that emphasizes the social, dialogical aspects of conversation and in which nonverbal and verbal acts may serve specialized but always integrated functions (Bavelas, Chovil, Coates, Roe, in press).

What do these gestures look like and how can they be identified? As is true for all illustrators, no two interactive gestures are exactly alike, but they do have recognizable common features.

Most scholars divide hand gestures into two broad classes:

(1) stereotyped hand signals that people can and often do use in non-speaking contexts (e.g. the hitch-hiking or "OK" signals)

(2) gestures in conversation.

J.B. Bavelas, N. Chovil, L. Coate and L. Roe are interested in the other group, conversational gestures which occur only while people are talking and which do not have stereotypic forms.

Speakers spontaneously improvise them along with their words and phrases, to which the gestures are tightly synchronized. It was already found in the early investigations that conversational gestures are communicative because their frequency decreases when another person would not see them. P. Ekman and W.V. Friesen have called one group of gestures related to other person, a "hand shrug emblem" (1972). J.B. Bavelas and others have seen those as interactive gestures in dialogue. D. McNeill has a gesture named "a conduit of metaphors". This gesture treats the words or information being conveyed as an object transmitted between the interlocutors. This gesture is usually performed with the open palm, fingers curling, meaning verbally "What did you mean/say/ think?" (McNeill 1986). Some conduit metaphors depict the delivery of information, being thus interactive gestures.

Previous investigations have also described gestures used in word searches, in finding the correct word: a hand opened as if to receive the word, and a vertical or waving palm that forestalls or rejects the possibility of help in word search. M. Wiener, S. Devoe, S. Rubinow, and J. Geller (1972) also noticed this gesture. They described this gesture that they paraphrased as meaning "Don't interrupt" in the subclass "orientation of palms".

J.B. Bavelas and others have suggested that interactive gestures supplant the subclass of illustrators previously called batons or beats. They also include

interactive gestures such as conduit metaphors, which were not called beats. J.B. Bavelas and her colleagues have found that most of these "non-topical" gestures are in fact direct references to the other person in conversation. Using dialogue data, they found that on close examination these simple movements share two key characteristics of form and meaning:

(1) at some point, however briefly, the finger(s) or open palm(s) are oriented directly at the other person;

(2) the meaning of the gesture in the context in which it occurred includes a reference to "you", the other person in the dialogue.

Thus, a new division of the illustrator class would be topic and interactive gestures. Topic gestures depict semantic information directly related to the topic of discourse, and interactive gestures (smaller group) refer instead to some aspect of the process of conversing with another person. J.B. Bavelas, N. Chovil, L. Coates and L. Roe (Cf. Bavelas et al 1992) identified four aspects that are often marked by interactive gestures:

(a) citing the other participant's previous contribution;

(b) seeking agreement, understanding, or help;

(c) the delivery of new versus shared information;

(d) events around the speaking turn (e.g. taking or forestalling the turn).

There are many specific functions that interactive gestures serve in dialogue. J.B. Bavelas and her group suggest that there are four broad functions, subsuming a total of 12 specialized functions (Bavelas, Chovil, Coates, Roe, in press), summarized in Table 1 (see Table 1 "Proposed functions of hand movements"). I have added some more functions of interactive gestures to Table 1.

Table 1
Proposed functions of hand movements

CONVERSATIONAL GESTURES accompany and illustrate talk and are improvised with and synchronized to words. They are usually made by the person at the moment of speaking. Gestures are divided into two classes: (1) topic gestures and (2) interactive gestures.

(1) TOPIC GESTURES depict some aspect of the topical content of the conversation; e.g., the size of an object or (metaphorically) of a problem. The vast majority of conversational gestures are topic gestures.

(2) INTERACTIVE GESTURES are a much smaller group that refer to the addressee and provide no information about the topic-at-hand. They serve several necessary functions in dialogue:

(2.1.) Delivery gestures as a group refer to the delivery of information by the speaker to an addressee:

(2.1.1.) General delivery gestures mark the standard relationship from the speaker to the addressee; the speaker "hands over" to the addressee relevant/important information. The corresponding verbal paraphrases would be "Here's what I'm telling you", "In my opinion", "That's what I'm saying", "That's what I'm saying".

(2.1.2.) Shared information gestures mark material that the addressee probably already knows — information that is part of their common background. They essentially mean "As you know".

(2.1.3.) Digression gestures mark information that should be treated by the addressee as being aside from the main point. Their verbal analogue could be "Follow me".

(2.1.4.) Elliptical gestures mark information that the addressee should elaborate for himself or herself; the speaker will not provide further details. Analogous to "You know the rest (yourself)".

(2.2.) Citing gestures refer to a previous contribution of the addressee:

(2.2.1.) General citing indicates that the point the speaker is making at the moment had already been contributed by the addressee. The verbal paraphrase would be "As you said earlier".

(2.2.2.) Acknowledgement of the addressee's response indicates that the speaker saw or heard that the addressee had understood the speaker. It can be paraphrased as "I see that you have understood me".

(2.3.) Seeking gestures aim at eliciting a specific response from the addressee:

(2.3.1.) Seeking help requests a word or phrase that the speaker is not able to find at the moment. The verbal paraphrase would be "Can you give me the word for...?"

(2.3.2.) Seeking agreement asks whether the addressee agrees or disagrees with the point being made. It is analogous to "Don't you agree?", "As you see yourself".

(2.3.3.) Seeking understanding asks whether the addressee understood what was said. Its verbal equivalents include "You know?", "Eh?", "What else can I say?", "What else could I do?" at the end of a phrase.

(2.4.) Turn change gestures refer to issues pertaining to the speaking turn:

(2.4.1.) Taking a turn accepts the turn from the other person. One paraphrase could be "OK, I'll take over".

(2.4.2.) Giving a turn hands it over to the other person. As if to say, "You turn now."

(2.4.3.) Maintaining a turn is often a slightly bouncing or pushing movement towards the other person. The verbal paraphrase would be "Let me finish, don't interrupt!"

(2.4.4.) Opening a turn indicates that it is anyone's turn, as if to say "Who's going to talk next?"

(2.5.) Defence or surrendering gesture reveals that the speaker does not like the remark of the previous speaker or that he/she disagrees with it but admits the possibility of another point of view. It can be verbalized as "OK, it might as well be so", "I surrender", "I admit that it happened so".

The primary characteristic that unites interactive gestures is that they refer directly to the interlocutor, they give no information about the topic. A second related characteristic is their physical form that always includes some kind of iconic reference to the interlocutor. Sometimes the reference is simply by deixis — pointing at the other person with finger(s), thumb, or palm — but in most

instances it is more complex. J.B. Bavelas and her colleague can distinguish reliably between topic and interactive gestures using a decision procedure based on elimination. The scorer first considers whether it is a topic gesture, looking for some depiction of information related to the topic at hand (e.g. details of the story being told). Failing to find that, the scorer then looks for an interactive meaning. To be an interactive gesture, it must have a paraphrase that is both independent of the topic and addressed to the interlocutor. In addition, the form must be interactive that means that the finger(s), thumb, or open palm(s) are oriented directly toward the other person at some point, however briefly. The back of the palm, heel of the hand, or closed hand is not interactive in form.

J.B. Bavelas and her work-group thus propose a new distinction for conversational gestures: most function as topic gestures that refer directly to the specific topic at the moment; some function as interactive gestures that refer instead to the addressee (Bavelas, Chovil, Coates, Roe, in press). Topic gestures (along with words, facial expressions, etc.) convey topic-specific content whereas interactive gestures are topic-independent. Regularly we could not infer the interactive gestures from the topic of conversation. Interactive gestures serve to facilitate and regulate the process of having a dialogue. Interactive gestures serve housekeeping functions that are required by dialogue but not by monologue. They enable a speaker to include the addressee, to solicit the addressee's involvement in their dialogue, and to coordinate their contributions (Bavelas, Chovil, Coates, Roe, in press). The meaning of the interactive gesture cannot be determined from the words alone. That is, based on the words alone, one would in most cases expect a topic gesture.

J.B. Bavelas and her group assume that interactive gestures are a small and previously unnoticed group of conversational gestures that speakers can efficiently insert as a means of including their addressees, usually without yielding the turn or even making explicit verbal reference to the addressee. Unlike the gestures that depict some aspect of topical content, interactive gestures assist the dialogue itself rather than serving semantic or syntactic functions. Indeed, the existence of several different kinds of interactive gestures draws our attention to the many specific ways in which interlocutors must calibrate their contributions and mutual understanding. These gestures are strongly and uniquely affected by the requirement to have a dialogue, rather than by narrative content. Interactive gestures elicit micro-

analytically predictable responses from recipients. These gestures confirm the value of looking more closely at the social process of conversation.

6. Interactive and topic gestures in dialogue

6.1. Presentation of the material

For about a year it was possible to observe in detail materials recorded in the Tartu TV studio. I reduced the choice to the dialogues occurring in the recordings. The studio had envisaged a series called "Men of stagnation" (it was aired later under a different name). The interviewer (marked by initials PU) talks to well-known people in the Estonian society during the Soviet period, the so-called stagnation period. The minimal length of one conversation is 60 minutes, maximum 90 minutes. Three different men were interviewed at different times in 1994. The researcher could observe the whole unaided or raw material. The dialogue has been noted down in detail: a question, the answer and all accompanying hand movements, expressive facial movements and, when possible, also the movements of legs.

The preceding question or text is presented in brackets to enhance under-standing of the following utterance. The dotted line between utterances indicates that there is a sentence (or more) between the preceding question and the following answer. The underlined part of the utterance indicates at what moment (parallel to) the words the gesture was performed. If there were more than one gesture during an utterance then each subpart of the utterance is followed by the number of the gesture. Description of the gesture and its possible verbal counterpart are between the slanted lines, just after the utterance. In case of multiple gestures the enumeration of description corresponds to the ordinal number of the gesture. The features of oral speech have been preserved maximally. Dots in the middle of an utterance denote pauses in the natural flow of speech.

The article makes use of part of the material from conversations with all the three men. The processed material contains interactive and topic gestures cor-responding to the classification of J.B. Bavelas *et al.* The processed material generally confirms their theory but new possibilities and hypotheses have also been found. Although the material can be classified as interview it is dialogic in essence.

In one of the interviews the interviewer PU and the respondent KK are sitting in a backstage room, evidently on a bigger box-like thing/item. The camera is placed

so that KK faces it directly; PU is to the right of KK and sidewise to the camera (from the viewer's point of view) but to the left of KK (from his position). The right-left dichotomy has been considered in the analysis from the interlocutors' own point of view when describing the interactive gestures (when KK looks left then he looks towards the interviewer PU) but from the viewers' point of view when describing topic gestures. It has no impact on the analysis of content of topic gestures. The left-right dichotomy has been considered in a similar way in all the dialogues. KK uses a stationary microphone and PU a directed one. In all cases the question and answer contain more than one utterance.

In the second dialogue the interlocutors are sitting in the storeroom of the theatre on comfortable period-style chairs. The respondent JA has a table in front of him; thus we can speak about certain movements or leg positions in a minimal way.

The third interview has been recorded in different places, most of it in the respondent KR home where they sit on a sofa. But they also walk around, visit a church. Part of the interview takes place on a building site.

6.2. Interpretation of the material

The beginning of a conversation very often seems to be "groping" each other and only after such an introduction people get more relaxed and gestures appear in the conversation.

It is evident that gestures demonstrate something of a person's nature/character, certain aspects, moments, which would enable us to better understand him/her but also the other interlocutor.

Our material reveals that gestures are used as a "supporting stick" when a person says something directly related to him/her. There occur many more interactive gestures of a certain type and a lot of topic gestures.

6.2.1. Interactive gestures

Totally new to the category of interactive gestures are the so-called defensive or surrendering gestures (cf. Table 1, division 2.5.), verbally equivalent to something like "To tell the truth, it happened"; "I admit that it happened so". These are not related to turn-taking though they are outwardly similar. The partner implies that the other has made an utterance to which he would rather not reply but admits the right of the other to have done so.

(1) [PU: But did it happen?]

    ....

    KK: But how many times did it happen that the next morning already at
    nine there was a call from the KGB asking what did your guys do
    yesterday? <u>See. That happened,</u> very often.
    /Raises hands up in front, palms outward; "I surrender"; "Honestly, that
    did happen"/

In the following presentation of interactive gestures the number in bracket
corresponds to the enumeration in Table 1. First, the delivery gestures and seeking
gestures (cf. Table 1, subdivisions 2. 1. and 2. 3.) and their subdivisions have been
presented: general delivery gestures (subdivision 2.1.1.), seeking agreement
(subdivision 2.3.2.) and seeking understanding (subdivision 2.3.3.) gestures.

Generally, we have tried to preserve the classification of hand gestures proposed
by J.B. Bavelas and her group pertaining to our material. The interactive gestures
pointed out by Bavelas et al. did not always have a correspondence in gestures
accompanying Estonian oral speech. By making the same interactive gesture
Estonians may ascribe it a bit different meaning. For example, most of the "general
delivery gestures", which have been described as gestures performed by both hands
were, according to the present study, performed in majority by one hand. Gestures
in this division were described by J. B. Bavelas and her colleagues most generally
which leaves more space for interpretation. The hand shrug has definitely been
considered interactive but the same conclusion can also draw from the study by J.
B. Bavelas *et al.* (1992: 475).

The general delivery gesture ("That's what I'm saying") and the hand shrug
gesture ("What else could I do?") were quite often outwardly similar and could be
differentiated by the context.

Often one type of gesture prevailed a number of times — not in case of one
utterance but in case of a whole part of conversation. Then, another gesture was
"adapted" and used a number of times. This usage of interactive gestures is
understandable from the topic's point of view but it probably demonstrates
something else: a kind of subconscious stereotyping in human movements?

Interactive gestures

Next I will present some examples of interactive gestures: examples 2a-b, e-l,
3a (seeking understanding); 4a-b, 5e-f, 6b-d (seeking agreement); 2c-d, 5a-d
(general delivery gestures).

(2) [PU: How did this mechanism function? Did the theatre manager himself have to keep a sharp eye on everything so that when he did not like something he just picked the receiver and called the right number, or how did it function?]

(a) KK: <u>And suddenly there was Homeric laughter in the hall</u>.
/Raises his hands a bit from the lap, palms up; "What else could I do?"/

(b) KK: The guys say we don't understand, damn it, is the fly open <u>or what's up</u>. /Raises his hands a bit from the lap, palms up; "What else could I do?"/

....

(c) KK: I say, <u>the piece had been played for three years</u>.
/Raises his right hand forward, palm up; "That's what I'm saying"/

(d) KK: Grandfather went <u>to India</u>.
/Turns his right hand upwards in his lap; "That's what I'm saying"; "Well, so what?"/

(e) KK: <u>Well, you understand, this is crazy</u>!
/Shrug his shoulders; "What else could I do?!"/

(f) KK: <u>Well, there weren't anything like that</u>!
/Raises his hands up for a moment, palms up, fingers spread out; "What else could I do?"/

....

(g) KK: Yep, let's take this: when we first went to Poland <u>it turned out</u> that three guys could not come with us.
/Hands on his knees, thumbs up, unfolds his hands in the lap; "What else could I do?"/

....

(h) KK: I said: <u>but what can we do</u>?
/Shrugs his shoulders, turns hands upwards for a moment in his lap; "What else could I do?"/

(i) KK: <u>Or shall we cancel the trip</u>?
/Shrugs his shoulders, keeps the hands in his lap with palms upward; "What else could I do?"/

....

(j) KK: <u>No</u>.
/Spreads hands widely to both sides; "What else could I do?"/

....

(k) KK: Well, I said, <u>all right</u>, just a moment, where shall I write?
/Unfolds his hands in the lap; "What else could I do?"/

(l) KK: <u>Well</u>, that's it, that's it!
/Spreads both hands; "What else could I say?"/

(3) PU: How did these so-called sharp eyes seem to you as persons?
(a) KK: <u>Well, this man who I</u> (1) had to deal with <u>... umm ...</u> (2) <u>I can tell</u>
<u>frankly</u>: immensely likeable, wise and serious, normal person.
/(1) Spreads his hands; "What else could I say?"
(2) Spreads his hands; "What else could I say?"/

(4) [PU: Was that environment tiring or did you inwardly so to say discharged
yourself?]
(a) KK: <u>That's the reason</u> why I left for school.
/Raises his right hand and makes a circle, the index finger straight; "As you
can see yourself"/

(5) [PU: Throwing a glance back now, whom was head of the drama
department before you came there?]
....
(a) KK: <u>Before that there was</u> Aarne Üksküla.
/Small circle outward with the right hand; "That's what I'm saying"/
(b) KK: <u>And then there was Eedu Tinn</u>.
/Stabs with the right hand forward, the index finger straight; "That's what
I'm saying"/
....
(c) KK: And then the then rector Venno Laul proposed me <u>to apply</u> for the
post of head of department.
/Turns the right hand to the front, palm up; "That's what I'm saying"/

[PU: Why did Aarne Üksküla leave from that post?]
....
(d) KK: <u>Because I've been planning the same</u>.
/The right hand above the face, a slight flick away; "That's what I'm
saying"/
....
(e) KK: And I think that it's, well ... that I've exhausted <u>myself</u>.
/A slight circle outward with the right hand; "As you understand yourself"/
(f) KK: <u>I like it,</u> this job.
/A slight flick forward with the fingers; "As you understand yourself"/

(6) (a) [PU: Because when we look at the so-called list of heads of the
department, then Panso, Üksküla, Tinn. It's made a strange jerk, somehow.
When we speak to creative people then, well, at this point the change of
heads of department or change of people has caused various comments.
Maybe you could explain why Üksküla quitted, why was Eduard Tinn
suitable for the position in a wider perspective? Why did he have to be
there? And then you overtaking the job?]

....

(b) KK: To tell the truth, I can't remember ... <u>ten years</u> have passed since that.
/Flicks outward with the right hand for a moment; "As you understand yourself"/

(c) KK: Yea, yes, and then, well, <u>I repeat again</u> (1) that <u>Venno Laul made a proposal</u> (2).
/(1) Strikes forward with his right hand for a moment; "As you understand yourself";
(2) Strikes forward with his right hand for a moment; "As you understand yourself"/

(d) KK: <u>I said, okay, I agree.</u>
/Holds the right hand in front of him, palm upwards; "As you understand yourself"/

In the material it is possible to find examples where the general delivery gesture is made by both hands (examples 6 and 7).

(6) PU: When you arrived <u>between the prison walls</u> ... that I'm lost for Estonia both inwardly and outwardly ... then there's one way how to come to surface again. / Points forward with both hands, two first fingers straight; "That's what I'm saying"/

(7) PU: And then <u>the school years arrived</u>.
/A small circle outwards with both hands; "That's what I'm saying"/

Shared information gesture (cf. Table 1, subdivision 2.1.2.).

The following is an example demonstrating the preceding input by the speaker but it has one interesting difference from the base model. The reference to the speaker's preceding statement is made by negating. A negation or tacit protest is expressed first of all in a gesture accompanying the utterance. After the statement by the speaker that the listener had held high rank jobs at times when he could not fully implement his potential they have spoken about other matters. Then the other interlocutor comes indirectly back to this topic and alleges that he held a position where he could be active, and refers with his hand gesture that the preceding statement was not correct according to his opinion (example 8).

(8) [PU: I've got the impression that your strivings in the career ladder yielded fruit at the wrong time.]

....

JA: Now, if we speak about this last period, if we don't say it was an active political life, let's say, from seventy seven to eighty one when I was head

of the theatre administration of the Ministry of Culture, then this was, well, let's say, an active theatre-political life.
/A slight flick with the hand outwards, reference to the preceding information. /

At the same time there exist more traditional ways of referring to shared information. In the following example both parties refer to shared information a number of times. PU has metaphorically referred to a fact about JA. At first JA speaks of something else, then returns to the statement, agrees to it initially though with concessions and then refers to the partner's statement by an interactive gesture. For PU agreement with concession is too little and he tries to specify and be more concrete by making a counterargument and an interactive gesture with the reference to shared information (example 9a-b).

(9)   [PU: You have been considered a "grey cardinal" ...]
       ……………………………………..
       (a) JA: Though indirectly, that's another matter I was chairman of that ... organizing committee of the joint session of Estonian art unions.
       /The right index finger is up, a slight flick with the hand outwards; makes a reference to the previous input. /
       (b) PU: But you had also been a minister. That was later, yes. The result was that you made it to the minister's office.
       /Makes rhythmic circles with the right hand, the index finger straight towards the partner; a reference to the previous input. /

The reference to the previous input of the other in the following example becomes understandable only after we have presented several preceding replies which demonstrate how the interactive gesture was arrived at in the last reply and which input was actually meant.

(10) [PU: But ... who are your friends in the capital?]
       ……………………………………..
       PU: I have in mind ... I mean people who were in the political leadership.
       JA: Well, I would first name Tiit Vähi as ... let's say ... in my mind the most calm, pragmatic and apolitical in a good sense person from among the top leadership of Estonia in the last years.
       PU: Then it could be added that you plan to leave Viljandi for yet another period? /Makes two small circles outward toward the partner with the right hand; a reference to the previous input. /

Digression gestures (cf. Table 1, subdivision 2.1.3.).

There were few such gestures (cf. example 11).

(11) JA: And when Glavlit crossed something out or prohibited something then it was forbidden <u>that I ... or not only me ...</u> or an official from the ministry told the director or author that, look here, Glavlit crossed these lines out, see.
/The two fingers of the right hand straight, makes a curve towards the interlocutor; "Follow me"/

Elliptical gestures (see Table 1, subdivision 2.1.4.).

As an example of the elliptical display gesture in the group of interactive gestures may serve the following utterances (12a). The whole dialogic part, related to this topical area has to be presented here in order to bring out that elliptical character.

(12) PU: At that time it was a rather prestigious position.
....
KR: Then we started paying attention to such pieces, which were on the razor's edge.
KR: Who can recall such a piece as "Staging "Hamlet" in the village of Alam-Kolka"? It was forbidden. We could not perform it.
....
(a) KR: That's how we played. Many other theatrical pieces, but <u>this</u> <u>"Village"-piece</u> was an exemplar case.
/Elliptical gesture; a reference to the previous./

The material presented by J. B. Bavelas and her colleagues is experimental and they do not consider ambiguous situations whenever possible. But there are a lot of them in real life.

Seeking help gesture (see Table 1, subdivision 2.3.1.).

Seeking help in finding a word is one of the most easily identifiable interactive gestures. Here are some examples (13 and 14).

(13) KK: But then when he left ... and did he leave then ... did he go to Moscow for the postgraduate studies <u>or did he already go to that ... this ...</u> to take the editor's job in that magazine?
/A thrust down with the right hand, palm upwards; "Can you give me the word"/

(14) KR: When, according to someone's hints, <u>these ... ah ...</u> men from SORVVO arrived.
/Makes a fingerflick towards the addressee, "Can you give me the word"/

Keeping the turn (see Table 1, subdivision 2.4.3.).

This gesture is also interactive. It occurred only once (example 15).

(15) PU: But you had been a minister. <u>That was later, yes. The result was that</u> you reached a minister's office.
/The right hand makes a light air-cutting movement; "Don't interrupt!"/

6.2.2. Topic gestures

Topic gestures illustrate the topic, connected utterances or the part of them. Quite often topic gestures "depict" additional meaning to the words in an utterance, support or strengthen words in a conversation whereas interactive gestures are directly targeted at the interlocutor. Generally this supports the results of Bavelas et al.

The following are some examples of topic gestures which add expressive force to the utterance and can be presented without illustrative photos (examples 16, 17a-c, 18).

(16) [PU: But why Halliste?]
....
KR: Halliste is a nice place, and besides that ... ah ... <u>all the walls were there,</u> weren't they?
/Raises the left hand higher over the shoulder and makes a wide circle./

(17) [PU: At that time it was a rather prestigious position.]
....
(a) KR: Then we started paying attention to such cases, which were as if <u>on the razor's edge</u>?
/Raises the right fist up and makes the metronome-movement with the index finger. /
(b) KR: Who can recall such a theatrical piece as "Staging "Hamlet" in the village of Alam-Kolka"? It was forbidden. <u>We could not perform it.</u>
/The raised right hand finger transforms into a circle outward with the whole hand and then inward at full pelt; "finality"./
....
(c) KR: <u>Being on the razor's edge ourselves,</u> can we remain or not.
/The clenched hand is in front, index finger straight, moving it in a metronome-way./

(18) KR: At that time it was <u>a peak period</u> (1) in the theatres. From the year eighty <u>the halls full</u> (2).

/(1) Raises the right hand high above his head.

(2) Repeats the previous movement./

The following two utterances (example 19a-b) present a lot of expressive topic gestures. KR starts talking about an incident in the prison but makes a digression after the first utterance and starts describing the walking conditions in the prison yard.

(19) (a) KR: It was raining outside, pouring. It was the turn of our cell <u>to go out for a walk</u>.

/A "sweeping" movement with the hand in front./

(b) KR: By the way, <u>the ... the prison yards are also cells</u> (1), it's not <u>a big yard any more</u> (2) — we all walk around -, but also <u>small cells have been introduced</u> (3), smaller than this room and walls <u>covered by thick wire net from above</u> (4) and in there every cell walks around separately and <u>on special bridges</u> (5) the wardens move around and watch.

/(1) Makes movements with the hand in front and sideways as if "building" a separation.

(2) Makes a circular movement in front with the whole hand.

(3) Brings hands apart in front and down the sides; "building a square cell".

(4) Two hands as "gable roof" in front of him.

(5) A hand draws a circle in the air./

Interactive gestures are manifested first and foremost in dialogues, topic gestures in all forms of communication and surely rather in monologues. This point found also support in the material. When KR started talking more profoundly about something, "immersed in monologue" so that "forgot" to draw PU in the dialogue the number of gestures started increasing (cf. examples 20a-f, 21, 22a-b, 23).

(20) (a) KR: And despite what the whether is like if it's the turn of your cell then you <u>are driven out there</u>.

/A movement forward with the right hand from the neck in full swing as if "whipping a horse"/

....

(b) KR: It was <u>again our turn to go out</u>.

/Moves the hand in front, fingers pointing to the ground. The gesture gives expression to the fact that their cell was higher above than the ground floor./

(c) KR: We say that <u>we don't want to go</u> (1) — we <u>cannot dry the clothes</u>

afterwards (2), we <u>have only one set of clothes</u> (3), <u>thin and it's cold even in them</u> (4).

/(1) Hands together in front, draws them apart sidewise.

(2) Puts both hands against his breast.

(3) Repeats the previous gesture.

(4) Pulls the front of the shirt with both hands./

(d) KR: No, out, out!

/The right hand curled from the elbow, shaking the fist./

(e) KR: And <u>so with all the cells</u> (1), not <u>only in case of ours</u> (2).

/(1) A patting movement with the right hand; "all of them".

(2) Strikes against his breast once./

(f) KR: I recall for the first time absolutely distinctly and after that many times when I said: "Now, guys, <u>only praying can help us</u>. Let's pray for the rain to stop".

/Puts his hands together./

(21) KR: The main figure in our cell, a large-scale smuggler, head of a <u>bigger cartel</u> (1) <u>looked more than contemptuously</u> (2) at somebody like me, that I say that the rain will stop if we pray.

  /(1) Makes a clap with his hands in front. The gesture metaphorically demonstrates how "important" that person was considered.

(2) Raises the left hand straight up and the right palm forward./

(22) (a) KR: We prayed. We had to come from the fourth — <u>we were highest up</u> (1) – we had to <u>come down from the fourth floor</u> (2) to reach the yard.

/(1) Raises the right hand fully up.

(2) The right hand moves downwards to the front, the index finger points towards to the ground. /

(b) KR: We reached the yard, <u>the rain stopped</u>.

/Makes a "sweeping movement from the ground"; "finality"./

(23) KR: The boss also started praying. <u>Every time the rain stopped</u>.

/Makes the same "sweeping from the ground" movement; "finality"./

Gestures in utterances when somebody speaks about something or someone in the past or in the future can be characterized quite unambiguously: when speaking about the past the speaker points behind, back over the shoulder, etc.; in case of future the movements are directed to the front. It has also been pointed out by the well-known French researcher G. Galbris (1986: 139; 1987: 73), as well as the horizontal and vertical movement (denoting mostly finality, border, obstacle) (Galbris 1987: 62–63).

Judging from the examples it can be said that these four Estonians do not make
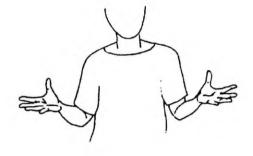
Example 24

Example 25

Figure 2.

Figure 3.

Example 26

Figure 4.

Example 27   a

b

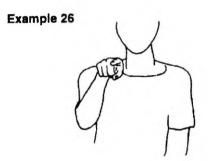**Figure 5.**

forward or backward movements related to the concept of time as often as the French do. In the conversation with KK there was more than one opportunity to refer back in time but KK used absolutely different gestures for that (examples 24 and 25).

(24) KK: <u>A few years</u> later Jaan Tooming was the director here, in "Ugala".
/The thumb and index finger of the right hand make an inch-measuring gesture, finger upwards (cf. Figure 2)./

(25) KK: Well, for Christ's sake, it was ... Kaarel Kilvet staged it ... a performance with songs including a piece, <u>written about 200 years ago,</u> where it was written in the text that Grandpa went to India.
/Looks at the interviewer, spreads his hands; "Well about that time" (cf. Figure 3)./

But the speakers referred forward in relation to space or objects (examples 26, 27a, b).

(26) KK: I had staged in the Youth Theatre one <u>children's musical</u> and then "Oliver and Jennifer".
/Points forward with the right hand, finger straight; [object] (cf. Figure 4)./

(27) KK: A few years later Jaan Tooming was <u>the main producer here</u> (b) <u>in</u> <u>"Ugala"</u> (a).
/(a) Points over the shoulder with the thumb of the right hand.
(b) Points over the shoulder with the thumb of the right hand, but below (cf. Figure 5: a [space], b [object]./

7. Conclusion

The analysis of Estonian dialogue demonstrated that it supports rather well the classification of conversational gestures proposed by J.B. Bavelas and her colleagues. Naturally, the overlap could not have been a hundred percent and that was not the aim of the paper. But the author's interest in hand gestures has arisen earlier and the concept of the Bavelas group provided a fair opportunity to check on phenomena arising in face-to-face communication. That certain overlaps are possible demonstrates the more basic nature of human gestures compared to language. But one does not exist without the other and it is too early yet to draw wider conclusions. Topic gestures depict concrete meanings iconically and abstract meanings metaphorically.

Our material **was** not an experimental dialogue but an interview-like conversation between two people and — this proves the point of Bavelas et al. — there were considerably less interactive gestures, certain variants did not occur at all. General delivery gestures occurred most often. There were quite a few gestures of agreement and **seeking** understanding. This also provides ground for further generalizations about human nature. The well groundedness of a new, defensive gesture as interactive one needs further investigation. There were also conduit and elliptical gestures. **Help** seeking gestures for finding the right word are inseparable of any communicative situation ... Turn-taking gestures occurred to a lesser extent because the material **was** interview-like dialogue.

Topic gestures **occur** very often. Putting them into words seems harassing them. Even picture **cannot** convey dynamics but seems a less helpless means. Time, object and finality **are** depicted by movements, which can be considered stereotypical. Their occurrence here and elsewhere in Europe provides the first opportunity for wider generalization. But are the differences cultural or do they lie somewhere else one cannot say at the moment. At the time when the world is "shrinking" and interculturation takes place, many regional features are loosing their characteristics.

Still, it is possible to say that the model developed by J.B. Bavelas and her colleagues' functions outside the area studied by them — i.e. in Estonia.

One of the main functions of a speaker's gesture is linguistic, that is, to help convey meaning to the addressee in an immediate conversational context. Absolutely important are both the addressee and the moment-by-moment context in which the gesture occurs. This view of gestures requires a microanalytic analysis. Gestures are very much like words or phrases in spontaneous conversation.

A gesture can have more than one function simultaneously. The goal of analysis should not be only to decide which category we should put a gesture but rather to discover at least some of the things a gesture is doing at its particular moment in the conversation.

It may be say that conversational gestures are part of speech, in two senses:

(1) they contribute to meaning just as words and phrases do;

(2) their meaning depends upon the whole of which they are a part of (Bavelas, in press).

An interpretation of gestures as interactive or topical in function depends on the interpretation of the meaning of the gesture at the particular moment it occurred. In other words, we must "translate" or explicate the gesture's meaning. This means
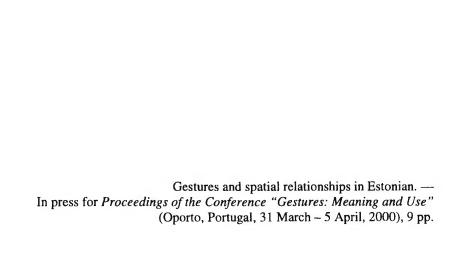
taking into account both its physical encoding and what it seemed to be conveying in conjunction with the accompanying words, intonation, and facial displays at that precise moment. Conversational gestures are spontaneous and transient.

The functions served by individual interactive gestures at their moments in conversation are quite heterogeneous. But all they have in common is a reference to the addressee. Topic gestures work closely with the verbal narrative, illustrate this. Interactive gestures also have verbal equivalents. The speaker can insert interactive gesture quickly and with minimal interruption of the topical flow. Topic gestures convey meaning, fully or partially dependent on the words.

References

Barasch, Moshe 1987. *Giotto and the Language of Gesture*. Cambridge: Cambridge University Press.

Bavelas, Janet Beavin (in press). Gestures as Part of Speech: Methodological Implications. — A. Kendon (ed.), *Research on Language and Social Interaction. Special Issue on Gestures*.

Bavelas, Janet Beavin; Chovil, Nicole; Coates, Linda and Roe, Lori (in press). Gestures Specialized for Dialogue. — *Personality and Social Psychology Bulletin*.

Bavelas, Janet Beavin; Chovil, Nicole; Lawrie, Douglas A.; Wade, Allan 1992. Interactive Gestures. — *Discourse Processes*, 15, pp. 469–489.

Calbris, Geneviève 1987. Geste et motivation. — *Semiotica*, 65 1/2, pp. 57–96.

Calbris, Geneviève et Montredon, Jacques 1986. *Des gestes et des mots pour le dire*. Cl° International, Paris.

Efron, David 1972. *Gesture, Race and Culture*. Paris and Hague: Mouton (Originally published in 1941 as *Gesture and Environment*. New York: King's Crown Press)

Ekman, Paul and Friesen, Wallace V. 1969. The Repertoire of Nonverbal Behavior: Categories, Origins, Usage, and Coding. — *Semiotica*, 1, pp. 49–97.

Ekman, Paul and Friesen, Wallace V. 1972. Hand Movements. — *The Journal of Communication*, 22, Dec., pp. 353–374.

Hewes, Gordon W. 1973. Primate Communication and the Gestural Origins of Language. — *Current Anthropology*, 14, pp. 5–24.

Kendon, Adam 1986. Current Issues in the Study of Gesture. — Jean-Luc Nespoulous, Paul Perron, André Roch Lecours (eds.), *The Biological Foundations of Gestures*. Hillsdale N.Y.: Lawrence Erlbaum Associates, pp. 23–48.

Kendon, Adam 1993. Gestures as Illocutionary and Discourse Structure Markers in Southern Italian Conversation. Paper presented in the Symposium "Recent Contributions to the Study of Gesture in the Context of Talk". *Linguistic Society of America*, January 8, Los Angeles, California.

McNeill, David 1986. Iconic Gestures of Children and Adults. — *Semiotica*, 62 1/2, pp. 107–128.

Nespoulous, Jean-Luc; Lecours, André Roch 1986. Gestures: Nature and Function. — Jean-Luc Nespoulous, Paul Perron, André Roch Lecours (eds.), *The Biological Foundations of Gestures*. Hillsdale N.Y.: Lawrence Erlbaum Associates, pp. 49-62.

Payrató, Lluís 1985. Comunicació no verbal, tipologies del gest i gest autònom. — Anuario de Filología, 11-12. Barcelona: Universidad de Barcelona, pàgs 151-180.

Sebeok, Thomas A. 1987. A Natural History of Language. — *Semiotica*, 65 3/4, pp. 345-358.

Wiener, Morton; Devoe, Shannon; Rubinow, Stuart and Geller, Jesse 1972. Nonverbal Behavior and Nonverbal Communication. — *Psychological Review*, 79, pp. 185-214.

IV

Gestures and spatial relationships in Estonian. —
In press for *Proceedings of the Conference "Gestures: Meaning and Use"*
(Oporto, Portugal, 31 March – 5 April, 2000), 9 pp.

Abstract

Keywords: pointing gestures
cognitivity
space
language

This paper focuses on iconic gestures that accompany speech in the context of spatial relations. In this paper, the pointing gestures were studied together with Estonian (Finno-Ugric) verbal expressions. The pointing gestures had two simultaneous roles: (1) to point to the spatial relations and (2) to image (to denote) the most important concept in the sentence that followed. The underlined connection between the gesture and the word may be a process or certain type of information.

GESTURES AND SPACE RELATIONSHIPS IN ESTONIAN

Silvi Tenjes

Tartu University, Estonia

This paper is part of a comprehensive study that deals with the interrelations of gestures and speech from various aspects. The paper focuses on iconic gestures that accompany speech (Feyereisen and de Lannoy 71–87, McNeill 1–2, 5, Hadar and Butterworth 148, 150–151, Beattie and Shovelton 14, etc.) in the context of spatial relations. Iconic gestures that indicate space can be called pointing gestures or deictics. First, I'll make an attempt to put my theoretical positions in a broader perspective.

1. Cognitivity and language

Many researchers have tried to describe how cognitivity is related to physical embodiment. Image schemata are not abstract relations between symbols and the external world, the reality, but they organize our experience and under-standing on the level of physical perception and movements (Armstrong, Stokoe, Wilcox 51–52). Human cognition appears to comprehend certain rela-tively distinct major cognitive systems, which include language; perception in general or in its several modalities like vision, hearing, kinesthesia, etc.; a cognitive system for cultural structure, etc., as Talmy (231) has pointed out.

1

Each major cognitive system has certain properties of organization; many of them are comparable across systems, which means that the systems overlap to some extent. The organization of language is perhaps unique among the cognitive systems, and language has evolved later than the other systems, which include hand gestures. Perhaps these systems overlap, too. I mean that the conceptual structure of language largely overlaps with the structures of the visual, kinesthetic, reasoning and understanding systems, less so with the systems of affective and cultural structure. Kinesthesia is probably one of the earliest perception systems.

2. Space and language

According to Spencer, each culture builds up its image about time on the base of its image of space. In order to explain spatial cognitivity, it is important to study the referential and pointing gestures that accompany speech. Spatial changes can be characterized, as well as experienced, through the bodies that move through space along a path or trajectory (Radden 17–19). The imaginary journey of the subjects, the journey in a person's mind, does not take place in real time. A human being uses as if unreal space — an imagined journey. It is the space imagined by the human being — a collection of individual items whose constancy is secured by the journey. We can categorize spatial change in accordance with process as motion. For example, a verb of motion may encode the origin and manner of a movement (e.g., "to rush out of"), but not the path that is supplied by the gesture. Without the verb, however, the gesture may not be recognized as a representation of a path. It could also represent the outline of an object, for instance (Streeck and Knapp 12–13).

It's surprising that neither Greek nor Latin has an exact equivalent of "space". The Greek *topos* means 'place', 'body location relative to another body'. The Latin *spatium* — from which the English and French space-names are derived — means first of all 'interval' or 'distance between two bodies'. The Greek *khora* is closer to the modern 'space' than *topos*. But *khora* also means 'place', 'spot' or 'surroundings' rather than 'space'. It's interesting that *khora* sometimes means 'interspace' (or 'space between'), too. The Aristotelian philosophy of space is a theory of *topos*, not a theory of *khora* (Wright 105).

3. Gestures and language

That is no doubt why many deictic terms are normally supplemented by gesture. It is one of the best possible solutions to the problem of angle-specification as gestures constitute an analogue system (offering indefinite subdivisions of arc) while any linguistic solution will be digital (offering only a small set of broad angles or points). Although a gestural system offers excellent design features for

face-to-face communication, it will fail totally where visual contact cannot be established. Moreover, it provides a solution to the communication problem but not to the conceptual problem, namely, how an individual should conceive of angles, remember them, and find objects or destinations utilizing them (Levinson 8).

The gesture and the synchronous language entity may denote the same underlying ideational unit. According to McNeill (2), the contents of the gesture and the synchronized speech need not be identical, and they usually they are not. There are related but not identical meanings, which McNeill calls "co-expressive". So, if the gesture and its synchronized co-expressive linguistic segments express the same underlying idea unit, they need not express its identical aspects. Such paired use of gesture and speech can refer to their inherent uniformity or even to inherent parity. Is the idea unit something like a language of the mind? A language of the mind is not something on which the supposed computation is carried out. Nor does it emerge as a distinctive level of cognitive organization from the interaction of a population of neurons within the brain. Rather, a language is something that we use, and its usage is inherently connected to the embodied nature of our interactions with the environment (Teng 2). Gestures may help to solve the question of language acquisition.

4. Method

Many of studies of iconic gestures are based on the retelling of cartoon stories. On the one hand, we need exact experiments. On the other hand, as Beattie and Shovelton (26) have pointed out, we need the studies of gestures in everyday conversation, too. In this paper, the pointing gestures were studied together with Estonian (Finno-Ugric) verbal expressions. The examples come from an experiment where the subjects had to go on an imaginary journey and describe it to another person, the 'guest'. En route the 'guest' was shown some historic and cultural sights. Each "guide" "went" from starting point to the finish in 10 minutes. 14 subjects were videotaped. Two aspects were analyzed: (1) the gestures that indicated space, spatial relations, or spatiotemporal relations, (2) the semantic significance of the concomitant words, phrases, or sentences. The gestures that indicated spatial relations were studied together with the concomitant Estonian-language expressions. So, the aim of this experiment, which involves face-to-face-interaction, is to understand space-relation gestures and coverbal speech. It seems that people automatically pick up information that is only present in gestures. The material is still in process.

5. Results

It appears that for some concepts the interlocutor must add a gesture to make oneself fully understood. The data indicate that people often use the words like

3

'this', 'here', 'there', 'this over there' and 'on the left' or 'on the right' to express which object can be seen on the way.

(1) "Groping".
Conversation often begins with "groping" each other, and only after such an introduction people get more relaxed and gestures appear in the conversation (Tenjes 178). In this case the gestures also appeared not just at the beginning of face-to-face interaction but some time later when the interactants had already used to each other.

(2) Communicators.
It appears that pointing gestures, which indicate spatial relations, perform a strongly communicative role. It means that subjects pointed to the left or to the right, etc. with or without concomitant words. The extra meaning is communicated by means of the gesture. The pointing gesture has an independent meaning and it substitutes the word, which marked the spatial relations. It was very common. Some examples will be given below.

EXAMPLES.
(The underlined part of the utterance indicates at what moment the gesture was made.)

(i) Ja siis see väike maja   siin on   humanitaarraamatukogu.
    and then this little   house-NOM here be-PRES-3SG humanities+library-NOM

'And then this little house here is the library of the humanities.' (See figure 1.)

Figure 1.

4

(ii) Jakobi   mägi. <u>Ja siia   jää-b   nüüd "Krooks".</u>
    Jacob-GEN hill   and over-here stay-PRES-3SG now "Krooks"

See on   kella   kaheteistkümne-st kella
 it   be-PRES-3SG clock-GEN twelve-ELA   clock-GEN

kuue-ni   hommiku-l   ava-tud   ja päris selline ...
six-TER   morning-ADE   open-PART   and quite such ...

iahe koht.
cool place-NOM

'Jacob's Hill. <u>And the "Krooks" pub is over here now</u>. It is open from twelve until six in the morning and it's a rather ... cool place.' (See figure 2.)

Figure 2.

(iii) See on   seal   Vana Anatoomikum.
    this be-PRES-3SG over-there old   anatomical+theatre-NOM

'This is the Old Anatomical Theatre over there.' (See figure 3.)

Figure3.

So, in face-to-face interaction the pointing gestures have strongly communica-tive value in the context of direction with regard to the egocentric coordinate system (left, right, here, there).

(3) Points and pre-points.
The gesture indicating 'this over there', 'this over here', etc. appeared very often *before* the most important concept of the sentence. The concept mostly denoted an object or a shape of the path.

EXAMPLES.
(The arrows show the main type of the hand movement.)

(i)   ↔ ↔
Siit   alt   lähe-b   läbi   Lossi   tänav.
from here   from below go-PRES-3SG   through   castle-GEN street-NOM

'Lossi Sreet passes through below us.' (See figure 4.)

Figure 4.

(ii)   ⌐
Kui te nüüd siit   mäe-st   alla vaata-te,   vaat
when you now from here hill-ELA down look-PRES-2PL look!

    ⌐⌐
sealt   paista-b   Kuradisild.
from there be seen-PRES-3SG devil+bridge-SG-NOM

'When you look down from this hill now, look, you can see the Devil's Bridge
over there.' (See figure 5.)

Figure 5.

(iii)   ✓
Ja sealt saa-b   alla las-ta.
and from there can-PRES-3SG down fire-INFINIT

'And one can fire down from there.' (See figure 6.)

Figure 6.

This study indicates that the pointing gestures had two simultaneous roles: (1) to point to the spatial relations and (2) to image (to denote) *the most important* concept in the sentence that *followed*. There is a clear semantic link between the gesture and the single underlined word in the accompanying speech (Hadar and Butterworth 152). It means that the gesture and the language have a common base. But is it a unit? According to human overall cognition, the underlined connection between the gesture and the word may be a *process* or certain type of *information*. There should be an overlapping area between gestures and concepts. It shows connections in the deep psychological level in the human mind. Heterogeneity is an ancient property of human consciousness, and this mechanism requires the presence of at least two systems that would not be ultimately translatable into each other (Lotman 223, 43).

According to Spencer, the more developed the entirety, the more it has *differentiated* into parts according to function. Secondly, the more developed it is, the more *integrated* are its parts into the functioning of the entirety (Wright 33). It seems that this statement can be postulated both for gestures and human language. How much does a gesture depend on the peculiarity of language? To what extent can we speak about universality? In this case, the pointing gestures in spatial relations do not depend on specific language, and vice versa. The unit point or *the unit process* lies deeper in human cognition. What could be innate language ability could have a non-linguistic character. Spatial information is encoded both into spoken language and the concomitant iconic gesture. Similarly to linguistic units, the gestures are also symbols, that is, pairs of meaning and form. It remains open what kind of meaning exactly is conveyed by gestures. One might say that in a broader perspective the gesture is the important link that proceeds through perception, conceptualization, and language development.

References

Armstrong, David. F., Stokoe, William C., Wilcox, Sherman E. Gesture and the Nature of Language. Cambridge: Cambridge UP, 1995.

Beattie, Geoffrey and Shovelton, Heather. "Do iconic hand gestures really contribute anything to the semantic information conveyed by speech? An experimental investigation." Semiotica 123.1/2 (1999): 1–30.

Feyereisen, Pierre and de Lannoy, Jazcques-Dominique. Gestures and Speech: Psychological Investigations. Cambridge, Paris: Cambridge UP, Editions de la Maison des Sciences de l'Homme, 1991.

Hadar, Uri and Butterworth, Brian. "Iconic gestures, imagery, and word retrieval in speech." Semiotica 115. 1/2 (1997): 147–172.

Levinson, Stephen C. "Primer for the Field Investigation of Spatial Description and Conception." Working paper No. 5. Nijmegen: Cognitive Anthropology Research Group at the Max Planck Institute for Psycholinguistics, 1991.

Lotman, Juri. Semiosfäärist. Trans. into Estonian Kajar Pruul. Tallinn: Vagabund, 1999.

McNeill, David. "One ontogenetic universal and several cross-linguistic differences in thinking for speaking." Based on a plenary lecture of the same title given at the 6th International Cognitive Linguistics Conference, Stockholm, Sweden, 13 July 1999.

Radden, Günter. "The Cognitive Approach to Natural Language." Thirty Years of Linguistic Evolution. Ed. Martin Pütz. Amsterdam/Philadelphia: John Benjamins, 1992. 513–542.

Streeck, Jürgen, Knapp, Mark L. "The Interaction of Visual and Verbal Features in Human Communication." Advances in Nonverbal Communication. Ed. Fernando Poyatos. Amsterdam/Philadelphia: John Benjamins, 1992. 3–23.

Talmy, Leonard. "Fictive Motion in Language and "Ception"." Language and Space. Eds. Paul Bloom, Mary A. Peterson, Lynn Nadel, and Merrill F. Garrett. Cambridge, Massachusetts, London, England: A Bradford Book, The MIT Press, 1996. 211–276.

Teng, Norman Y. "The language of thought hypothesis: A critique." A colloquium presentation at the Pacific Division Meeting of American Philosophical Association, in Berkeley, California, 26-29 March 1997.
http://www.ccunix.ccu.edu.tw:8000/~pyyjt/epage/epaper/lot.html

Tenjes, Silvi. "Gestures in Dialogue." Estonian in the Changing World. Ed. Haldur Õim. Tartu: University of Tartu, 1996. 163–92.

Wright, Georg Henrik von. Minerva öökull. Trans. into Estonian Joel Sang, Jaan Kaplinski, Ülev Aaloe. Tallinn: Vagabund, 1996.

v

Gestures in communication and their use for pointing and referring in space: Estonian examples. — Tragel, I. (ed.), *Papers in Estonian Cognitive Linguistics.* Tartu: University of Tartu, 2001, 216–248.

Gestures in communication and their use for pointing and referring in space: Estonian examples

Silvi Tenjes
Universtity of Tartu

1. Introduction

The Roman rhetorical tradition acknowledged the importance of gesture and considered the appropriate use of gesture an important part of the "actio" of a speech. Quintillian devoted a large portion of one of the four books of his *Institutio Oratoria* to a discussion of the proper use of gesture by an orator. Mainstream modern linguistic theories have adopted a condescending or downright antagonistic attitude toward gesture. Due to a Cartesian dualistic bias towards the strict separation of body and mind, and to the concentration on the enterprise of accounting for linguistic competence rather than linguistic performance, the gestures occurring in connection with spoken language have generally been ignored as irrelevant (Hirsch 1995: 14). This situation is however changing. Linguists are working together with communication scientists, anthropologists, psychologists, and others studying the actual use of spoken language in a variety of everyday situational contexts.

2. Peirce's trichonomy

In contrast to Descartes, C. S. Peirce realized that knowledge or cognition has three basic semiotic dimensions: iconic, indexical, and symbolic. Peirce claimed that these three dimensions of cognition were grounded in intuitions of similarity, causality, contiguity in space-time and part-whole, and arbitrary conventional connections between objects (abstract or concrete) of attention. In Peircian semiotics the iconic and indexical dimensions of signs are primarily non-verbal, the symbolic dimension is primarily verbal (Hirsch 1995: 14).

Many classifications of gestures "arise" from Peirce's sign trichonomy. When referring to an object, a sign can be an icon, index or symbol. Peirce calls this trichonomy the most important classifi-

cation of signs. In modern semiotics the sign–function relationship (or the sign–object relationship) has become a crucial issue. The index seems to be the most complex type among these three types of sign. Indices are indicating signs. Indication is the simplest and the basic type of semiosis. But indexical signs also play a role in very complex sign process, such as verbal communication.

In Peirce's work, the index appears, together with the icon and the symbol, as a member of one of the numerous triads abundant in the world of our experience. Just as indexicality is conceivable, but is not a sign, until it enters the sign relation, iconicity has some kind of being, but does not exist, until a comparison takes place. In this sense, if indexicality is a potential sign, iconicity is only a potential ground. In sum, then, iconicity begins with the single object; indexicality starts out as a relation. The problem, therefore, consists in determining what kind of relation it is (Sonesson 1996: 129).

This brings us to another, rather common, confusion: that between indices and indicators. The term chosen by Peirce certainly suggests that all indices, like the pointing index finger, or an arrow, serve to pinpoint a particular object, to isolate it and bring it out of the, typically spatial, context in which it is ordinarily enmeshed; and this is indeed what Peirce claims (CP 3.361; 4.56). However, if we use the term *indicator* to describe signs which are employed to single out an object or a portion of space for our particular attention, it may be argued that they are not necessarily indices in Peirce's sense, and that they are not, in any event, sufficiently characterized by being so classified (cf. Sonesson 1989b: 50ff, 60f; Goudge 1965: 65ff). Thus, certain indicators, such as pointing fingers and arrows, do presuppose a relation of contiguity with what they point to; but this is not necessary, or even possible, in the case of many verbal indicators, most maps, and the photographic options depending on film, lighting, and frame described as indexical in the semiotics of photography; for, in these cases, the indicative gesture is merely recreated at the level of content. At least Peirce would also describe some of these examples as not "genuine" indices. On the other hand, real indicators, such as fingers and arrows, are equally contiguous to a number of objects which they do *not* indicate, for instance to the things which are at the opposite side of the arrow-head, in the direction to which it does not point (Sonesson 1989a: 47).

The lack of definitions suggests that Peirce tended to over-extend the notion of sign. In his later days, however, he realized that all his notions were too narrow: instead of sign, he should have talked of mediation, which should be understood as branching, that is, as a crutch (Cf. Parmentier 1994). Some of Peirce's examples, and many of those suggested later, are however of another kind, for, instead of presupposing a regularity known to obtain between the "thing" which serves as the expression of a sign, and another "thing" which is taken to be its content, they transform something which is contiguous, or in a relation of factorality, to the expression, into its content. These signs may therefore be termed *performative indices*. With contiguity, they give rise to such phenomena as the pronoun 'you', the finger pointing to an object, the weathercock (as marking the here-and-now of the wind), the clock of the watch-maker's (as marking the emplacement of the shop); and with factorality, they may produce the pronouns 'I', 'here', 'now', the finger pointing out a direction, etc.

3. Problem with classification of gestures

There have been various competing classifications of gestures in the literature, though the terminology has often been somewhat misleading (see, for example McNeill 1985; Feyereisen and de Lannoy 1991). Typologies of gesture often involve two broad crosscutting dimensions: *representationality*, and *convention* or *autonomy* (Haviland 1996: 11). The first dimension has to do with whether and how the bodily movements that accompany speech depict or represent the referential content of what is being conveyed by an utterance. Some gestures seem tailored to the "meaning" of speech, via various semiotic modalities, whereas others, for example, appear to be more closely aligned to the rhythm of talk.

D. McNeill and his associates have developed an influential classificatory scheme which distinguishes between "iconic" and "metaphoric" gestures which bear a relation of resemblance to aspects of utterance content, "deictic" gestures which index both concrete and abstract referents, and "beats" which seem to be non-representational (Haviland 1996: 40). The scheme is elaborated and compared with competitors in McNeill (1992). McNeill and others distinguish between four types of gestures, which have been shown to occur with narrative discourse (McNeill 1992).

1. Iconics depict, by the form of the gesture, some feature of the action or event being described; such as 'he climbed up the pipe' accompanied by the hand raising upwards to show the path (Cassell, McNeill, McCullough 1999: 5). 'An iconic gesture is one that in form and manner of execution exhibits a meaning relevant to the simultaneously expressed linguistic meaning. Iconic gestures have a formal relation to the semantic content of the linguistic unit' (McNeill 1985: 354). He also says that 'Iconic gestures are typically large complex movements that are performed relatively slowly and carefully in the central gesture space' (1985: 359). He also claims that such gestures accompany 'only sentences classified as narrative' (1985: 359).

2. Metaphoric gestures are also representational, but the concept being depicted has no physical form. An example is 'the meeting went on and on' accompanied by a hand indicating rolling motion. Some common metaphoric gestures are the "process metaphoric" just illustrated, and the "conduit metaphoric", which objectifies the information being conveyed, representing it as a concrete object that can be held between the hands and given to the listener. 'Metaphoric gestures are like iconic gestures in that they exhibit a meaning relevant to the concurrent linguistic meaning. However, the relation to the linguistic meaning is indirect. Metaphoric gestures exhibit images of abstract concepts. In form and manner of execution, metaphoric gestures depict the vehicles of metaphors' (1985: 356).

3. Deictics spatialize, or locate aspects of the story being narrated in the physical space in front of the narrator; such as 'Adam looked at Chuck, and he looked back' accompanied by a hand pointing first to the left and then to the right.

4. Beat gestures: small baton like movements that do not change in form with the content of the accompanying speech. A beat is a 'simple and rapid hand movement of a type that usually accompanies words whose importance depends on multisentence text relations' (1985: 354). Beats are not iconic in nature.

One of the crucial and confusing problems with this classification is posed by McNeill's dividing "iconic" and "metaphoric" gestures into different sub-types in one article, and regarding them as one sub-type in the other. 'There are two further sub-types of iconic gesture: conduit gestures and metaphoric gestures' (McNeill 1985: 354). However, as G. Beattie and H. Shovelton have already pointed

out, iconic gestures may be small and fast, operating in a restricted space (Beattie and Shovelton 1999: 14). Let's turn to more subtle and flexible classification of gestures. The deliberating manner on classification of gestures we can see in the works of A. Kendon. All writers recognize that gesture may function, as an utterance, autonomously, independently of speech, and most have proposed a special class of gesture to cover this. It has also been recognized that a gesture that occurs in conjunction with speech may relate to what is being said in a variety of ways. Thus, most draw a distinction between speech-associated gesturing, which somehow provides a direct representation of some aspect of the content of what is being said, and gesturing that appears to have a more abstract sort of relationship (Kendon 1986b: 31). D. Efron (1941/ 1972), for example, distinguishes as "physiographic" those speech-related gestures that present a sort of picture of some aspect of the content and as "ideographic" those speech-related gestures which, he says, are "logical" in their meaning and which portray not so much the content of the talk as the course of the ideational process itself. This is one of the best typologies. Ekman and Friesen (1969) present Efron's ideas in a more systematic way, but some of the subtlety of Efron's original discussion is lost (Kendon 1998). Ekman and Friesen have also recognized gestures of "beats" under the term "batons". Even "beats" or "batons" may be metaphorical. As Eli Rozik has pointed out, a particular kind of hand gesture, "batons", is crucial to understanding human dialogue in real life and in the theatre. He has showed that their main function is to indicate the nature of speech acts, and in this capacity hand gestures function in the metaphorical mode (Rozik 1992: 129).

Many gestures seem to consist of more than one phase. All gesturing that occurs in association with speech and which seems to be bound up with it as part of the total utterance is referred to as *gesticulation* (Kendon 1986b: 31). The particular kinds of relationship between gesticulation and the speech it is associated with are discussed on their merits, and no classification of this is attempted in advance. Gestures which are standardized in form and which function as complete utterances in themselves, independently of speech, are referred to as *autonomous gestures* (this includes the forms that are quite often referred to today as *emblems*) (Kendon 1986b: 32).

4. Gesture and speech

Events narrated by the speakers are often accompanied by hand gestures. These are used to depict actions and also to portray the spatial structuring of situations. Kendon has developed the view that gesture, like speech, serves as a vehicle for the representation of meaning. In organizing a *unit of action* the individual will make use of whatever vehicles for meaning representation there are available. These include spoken language, but also included is the possibility of representing meaning through visible action, which is called gesture (Kendon 1986b: 33).

As Kendon (1998) has pointed out, this "strand" of activity (which we also refer to when we use the term 'gesture' or 'gesticulation') has certain characteristics, which distinguish it from other kinds of activity (such as practical actions, postural adjustments, orientation changes, self-manipulations, and so forth). These include:

(1) Gestures are "excursions": the phrases of action recognized as 'gesture' move away from a "rest position" and always return to a rest position (cf. Schegloff 1984).

(2) "Peak" structure: Such excursions always have a "center" (recognized by naive subjects as the "business" of the movement, what the movement actually "does" or what it was "meant for"). This has also been referred to (since Kendon 1980) as the "stroke" of the gesture phrase.

(3) Well boundedness: the phrases of action identified as gesture tend to have clear onsets and offsets. This is in contrast to orientational changes or posture shifts which sometimes can be quite gradual and have no "peak" structure.

(4) Symmetry. If you run a film of someone gesturing backwards it is remarkable how difficult it seems to be to see the difference from when you run the film forwards. This suggests that gesture phrases have symmetry of organization that practical actions, posture shifts (and of course spatial movements, etc.) do not have.

An important part of the "kinetics" research is the study of how exactly gesture phrases are organized in relation to speech phrases. Kendon (1972, 1980) has showed that there is consistency in how gesture phrases (which he tried to define in terms of the perceptually marked "stroke" – which is analogous to the central syllable of the David Crystal's (Crystal and Davy 1969) "tone unit" – and the "preparation" and "recovery" phases of action) are patterned in rela-

tion to the phrases of speech (viewed as intonation units, breath groups – specifically David Crystal's "tone units"). Kendon has showed that in continuous discourse, speakers group tone units into higher order groupings and so we can speak of a hierarchy of such units, and gesture phrases may be similarly organized. For example, over a series of tone units linked intonationally or by an absence of pauses into a coherent higher order grouping, the co-occurring gesture phrases are also linked (Kendon 1998). There remains a controversy about the way in which gesture as an activity is related to speech. Some investigators appear to consider it simply as a kind of "spill-over" effect from the effort of speaking, others see it as somehow helping the speaker to speak, yet others see it as determined by the linguistic choices a speaker makes as he constructs an utterance. An opposing view is that gesture is a separate and distinct mode of expression with its own properties, which can be brought into a cooperative relationship with spoken utterance, the two modes of expression being used in a complementary way (see Kendon 1998).

Any utterance is produced in some sort of social situation, it is produced under the guidance of some pragmatic aim, it plays a role in the interactional setting, it has a content that is being conveyed, etc. Gesture may represent some aspects of the content. Depicting a path of movement, a mode of action, depicting relations in space between objects or entities – these are what McNeill (1992) has called "iconic" gestures. The content that is represented may not be descriptions of actual or possible actions, events, spatial relationships, but may be "as if" entities, actions, spatial relationships that serve as metaphors for concepts at any level of abstraction (cf. McNeill 1992; Calbris 1990; Kendon 1993). Kendon realizes that the more abstract and metaphorical the content the gesture pertains to, the more likely we are to observe consistencies in the gestural forms employed. To the extent that metaphors are socially conventionalized we may find that gestures used to represent metaphorical concepts will also show social conventionalization.

Many gestures have a pointing component, and many seem to be "pure" points. These gestures are under closer investigation in this paper. What is pointed to can be actual objects in the world that surrounds the participants (actual object pointing), objects that can have a physical location, and do, but are not immediately present (removed object pointing), objects that can have real locations in space,

but which are not present – which are given locations for the purposes of current discourse (virtual object pointing), but also things that cannot in fact have any sort of object status at all and can have no location (metaphorical object pointing).

Pointing gestures – or rather, gestures which have a clear pointing component (Kendon 1998) – offer themselves as a relatively simple kind of gestural action where, by examining the combinations of movement, body part and handshape types employed, we might rather readily gather data that can bear on the issue of "compositionality" in gesture. Kendon has presented an example of two people standing and looking at the mountain panorama. One is explaining the names of the mountains to the other. By extending his arm full length, he directs with the index finger his recipient's attention to the various peaks. But as he does so, within the frame of each successive pointing gesture, he moves his hand in a way that suggests sometimes a curved contour, sometimes a more jagged one. He thus combines depictive movement with pointing (Kendon 1998).

However, gestures are not simply symbols, entities for carrying meaning about something else, but physical actions with their own distinct properties – for example, they occur at specific moments in time and at particular points in space (Goodwin 1986). For the purposes of this paper, the pointing and referring gestures in space may be coded as iconic gestures. I would like to refer to A. Merrison study (1994) on this issue of iconic gestures. "Iconic gesture – "Representational" gesture visible to the listener. Used for objects, directions, positions, distances, affirmation and negation (e.g., "drawing" the rout/ landmarks in the air; pointing in the directions of the compass; showing estimated distances between thumb and forefinger; thumbs-up for affirmation)" (Merrison 1994: 95). In this article the working definition of gesture is similar to Kendon's or Haviland's: the pointing gestures are representationality gestures and they accompany speech to depict or represent entities in the space as well as the referential content of what is being conveyed by an utterance.

5. Towards cognitivity

In one analysis, McNeill has examined what he called gestures (defined in a way quite similar to Kendon's notion of the Gesture Phrase) in terms of the relationship they exhibited with the conceptual structure of the concurrent speech. He has found a close fit

between the occurrence of a gesture and the occurrence of a speech unit expressing whole concepts or relationships between concepts. In further analyses McNeill (1979) reports that the "peak" of the gesture (that is to say, the most accented part of the movement which Kendon calls the "stroke") coincides with what was identified as the conceptual focal point of the speech unit. McNeill has suggested that each new unit of gesture, at least if it is of the sort that can be considered representational of content, appears with each new unit of meaning. Each such gesture manifests, he suggests, a representation of each new unit of meaning the utterance presents (Kendon 1986b: 35). In his later works McNeill (1999) extends these ideas. He has put forward some positions about relations of gestures and speech. (1) Speech and gesture comprise a single system of meaning representation. Gesture does not derive from speech, or speech from gesture. Both derive from a deeper *idea unit* source that they represent co-expressively. (2) Imagery is part of utterance meaning. This does not mean that utterances automatically refer to imagery but imagery grounds categorial content. Dialectic implies that categorial content equally affects imagery, as the form of imagery changes in different linguistic systems. (3) Content motivates form in gesture. (4) The speech-gesture system shows that dynamic imagistic representations arise during speaking. These representations are part of the speaker's online thinking for speaking (McNeill 1999: 2).

McNeill's most important ideas are based on the works of Vygotsky (1962) and Slobin (1987). The underlying idea units are inferred from the totality of communicative events with special focus on speech-gesture synchrony and co-expressivity. Following Vygotsky (1962), an idea unit is assumed to be a *minimal* psychological unit; that is, a smallest unit that retains the essential properties of a whole, in our case the whole of an image and a linguistically-codified meaning category, such as McNeill and his associates see in the speech-gesture window. They use the gesture's semantic content and its synchrony with spoken linguistic segments to infer the speaker's thought units. Dan Slobin (1987) has introduced a new concept of linguistic relativity – thinking for speaking. He defines it as follows: "'Thinking for speaking' involves picking those characteristics that (a) fit some conceptualization of the event, and (b) are readily encodable in the language" (Slobin 1987: 435). As McNeill explains,

the expression, 'thinking *for* speaking' suggests a temporal sequence: thinking first, speaking second (McNeill 1999: 6).

Though there is no space for a broader discussion about the linguistic and psychological research trend, it may be said that the idea goes back to Vygotsky, and ultimately to Marx. As we know, according to Vygotsky, all fundamental cognitive activities take shape in a matrix of social history and are products of socio-historical development (Luria 1976). That is, cognitive skills and patterns of thinking are not primarily determined by innate factors, but are the products of the activities practiced in the social institutions of the culture in which the individual grows up. Consequently, the history of the society in which a child is brought up, and the child's personal history are both crucial determinants of the way in which that individual will think. In this process of cognitive development, language is a crucial tool for determining the child's way of thinking because advanced modes of thought are transmitted to the child by means of words (Murry Thomas 1993).

Vygotsky's life goal was to create a psychology that would be theoretically and methodologically adequate for the investigation of consciousness. Since the analysis of consciousness is also a critical point in Marxist theories, it is not surprising that Vygotsky uses many of Marx's ideas about the relationship between consciousness and practical activity at the societal level and then applies them to problems in the psychological analysis of consciousness. Vygotsky and Marx share several basic assumptions about the relationships between consciousness and activity. First, they both insisted that the analysis of consciousness must start with practical activity. Consciousnesses are constructed through a subject's interactions with the world, which are attributes of the relationship between subject and object. Second, the basic components of an analysis of practical activity must be interpreted in a functional form. Third, consciousness changes as the organization of practical activity changes, entailing that an adequate study of consciousness must be historical or genetic. Finally, new levels of the organization of practical activity and consciousness presuppose different principles of organization and development (Lee 1986: 67). Vygotsky's greatest importance probably lies neither in his Marxism nor his psycholinguistic work, but rather in the profound and unique way he introduces a communicative dimension to Marxist conceptions of practical activity, thereby pro-

viding the foundation for a semiotic and functionalist psychology. This line of thought makes his contributions valuable not only among psychologists, but also among such semioticians as Charles Sanders Peirce, Roman Jakobson, Mikhail Bakhtin, and Benjamin Whorf (Lee 1986: 66). Let's turn back to gestures, space and cognitivity.

6. Space and cognitivity

Many researchers have tried to describe how cognitivity is related to embodiment. Varela, Thompson and Rosch (1991: 172) present very much the same argument in their attempt to study cognition not as the recovery of a pregiven and labelled outer world (realism) or a pregiven inner world (idealism) but as embodied cognition. Image schemata are not abstract relations between symbols and the external world, the reality, but they organize our experience and understanding on the level of physical perception and movements (Armstrong, Stokoe, Wilcox 1995: 51–52). Human cognition appears to comprehend certain relatively distinct major cognitive systems, which include language; perception in general or in its several modalities like vision, hearing, kinesthesia, etc.; a cognitive system for cultural structure, etc., as L. Talmy (1996: 231) has pointed out. Each major cognitive system has certain properties of organization; many of them are comparable across systems, which means that the systems overlap to some extent. The organization of language is perhaps unique among the cognitive systems, and language has evolved later than the other systems, which include hand gestures. Perhaps these systems overlap, too. I mean that the conceptual structure of language largely overlaps with the structures of the visual, kinesthetic, reasoning and understanding systems, less so with the systems of affective and cultural structure. Kinesthesia is probably one of the earliest perception systems.

According to Spencer, each culture builds up its image of time on the basis of its image of space. In order to explain spatial cognitivity, it is important to study the referential and pointing gestures that accompany speech. Spatial changes can be characterized, as well as experienced, through the bodies that move through space along a path or trajectory (Radden 1992: 17–19). In the experiment described in this paper, the imaginary journey of the subjects, the journey in a person's mind, does not take place in real time. A human being uses

as if unreal space – an imagined journey. It is the space imagined by the human being – a collection of individual items whose constancy is secured by the journey. We can categorize spatial change in accordance with process as motion. For example, a verb of motion may encode the origin and manner of a movement (e.g., "to rush out of"), but not the path that is supplied by the gesture. Without the verb, however, the gesture may not be recognized as the representation of a path. It could also represent the outline of an object, for instance (Streeck and Knapp 1992: 12–13).

It's surprising that neither Greek nor Latin has an exact equivalent to 'space'. The Greek *topos* means 'place', 'body location relative to another body'. The Latin *spatium* – from which the English and French space-names are derived – means first of all 'interval' or 'distance between two bodies'. The Greek *khora* is closer to the modern 'space' than *topos*. But *khora* also means 'place', 'spot' or 'surroundings' rather than 'space'. It's interesting that *khora* sometimes means 'interspace' (or 'space between'), too. The Aristotelian philosophy of space is a theory of *topos*, not a theory of *khora* (Wright 1996: 105).

There are two different views on the relationships between space, time, language and thinking. According to the first position, we think about space in the category of time. The other is an opposite position: we think about time in terms of space. Our civilization finds it difficult to think in terms of space, and so always negates it, substituting the category of time (Frank 1986). The founder of psychoanalysis, Freud, noticed that the experience of space is largely linked to the unconscious. Just as temporality is foreign to the unconscious, he wrote, so space is non-existent for the conscious (Nunberg and Fedren 1979: 285). In his renowned book, Edward T. Hall has similarly argued that space remains for most of us *The Hidden Dimension* (1966). These positions have found elaborating and essential support primarily within the theory of overall embodied cognitivity. Language constrains space and the objects within space, both semantically and in cognitive respects. This idea is derived from L. Talmy (1983).

Like time, space is not a concrete object accessible to perception. It is defined as a product of the interconnections established between multiple elements simultaneously present in a field. Space is thus a plural notion, since forms of grouping will differ for different

types of material or psychological elements. Concrete spaces have a structure different from that of mathematical, logical sets of psychological groupings. For instance, the interrelations between the members of a family, a city, or a region, described from different points of view, would present different types of spatial configurations.

It is easy to understand why thinking in terms of space – that is, maintaining a multitude of elements together and interrelated in the mind – is much more difficult for human beings than thinking in terms of time. Temporality is established by the simple succession of one element after another within the parameters of "before–now–after". But space relates to the ever-changing possibilities of interrelationships between a multitude of entities, sharing or not sharing some similar characteristics.

Psychology of perception has investigated how human beings construct their concept of reality. A first observation recalls that the sensorimotor and perceptual relations with reality constitute the necessary basis for any further conceptual development in human beings. A second outlines a rather paradoxical fact concerning the notion of space defined as being made up of the three dimensions of height, width, and depth. Only the first two dimensions of space can be traced back directly to perceptual correlative data in reality. The construction of the dimension of depth does not seem to be based on such a connection with specific sensorial stimuli. The depth dimension is not "seen" as such, like height and width, but is only a construct of the perceptual process. In other words, the percept of depth appears as the product of internal mental mechanisms working on the experience of reality (Saint-Martin 1992).

It follows that space cannot be described in the same way as our perception of an object, or part of an object, which we then call 'a tree' or 'a color'. The first-acquired human spatial constructs of reality are based upon a non-Euclidean geometry – namely, topology, which carries a very different set of intuitions (or meanings) about matter, relationships, and space. The first spatial organizations deal with a reality quite close to the body, and partly internal to it; subsequent organizations concern reality perceived at greater distances. The Euclidean representation of space is elaborated later, within and upon the basis of topological relations.

Always "hidden" from the senses, the plane of meaning, interpreting human experience in the world, refers to various mental and

emotional operations. Basically nonverbal, semantics finds an external representation through the grammatical potentialities of various languages, some being verbal and others nonverbal (Saint-Martin 1992).

"But in man's world – the world as man sees it and describes it in everyday language – he is, in the most literal sense, the measure of all things. Anthropocentrism and anthropomorphism are woven into the very fabric of his language." (Lyons 1977: 690) The English (as well as Estonian) system is anthropomorphic in the sense that it takes the essential co-ordinates of up/down, front/back, left/right, from the oriented human frame. It is egocentric in the sense that the primary usage of this system seems to be deictic ('at my side', 'at my front', etc.) – i.e. it has ego as relatum; as a secondary usage, we can transfer the center of the co-ordinates onto an object, assign it a 'front', 'back' and 'sides', etc., so that we can use that object as a relatum.

That is no doubt why many deictic terms are normally supplemented by gesture. It is one of the best possible solutions to the problem of angle-specification as gestures constitute an analogue system (offering indefinite subdivisions of arc) while any linguistic solution will be digital (offering only a small set of broad angles or points). Although a gestural system offers excellent design features for face-to-face communication, it will fail totally where visual contact cannot be established. Moreover, it provides a solution to the communication problem but not to the conceptual problem, namely, how an individual should conceive of angles, remember them, and find objects or destinations utilizing them (Levinson 1991: 8). Levinson has also found that although the gestures of course accompany speech, gestures preserving the fixed bearings of the stimulus often occur without explicit mention of the cardinal directions, suggesting that the gestures reflect an underlying spatial model, at least partially independent of language (Levinson 1996: 124).

7. What may gestures denote?

In some respects, gestures are considered to have the property of expressing the content of consciousness as words do (Wundt 1900/1973). This means, in contemporary terms, that gestures and words both relate to the mental representations that constitute thinking (Kendon 1986a; McNeill 1985, 1999). Some psycholinguistic research shows that speech and gesture are probably

neurophysiologically related (cf. Feyereisen and de Lannoy 1991; McNeill 1992). McNeill (1992) has however started to move in a more semantic direction and has studied the use of illustrative and metaphoric "imagistic" gestures in connection with speech.

As I pointed out earlier, in connection with ideas about thinking for speaking, the gesture and the synchronous language entity may denote the same underlying ideational unit. According to McNeill (1999: 2), the contents of the gesture and the synchronized speech need not be identical, and usually they are not. They have related but not identical meanings, which McNeill calls 'co-expressive'. So, if the gesture and its synchronized co-expressive linguistic segments express the same underlying idea unit, they need not express its identical aspects. I understand that such paired use of gesture and speech can refer to their inherent uniformity or even to inherent parity. Is the idea unit something like a language of the mind? A language of the mind is not something which emerges as a distinctive level of cognitive organization from the interaction of a population of neurons within the brain. Rather, a language is something that we use, and its usage is inherently connected to the embodied nature of our interactions with the environment (Teng 1997: 2).

7.1. Substituting role

The studies of how gesticulation is related to the speech it accompanies have indicated that it is organized separately, but brought into coordination with speech because it is being employed in the service of the same overall aim. The detailed rhythmic coordination of gesticulation with speech arises at the level of motor acts. The forms that gestures assume are organized directly from original conceptual representations in parallel with linguistic forms, but independently of them (Kendon 1986b: 35). Gesture and speech must be considered separate representational modes which may nevertheless be coordinated and closely associated in an utterance because they may be employed together in the service of the same enterprise. A. Kendon has shown (1986b) that the utterer is able to employ gesture and speech together, but in a differentiated way, each modality playing a role complementary to the other in the production of a well-designed utterance. A gestural element may be used in alternation with speech. Sherzer (1973), in his analysis of the use of the pointed lip gesture among the Cuna Indians of Panama has shown how this gesture

would often be used to stand in for deictic words or for labels for objects or places being referred to. He argued that it should be given a place in the lexicon of the spoken language. I found similar results from the data (though I have never seen a gesture like the 'lip gesture' in Estonia in the referring position; the gesture has appeared as an *emblem*, and means something improper). In this paper I labelled these pointing gestures *communicators*, which substitute the word in spatial relations. There is no doubt that spoken language has been elaborated into a communicative code of extraordinary flexibility and generality. Gestures may have important implications for theories of mental representation. It is seen that since gestural expressions are fully integrated with aspects of speech, they must be planned for together at the outset. It means that however ideas are stored in our heads, they must be stored in a way that allows them to be at least as readily encoded in gestural form as in verbal form. There are scholars who maintain that ideas are represented in an abstract propositional format which is the same as the format used to encode verbal information (e.g., Pylyshyn 1973). On the other hand, there are those who believe that the representation of ideas is modality-specific and that visual ideas are encoded in terms of structures that are spatial and that are analogous transformations of the things they represent (e.g., Shepard 1978). Anderson (1978) suggests that the observation that gesture is deployed as an integral part of utterance shows that any theory of representation that gives primacy to a representational format modeled on spoken language structures will not do. A close examination of how gesture and speech are deployed in an utterance makes it clear that meanings are not transformed into gestural form via spoken language formats. They are transformed directly and independently. Thus such meanings, no matter how they are stored, are stored in a way that is separate from the formats of spoken language, however abstractly these may be conceived (Kendon 1986b: 42).

7.2. Anticipating role

Many researchers have suggested that gesture may appear before the segment of speech in which the same idea is encoded (see e.g., Butterworth and Beattie 1978; Kendon 1980; Hadar and Butterworth 1997). Gesticular Phrases (Kendon 1980: 224) appear at a very early stage in the process of utterance. The way in which the content of an

utterance appears to be manifested in the Gesticular Phrase suggests that the process of utterance has its origin in the organization and manipulation of mental representations of images and actions directly and not, initially, in the organization of forms that can be derived only from verbal language.

In the scientific literature, there currently exist two main theories about the hand gestures which accompany speech and about exactly what these hand movements are doing. First of all, let us refer to David McNeill's (1979, 1985) central thesis that 'Gestures share with speech a computational stage; they are, accordingly, parts of the same psychological structure. The metaphor of a shared computational stage captures the processing aspects of speech: that sentences and gestures develop internally together as psychological performances. The metaphor of a common psychological structure captures the idea that speech and gesture respond to the same forces at the same time' (McNeill 1985: 350). This theoretical perspective differs radically from the more traditional theory of speech and gesture, which maintains that gestures represent quite separate channels of communication conveying different information from the related speech (Argyle 1975). In McNeill's theory, speech and gesture cooperate to present a single cognitive representation (McNeill 1985).

This theory contrasts with the other main contemporary theory, namely, that of Butterworth and Hadar (1989). They also use empirical observations on natural speech and gesture, but the story that they tell from this empirical data seems to be quite different. They cite the early research by Butterworth and Beattie (1978), who presented an example highlighting other possible relationships between speech and iconic gesture.

> 'when certain problems can be raised'
> [hand starts to rise on the word 'certain']

The iconic gesture here does not seem to convey any additional semantic information to that conveyed in the linguistic utterance, and in McNeill's terms, to get the full cognitive representation that the speaker has in mind, only the linguistic part of the message really needs to be taken into account. In other words, the gesture appears to be redundant. But what is interesting about this example, according to the researchers, is that the gesture (the hand rising) begins a good

deal in advance of the lexical item with which it is associated (i.e., the word 'raised'), actually being uttered (Bettie and Shovelton 1999: 3). This seems to show that 'the speaker knew what the word would be, or at least had a pretty good idea, well before he uttered it' (Butterworth and Beattie 1978: 348).

Butterworth and Beattie (1978) then presented some empirical evidence to show that this temporal asynchrony between gestures and speech was common in samples of spontaneous speech, and that hand gestures were associated with low-frequency unpredictable lexical items – the lexical items most difficult for speakers to access in the course of linguistic production (see Goldman-Eisler 1958; Beattie and Butterworth 1979). Their conclusion was that 'Gestures are products of lexical preplanning process, and seem to indicate that the speaker knows in advance the semantic specification of the words he will utter, and in some cases has to delay if he has to search for a relatively unavailable item' (Butterworth and Beattie 1978: 358).

Morrel-Samuels and Krauss (1992) have also produced empirical evidence to support Butterworth and Beattie (1978) regarding the temporal asynchrony between gestures and the associated lexical items. They found that 'gesture onset preceded voice onset by an interval whose magnitude was inversely related to the lexical affiliate's rated familiarity (Morrel-Samuels and Krauss 1992: 615). The more familiar the lexical item, the smaller the temporal asynchrony. They suggest that 'the hypothesis that gestures do facilitate speech production is at least plausible' (Morrel-Samuels and Krauss 1992: 620). From the data I also found that the pointing gestures might image (to denote) the most important concept in the sentence that followed.

As Kendon already pointed out (1986a), meanings are not transformed into gestural form by way of spoken language formats. They are transformed directly, and independently. But, some point of contact should exist between gestures and language. This point of contact could, however, also be seen as a *flow of the information*. Miao (1996) has presented some basic assumptions about information processing, which may help to work on gestural research connection with language and overall human cognition.

8. Method

In the following sections I concentrate on the pointing and iconic gestures that accompany speech in the context of spatial relations. I examine the data according to the theoretical considerations outlined above. Many studies of iconic gestures are based on the retelling of cartoon stories. On the one hand, we need exact experiments. On the other hand, as Beattie and Shovelton (1999) have pointed out, we need the studies of gestures in everyday conversation, too. In this paper, the pointing gestures were studied together with Estonian (Finno-Ugric) verbal expressions. The examples come from an experiment where the subjects had to go on an imaginary journey and describe it to another person, the "guest". En route the "guest" was shown some historic and cultural sights. The subjects did not know that the goal of the experiment was to investigate the gestures. They worried about their knowledge of history. All of them know the region of the town well enough to image the journey and to describe it. Each "guide" "went" from the starting point to the destination in 10 minutes (narrative time). 11 subjects were videotaped. Two aspects were analyzed: (1) the gestures that indicated space, spatial relations, or spatiotemporal relations, (2) the concomitant words or phrases. The gestures that indicated spatial relations were studied together with the concomitant Estonian-language expressions. The aim of this experiment, which involved face-to-face interaction, was to understand space-relation gestures and coverbal speech in face-to-face interaction.

9. Results

It appears that for some concepts the interlocutor must add a gesture to make oneself fully understood. It seems that people automatically pick up information that is only present in gestures. The data indicate that people often use words like 'this', 'here', 'there', 'this over there' and 'on the left' or 'on the right' to express which object can be seen on the way. Estonian 'that' (Est. 'too') never appeared, though three subjects were born in Tartu, in region where 'that' (Est. 'too') should be familiar. The other subjects came from the west and the center of Estonia. In the west and center of Estonia 'that' (Est. 'too') does not exist in spoken language or in the dialects. The pointing gestures which had an independent meaning and which subs-

tituted the word I named *communicators*, the gestures indicating 'this over there', 'this over here', etc., which appeared *before* the most important concept of the sentence *points* and *pre-points*.

(1) "Groping".

Conversation often begins with "groping" each other, and only after such an introduction people get more relaxed and gestures appear in the conversation (see also Tenjes 1996: 178). In this case the gestures also appeared not just at the beginning of face-to-face interaction but some time later when the interactants had already got used to each other.

(2) Communicators.

It appears that the pointing gestures which indicate spatial relations perform a strongly communicative role. It means that subjects pointed to the left or to the right, etc. with ('to the left, you can see' + motion to the left) or without concomitant words ('here' + motion to the left/right). The extra meaning is communicated by means of the gesture. As Levinson, Haviland et al. have showed, many deictic terms are supplemented by gesture. The pointing gesture has an independent meaning and it substitutes the word which marks the spatial relations. It is very common. Some examples will be given below.

Examples

(1) (See figure 1.)

Siin	on	ülikooli	tennisevӓljaku-d[1].
here	be-PRES-3SG	university-SG-GEN	tennis+court-PL-NOM

Siin	saa-b	mängi-da	tennis-t.
here	can-3SG	play-INFINIT	tennis-SG-PRT

'Here are the university's tennis courts. Here one can play tennis.'

Figure 1.

---

[1] The underlined part of the utterance indicates at what moment the gesture was made.

(2) (See figure 2.)

Ja	siis	see	väike	maja	siin	on
and	then	this	little	house-SG-NOM	here	be-PRES-3SG

humanitaarraamatukogu.
humanities+library-SG-NOM

'And then this little house here is the library of the humanities.'

Figure 2.

(3) (See figure 3.)

Jakobi	mägi.	<u>Ja</u>	<u>siia</u>	<u>jää-b</u>
Jacob-GEN	hill-SG-NOM	and	over-here	stay-PRES-3SG

<u>nüüd</u>	<u>"Krooks".</u>	See	on	kella
now	"Krooks"	it	be-PRES-3SG	clock-SG-GEN

kaheteistkümne-st	kella	kuue-ni
twelve-SG-ELA	clock-SG-GEN	six-SG-TER

hommiku-l	ava-tud	ja	päris selline ... lahe koht.
morning-SG-ADE	open-PRT	and	quite such ... cool place-SG-NOM

'Jacob's Hill. <u>And the "Krooks" pub is over here now</u>. It is open from twelve until six in the morning and it's a rather ... cool place.'

Figure 3.

Thus, in face-to-face interaction the pointing gestures have strongly communicative value in the context of direction with regard to the egocentric coordinate system ('left', 'right', 'here', 'there').

(3) Points and pre-points.

The gesture indicating 'this over there', 'this over here', etc. appeared very often *before* the most important concept of the sentence. The concept mostly denoted an object or the shape of a path. According to Kendon, the depictive movement combines with pointing. So the hand starts to point the direction, and moves simul-

taneously to denote the shape of the crucial concept ('from here' + image the street below or 'look down' + shape of the bridge or 'here' + shape of the statue).

Examples[2]

(4) (See figure 4.)

		↔ ↔		
Siit	alt	lähe-b	läbi	Lossi
from here	from below	go-PRES-3SG	through	castle-GEN

tänav.
street-SG-NOM

'Lossi Sreet is below us.'

Hand (forefinger) points 'from here' and at the same time starts to image the street below.

Figure 4.

---

[2] The arrows show the main type of the hand movement.

(5) (See figure 5.)

                                                     ↓

Kui	te	nüüd	siit	mäe-st	alla
when	you	now	from here	hill-SG-ELA	down

                                       ⌠ ⌡

vaata-te,	vaat	sealt	paista-b
look-PRES-2PL	look!	from there	be seen-PRES-3SG

Kuradisild.
devil+bridge-SG-NOM

'When you look down from this hill now, look, you can see the Devil's Bridge over there.'

Hand refers to 'look down' and at the same time starts to image the shape of the bridge.

Figure 5.

(6) (See figure 6.)

			⸨
Vene	aja-l	seis-i-s	siin …
Russian-GEN	time-SG-ADE	stand-PST-3SG	here

selle	ees	muidugi	suur	Lenin.
this-GEN	in front	of course	big	Lenin

'During the Russian time… a big Lenin was of course standing in front of this.'

Hand (forefinger) points 'here' and at the same time images the shape of the statue.

Figure 6.

10. Conclusion

This study indicates that

(1) the gestures also appeared not at the initial stage of face-to-face interaction but some time later;

(2) the pointing gestures which indicate spatial relations have a strongly communicative role and they may substitute the word which marks the spatial relations;

(3) referring gestures have *two simultaneous roles*: (a) to point to the spatial relations and (b) to image (to denote) *the most important* concept in the sentence that *followed*. There is a clear semantic link between the gesture and the single underlined word in the accompanying speech (Hadar and Butterworth 1997: 152). It means that the gesture and the language have a common base. But is it a unit? According to overall human cognition, the underlying connection between the gesture and the word may be a *process* or a certain type of *information*. As Bouissac has said poetically, gestures can be construed as embodiments of information between intending and understanding minds (Bouissac 2000). There should be an overlapping area between gestures and concepts. It shows connections in the deep psychological level in the human mind. Heterogeneity is an ancient property of human consciousness, and this mechanism requires the presence of at least two systems that would not be ultimately translatable into each other (Lotman 1999).

According to Spencer, the more developed the entirety, the more it has *divided* into parts according to function. Secondly, the more developed it is, the more *integral* its parts are to the functioning of the entirety (Wright 1996: 33). It seems that this statement can be postulated for both gestures and human language. To what degree does a gesture depend on the peculiarity of language? To what extent can we speak about universality? The pointing gestures in spatial relations do not seem to depend on a specific language. The unit point or *the unit process* lies deeper in human cognition. What could be innate about the language ability could have a non-linguistic character. Spatial information is encoded both in spoken language and the concomitant iconic gesture. Similarly to linguistic units, the gestures are also symbols, that is, pairs of meaning and form. Exactly what kind of meaning is conveyed by gestures remains an open question. One might say that in a broader perspective the gesture is

the important link between perception, conceptualization, and language development.

References

Anderson, J. R. 1978. Arguments concerning representations for mental imagery. Psychological Review 85, 249–277.

Argyle, M. 1975. Bodily Communication. London: Methuen.

Armstrong, D. F., W. C. Stokoe, S. E. Wilcox 1995. Gesture and the Nature of Language. Cambridge: Cambridge University Press.

Beattie, G., B. Butterworth 1979. Contextual probability and word frequency as determinants of pauses and errors in spontaneous speech. Language and Speech 22, 201–211.

Beattie, G., H. Shovelton 1999. Do iconic hand gestures really contribute anything to the semantic information conveyed by speech? An experimental investigation. Semiotica 123, 1/2, 1–30.

Bouissac, P. 2000. Information, Imitation, Communication: An Evolutionary Perspective on The Semiotics of Gestures. Based on a plenary lecture of the same title given at the Conference Gestures: Meaning and Use. 1.–4. April. Oporto, Portugal.

Butterworth, B., G. Beattie 1978. Gesture and silence as indicators of planning in speech. In Recent Advances in the Psychology of Language. Ed by R. N. Campbell, P. T. Smith. New York: Plenum. 347–360.

Butterworth, B., U. Hadar 1989. Gesture, speech, and computational stages: A reply to McNeill. Psychological Review 96, 168–174.

Calbris, G. 1990. Semiotics of French Gesture. Bloomington: Indiana University Press.

Cassell, J., D. McNeill, K.-E. McCullough 1999. Speech-gesture mismatches: Evidence for one underlying representation of linguistic and nonlinguistic information. Pragmatics and Cognition 7/1, 1–33.

Crystal, D., D. Davy 1969. Investigating English Style. London: Longmans.

Efron, D. 1972. Gesture, Race and Culture. Paris and Hague: Mouton (Originally published in 1941 as Gesture and Environment. New York: King's Crown Press)

Ekman, P., W. V. Friesen 1969. The Repertoire of Nonverbal Behavior: Categories, Origins, Usage, and Coding. Semiotica 1, 49–97.

Feyereisen, P., J.-D. de Lannoy 1991. Gestures and Speech: Psychological Investigations. Cambridge, Paris: Cambridge University Press, Editions de la Maison des Sciences de l'Homme.

Frank, D. 1986. Heidegger et le problème de l'espace. Paris: Minuit.

Goldman-Eisler, F. 1958. Speech production and the predictability of words in context. Quaterly Journal of Experimental Psychology 10, 96–106.

Goodwin, C. 1986. Gestures as a resource for the organization of mutual orientation. Semiotica 62, 1/2, 29–49.

Goudge, T. A. 1965. Peirce's Index. Transactions of the Charles S. Peirce Society, 1. Amherst, MA. 52–70.

Hadar, U. and Butterworth, B. 1997. Iconic gestures, imagery, and word retrieval in speech. Semiotica 115, 1/2, 147–172.

Hall, E. 1966. The Hidden Dimension. N. Y., Garden City: Doubleday.

Haviland, J. 1996. Pointing, Gesture Spaces, and Mental Maps. Language and Culture: Symposium 3. http://www.language-culture.org/archives/subs/haviland-john/1.html

Hirsch, R. 1996. The Act of Speaking: Spoken Language and Gesture in the Determination of Definiteness of Intention. In Indexicality. Papers from the symposium "Indexikala tecken". November 1995. Ed by C. Pankow. University of Göteborg, 14–30. http://www.sskkii.gu.se/Publications/Documents/html/Indexikality/

Kendon, A. 1972. Some relationships between body motion and speech. An analysis of an example. In Studies in Dyadic Communication. Ed by A. Siegman, B. Pope. Elmsford, New York: Pergamon Press. 177–210.

Kendon, A. 1980. Gesticulation and speech: two aspects of the process of utterance. In The Relationship of Verbal and Nonverbal Communication. Ed by M. R. Key. The Hague: Mouton. 207–227.

Kendon, A. 1986a. Some reasons for studying gesture. Semiotica 62, 1/2, 3–28.

Kendon, A. 1986b. Current Issues in the Study of Gesture. In The Biological Foundations of Gestures. Ed by J.-L. Nespoulous, P. Perron, A. Roch Lecours. Hillsdale N.Y.: Lawrence Erlbaum. 23–48.

Kendon, A. 1993. Human gesture. In Tools, Language and Cognition in Human Evolution. Ed by K. R. Gibson, T. Ingold. Cambridge: Cambridge University Press.

Kendon, A. 1998. An agenda for gesture studies. The Semiotic Review of Books 7/3, 9–12.

Lee, B. 1986. Intellectual origins of Vygotsky's semiotic analysis. In Culture, communication, and cognition: Vygotskian perspectives. Ed by J. V. Wertsch. Cambridge, London, etc.: Cambridge University Press. 66–93.

Levinson, S. C. 1991. Primer for the Field Investigation of Spatial Description and Conception. Working paper No. 5, November.

Nijmegen: Cognitive Anthropology Research Group at the Max Planck Institute for Psycholinguistics.

Levinson, S. 1996. Frames of Reference and Molyneux's Question: Crosslinguistic Evidence. In Language and Space. Ed by P. Bloom, M. A. Peterson, L. Nadel, M. F. Garrett. Cambridge, Massachusetts, London, England: A Bradford Book, The MIT Press. 109–170.

Lotman, J. 1999. Semiosfäärist. Tallinn: Vagabund. (Translated into Estonian)

Luria, A. R. 1976. Cognitive Development: Its Cultural and Social Foundations. Cambridge, MA: Harvard University Press.

Lyons, J. 1977. Semantics, Vols 1 and 2. Cambridge: Cambridge University Press.

McNeill, D. 1979. The conceptual basis of language. Hillsdale, NJ: Lawrence Erlbaum.

McNeill, D. 1985. So you think gestures are nonverbal? Psychological Review 92, 350–371.

McNeill, D. 1992. Hand and Mind: What Gestures Reveal About Thought. Chicago: University of Chicago Press.

McNeill, D. 1999. One ontogenetic universal and several cross-linguistic differences in thinking for speaking. Based on a plenary lecture of the same title given at the 6th International Cognitive Linguistics Conference, Stockholm, Sweden, 13 July.

Merrison, A. J. 1994. An investigation into the communicative abilities of aphasic subjects in task orinted dialogue. Proceedings of the Edinburgh Linguistics Department Conference '94. 92–108.

Miao, Kai X. 1996. Force, Information, and Cognitve Principles of Dynamic Representations. http://www.alpha-academic.com

Morrel-Samuels, P., R. M. Krauss 1992. Word familiarity predicts temporal asynchrony of hand gestures and speech. Journal of Experimental Psychology: Learning, Memory and Cognition 18, 615–623.

Murray Thomas, R. 1993. Comparing Theories of Child Development. 3rd ed. California: Wadsworth Publishing Company.

Nunberg, H. E. Fedren (eds.) 1979. Les premiers psychanalystes, III: 1910–1911. Paris: Gallimard.

Parmentier, R. J. 1994. Signs in Society. Bloomington: Indiana University Press.

Peirce, C. S. (1931–1958). Collected Papers of Charles Sanders Peirce. Vols. 1–8. Cambridge, MA: Harvard University Press. [Reference to Peirce's papaers will be designated CP.]

Pylyshyn, Z. W. 1973. What the mind's eye tells the mind's brain: A critique of mental imagery. Psychological Bulletin 80, 1–24.

Radden, G. 1992. The Cognitive Approach to Natural Language. In Thirty years of linguistic evolution. Ed by H. Pütz. Amsterdam: John Benjamins. 513–541.

Rozik, E. 1992. Metaphorical hand gestures in the theatre. In Assaph: Studies in the Theatre, no. 8. Ed by E. Rozik. Tel Aviv University: Faculty of Visual and Performing Arts, 127–152.

Saint-Martin, F. 1992. A case of intersemiotics: The reception of a visual advertisement. Semiotica 9, 1/2, 79–98.

Schegloff, E. A. 1984. On some gestures' relation to talk. In Structures of Social Action: Studies in Conversation Analysis. Ed by J. M. Atkinson, E. J. Heritage. Cambridge: Cambridge University Press. 266–296.

Shepard, R. N. 1978. The mental image. American Psychologist 33, 125–137.

Sherzer, J. 1973. Verbal and nonverbal deixis: The pointed lip gesture among the San Blas Cuna. Language and Society 2, 117–131.

Slobin, D. 1987. 'Thinking for Speaking.' In Proceedings of the 15th Annual Meeting of the Berkely Linguistics Society. Ed by J. Aske, N. Beery, L. Michaelis, H. Filip. Berkeley, California: Berkeley Linguistics Society. 435–445.

Sonesson, G. 1989 (a). Pictorial concepts. Inquiries into the semiotic heritage and its relevance for the analysis of the visual world. Lund: Lund University Press.

Sonesson, G. 1989 (b). Semiotics of photography. On tracing the index. Report 4 from the Semiotics project. Lund: Institute of Art History.

Sonesson, G. 1996. Indexicality as Perceptual Mediation. In Indexicality. Papers from the symposium "Indexikala tecken". November 1995. Ed by C. Pankow. University of Göteborg. 127–137.
http://www.sskkii.gu.se/Publications/Documents/html/Indexikality/

Streeck, J., Knapp, M. L. 1992. The Interaction of Visual and Verbal Features in Human Communication. In Advances in Nonverbal Communication. Ed by F. Poyatos. Amsterdam/Philadelphia: John Benjamins.

Talmy, L. 1983. How language structures space. In Spatial Orientation: Theory, Research, and Application. Ed by Jr. Pick, L. Herbert, Linda P. Acredolo. New York: Plenum Press. 225–282.

Talmy, L. 1996. Fictive Motion in Language and "Ception". In Language and Space. Ed by P. Bloom, M. A. Peterson, L. Nadel, M. F. Garrett. Cambridge, Massachusetts, London, England: A Bradford Book, The MIT Press. 211–276.

Teng, N. Y. 1997. The language of thought hypothesis: A critique. A colloquim presentation at the Pacific Division Meeting of American Philosophical Association, March 26–29, in Berkely, California. http://www.ccunix.ccu.edu.tw:8000/~pyyjt/epage/epaper/lot.html

Tenjes, S. 1996. Gestures in Dialogue. In Estonian in the Changing World.Ed by H. Õim. Tartu: University of Tartu. 163–192.

Varela, F. J., E. Thompson, E. Rosch 1991. The embodied mind: cognitive science and human experience. Cambridge, MA: MIT Press.

Vygotsky, L. S. 1962. Thought and Language. Cambridge, MA: MIT Press.

Wright, G. H., von. 1996. Minerva öökull. Tallinn: Vagabund. (Translated into Estonian.)

Wundt, W. 1973. The language of gestures. The Hague: Mouton. (Originally published 1900)

Žestid suhtluses ning nende kasutamine osutamisel ja viitamisel ruumis. Eestikeelsed näited

Silvi Tenjes

Antud uurimistöös on tähelepanu all osutavad ja viitavad žestid, mis kaasnevad kõnega ruumisuhete kontekstis. Teoreetilises osas käsitletakse žestide klassifitseerimisega ja määratlemisega seotud probleeme. Osutavaid ja viitavaid žeste pole lihtne üheselt määratleda. Osaliselt on need ikoonilised žestid (sh nt ingl *referring gestures* – 'viitavad žestid'), osalt lihtsalt osutavad (nt ingl *pointing gestures* – 'osutavad žestid'), mida klassifitseeritakse pigem eraldiseisvatena. Sellega seoses käsitletakse teoreetilises osas põgusalt C. S. Peirce'i klassikalisi seisukohti märgi ikoonilisest ja indeksilisest dimensioonist. Edasi on võrdlevalt vaatluse all eelkõige D. McNeill'i ja A. Kendoni žestikäsitlused, aga ka teised autorid. Võrreldakse McNeill'i ja A. Kendoni žestide jaotust ning osutavate žestide käsitlust seoses kõnega. Peatutakse ka D. McNeill'i kognitiivsete seisukohtade lähtealustel (Võgotski, Slobin). Ruumi ja kognitiivsuse seosed on vaatluse all laiemalt. Teoreetilise osa lõpus püütakse leida žestide seoseid mentaalse representatsiooniga.

Lähtudes eelnevatest teoreetilistest seisukohtadest, uuritakse osutavaid žeste koos eestikeelsete verbaalsete väljenditega. Näited on eksperimendist, kus katseisikud pidid "mõttes" läbima teatud teekonna ja kirjeldama seda teisele isikule, "külalisele". Teekonnal tutvustati "külalisele" teele jäävaid ajaloolis-kultuurilisi vaatamisväärsusi. Katseisikud

ei teadnud, et uuritakse žeste, nad muretsesid eelkõige oma ajalooliste teadmiste pärast. Kõik tundsid kirjeldatavat piirkonda linnas niipalju, et teekonda ette kujutada ja sellest rääkida. Filmiti ühtteist (11) katseisikut. Analüüsiti (1) žeste, millega osutati ruumis, ruumiseostes või ajalis-ruumilistes seostes; (2) milliste sõnadega või fraasidega žestid kaasnesid. Seega, uuriti ruumisuhteid tähistavaid osutavaid žeste koos kaasnevate eestikeelsete väljenditega.

Uurimus näitas, et 1) žestid ilmnevad mitte kohe vestluse algul, vaid mõni aeg hiljem; 2) osutavatel žestidel, mis tähistavad ruumisuhteid, on tugev kommunikatiivne roll ja nad võivad asendada sõna, mis tähistab ruumisuhet; 3) osutavatel žestidel on *kaks rolli samal ajal*: a) osutada ruumisuhetes ja b) kujutada (viidata) *kõige olulisemale mõistele* lauses, mis *järgneb*. Ruumiline info on kodeeritud nii kõneldavasse keelde kui kaasnevasse ikoonilisse žesti. Peab olema kattuv ala žestide ja mõistete vahel. See näitab seoseid sügaval inimmõistuse või inimvaimu psühholoogilisel tasandil. Vastavalt inimese üldisele kognitiivsusele võib aluseks olev seos žesti ja sõna vahel olla *protsess* või teatud liiki *informatsioon*.

Appendices

Appendix 1: Transcription and glossing conventions

boldface	focussed linguistic units
underlining / `word	stress or emphasis
-	truncation
=	latching or continuation of the same speaker across intervening lines
[ ]	overlaps
(.)	micropause
(0.5)	pause length in tenths of a second
:	lengthening of a sound
@	a laughter syllable
mhemhe	laughter
<@ smile @>	
$ smile @	smiling quality
<0 inbreath 0>	words pronounced with ingressive airflow
.hh	breathing in, the estimated relative length corres ponds to the number of h-s
hh	breathing out, the estimated relative length corres ponds to the number of h-s
mhh	same as above but with closed mouth
(XXX) or (---)	difficult to hear what was said but the number of syllables can be judged, X or - corresponds to one syllable
(guess)	transcriber's best guess of what was said
/---/	something has been left out in the example
.	falling intonation
,	fall not to low
?	raising intonation
< text >	slower talk
> text <	faster talk
* text *	lowered volume
CAPS	loud volume
((comment))	comments
capital letters	name, particle, or an abbreviation of a grammatical category
GI	clitic -gi (a phonological variant of the clitic -ki/-gi)
( )	the item was not there in the original

Appendix 2: List of abbreviations

ABL	ablative
ADE	adessive
ADJ	adjective
ADV	adverb
ALL	allative
COM	comitative
COMP	comparative
COND	conditional
ELA	elative
GEN	genitive
ILL	illative
IMF	imperfect, past indefinite
IMP	imperative
IMS	impersonal
INDEF	indefinite
INE	inessive
INF	infinitive
INFINIT	infinite
LOC	locative meaning
N	noun
NEG	negative
NOM	nominative
O	object
PL	plural
POSS	possessive meaning
POSTPOS	postposition
PPT	past participle
PREPOS	preposition
PRES	present tense
PRT	partitive
PST	past tense
QUES	question particle (*kas*)
S	subject
SG	singular
SUP	supine
TER	terminative
TRA	translative
V	verb
1, 2, 3	person

Appendix 3: List of contributors

Külli Habicht
Lecturer, Researcher, PhD student, University of Tartu
kylli@kodu.ee

Leelo Keevallik
PhD student, University of Uppsala and University of Tartu
Leelo.Keevallik@nordiska.uu.se

Kaja Kährik
Lecturer, University of Tartu
kahrik@ut.ee

Liina Lindström
PhD student, University of Tartu
liina@eesel.fil.ut.ee

Renate Pajusalu
Assistant Professor of General Linguistics, University of Tartu
renpaju@ut.ee

Silvi Tenjes
PhD student, University of Tartu
stenjes@ut.ee, stenjes@psych.ut.ee

Mari-Epp Tirkkonen
Research Assistant , Institute of the Estonian Language
mariepp@solo.ee, mariepp@eki.ee

Ilona Tragel
PhD student, University of Tartu
ilona.tragel@ut.ee

Ann Veismann
PhD student, University of Tartu
ann_v@ut.ee

Haldur Õim
Professor of General Linguistics, University of Tartu
hoim@psych.ut.ee

VI

GESTURES AS PRE-POSITIONS
IN COMMUNICATION

Silvi Tenjes

Abstract

Keywords: iconic gestures
　　　　　　nonverbal communication
　　　　　　language
　　　　　　cognition

In the first part of the article, I focus my attention on nonverbal communication in society and the new perspective of investigating communication through symbolic units. The theoretical part deals with problems related to the paradigm of imagistic language, which is connected with gestures' research. In the second part, I concentrate on two types of gestures and their use in face-to-face interaction. Gestures of the first type appear during pauses or in word searches in the conversation, etc. Gestures of the second type are pointing gestures that accompany speech in the context of spatial relations. Both types of gestures are referred to as *iconic gestures*. The gestures share the quality of appearing before the lexical unit in the sentence to which they relate in meaning. I also provide some examples and discussion about the onset of the iconic gestures and their lexical affiliate.

1. Introduction

The work of Birdwhistell (1970), Dittmann (1974), Kendon (1986b, 1995), Scheflen (1973), Bavelas, *et al.* (1992), and many others clearly shows how body movements and the flow of speech are intimately linked within an individual's communication system and between interactants. While some behaviors may seem less integrated than others, verbal and nonverbal behaviors are unquestionably part and parcel of the same overall system of communication. Just like verbal communication, each body expression or vocal sign conveys a meaningful message, which can be received and processed by other people. According to the definition of communication by Weaver, "... communication will be used ... in a very broad sense to include all of the procedures by which one mind can affect another" (Shannon, Weaver 1959). The term *communication* has two related meanings: the process of transmission of the

message, and the outcome of this process. The transmission process will generally be referred to as "interaction" (Schneller 1992).

Nonverbal expressions are also used to transmit messages not expressible through words, when words are not available or are inadequate to convey sufficient differences, e.g.: emotional and physical feelings, moods, interest, attention, reaction, etc. Nonverbal communication also comprises a wide range of social functions, for instance: transmission of information, integration of action and feelings, social identity, the presentation and protection of the self (Eisenberg and Smith 1971). Nonverbal means may even contradict the verbal message, usually unconsciously so, creating a state of "double-edged" or inconsistent communication (Mehrabian 1971). It is mainly the abstract component and content of human communication that is dominated by words, although even in this domain, verbal communication enjoys functional nonverbal support (Schneller 1992).

Gesticulation is often an important component of the utterance unit produced, in the sense that the utterance unit cannot be fully comprehended unless its gestural component is taken into consideration. In many instances it can be shown that the gesticulatory component has a complementary relationship to what is encoded in words, so that the full significance of the utterance can only be grasped if both words and gesture are taken into account (Kendon 1986a). In the present article I consider hand gestures, which are also a type of nonverbal means. Those gestures are *iconic* gestures. I also explore their use in interaction. Iconic gestures occur during continuous speech and show in their form a meaning related to the meaning articulated in speech. In most cases the related speech unit is a word, called the "lexical affiliate" (Schegloff 1984a) of the gesture (Hadar, Butterworth 1997).

2. "Imagistic" language in communication.

In recent years, there has been renewed interest in and credibility given to the examination of visible and verbal behavior as they occur in natural conversation (Poyatos 1980). This means interest in "verbal features," — that is, human language and its "progressional" structuring in real time communication. Such a view supports the view of "grammar as symbolism" and "meaning as conceptualization" (Langacker 1988). In order to understand how language works and how meaning is constructed, it is necessary to focus on how language works in interaction. On the basis of a progressional view of language one can understand more clearly the cooperation of verbal and visual features in human communication.

It is useful to remember the emergence of new ideas in linguistics, and "how it was" in the paradigm of cognition. According to Langacker, language ana-

lysis should posit that language is symbolic at all its levels, i.e., that grammatical constructions are "schematic, less specific, symbolic units" which "embody conversational imagery." "In choosing a particular expression or construction, a speaker construes the conceived situation in a certain way, i.e., he selects one particular image (from a range of alternatives) to structure its conceptual content for expressive purposes" (Langacker 1988:7). At a level of greater specificity, speakers have vast ranges of options to choose among lexical units, each of which profiles objects, processes, qualities, etc. in a particular way.

In this symbolic alternative, grammatical structure itself is inherently meaningful, consisting solely of patterns for the structuring and symbolization of conceptual content. By choosing one grammatical construction or grammatical marker rather than another, one is inherently choosing to construe and portray a situation in a particular way — the difference in form symbolizes a meaning difference (Langacker 1990).

Languages, thus, provide their speakers with vast and constantly evolving stocks of symbolic units which enable them to conceptualize and represent content in a subjective, situationally adapted, and "recipient designed" fashion (Streeck and Knapp 1992). Whenever a speaker constructs an utterance, he or she "instantiates" units with which he/she describes the process as an imposition of a "profile" onto a given "base". While languages are repertoires of symbolic units and supply "conventional imagery" (Langacker 1988) for conceptualization and expression, there is no categorical boundary between repertoire and use. Conceptualization is incorporated in material forms. Fully evolved languages provide speakers with vast resources for "alternative" conceptualizations, and since everything that has become part of the repertoire ultimately derives from creative, situated inventions, much of language structure is inherently metaphorical. This "imagistic" view of language differs from the majority position in communication studies by declaring that "meaning" is a feature of — and at the same time inseparable form — "material symbols".

Many researchers have attempted to describe how cognition is related to physical embodiment. Image schemata are not abstract relations between symbols and some objective, external reality; rather, they organize our experience and understanding at the level of body perception and movement. Varela, *et al.* (1991) present very much the same argument in their attempt to study cognition not as the recovery of a pregiven and labeled outer world (realism) or a pregiven inner world (idealism) but as embodied cognition. Communication is, thus, an "embodied" process. Rather than using "verbal" and "nonverbal" aspects as separate systems, interactants use all of the sensory modalities associated with the body.

Just as a hearer perceives speech, whether comprehended or not, as "figure", no matter what the "ground" may be, and just as speech is always regarded as fully intentional and intentionally communicative, movements, if they are made

so that they have certain dynamic characteristics, will be perceived as "figure" against the "ground" of other movement, and such movements will be regarded as fully intentional and intentionally communicative. We may recognize a number of features that a movement may have. Any movement a person produces may share these features to a lesser or greater degree. The more it does so, the more likely the movement is to be given privileged status in the attention of another and the more likely it is to be seen as part of the individual's effort to convey meaning. What are normally called "gestures" are those movements that partake of these features of manifest deliberate expressiveness to the fullest extent. They are movements at the extreme end of the scale, so to speak (Kendon 1986b). The word "gesture" serves as a label for that domain of visible action that participants routinely separate out and treat as governed by openly acknowledged communicative intent.

3. What is gesture? Classification of gestures

There have been various competing classifications of gestures in the literature, though the terminology has often been somewhat misleading (see, for example McNeill 1985; Feyereisen and de Lannoy 1991). Typologies of gesture often involve two broad crosscutting dimensions: *representationality*, and *convention* or *autonomy* (Haviland 1996: 11). The first dimension has to do with whether and how the bodily movements that accompany speech depict or represent the referential content of what is being conveyed by an utterance. Some gestures seem tailored to the "meaning" of speech, via various semiotic modalities, whereas others, for example, appear to be more closely aligned with the rhythm of speech. The various typologies of gestures that have been put forward are in part attempts to classify gestures in terms of the information they encode, albeit at very general levels. These typologies are often logically inconsistent, in many cases formed on the basis of rather hasty observation with a good admixture of "folk" categories thrown in (Kendon 1998). One of the best is the one put forward by David Efron (1941/1972). Ekman and Friesen paper of 1969, one of the most cited in the literature, presents Efron's ideas in a more systematic way, but some of the subtlety of Efron's original discussion is lost.

According to David Efron's influential views, the problem of determining the factors that condition the gestural behavior of a given human group cannot be solved by speculative assumptions nor by vague generalizations. There are only two legitimate ways of approaching it: (a) the experimental, (b) the historical. He has given an example (Efron 1972: 44):

> *Foreigners talk with their arms and hands as auxiliaries to the voice. The custom is considered vulgar by us calm Englishmen. ... You have no need to act*

with the hands, but, if you use them at all, it should be very slightly and gracefully, never bringing down a fist upon the table, nor slapping one hand upon another, nor poking your fingers at your interlocutor. Pointing, too, is a habit to be avoided, especially pointing with the thumb over the shoulder, which is an inelegant action. ... You should not be too lively in your actions. ...

Thus reads a passage in a treatise on good manners of the Victorian period.[1] Similar passages may be found in many other social codes of that period. The English gentleman of 1870 does not seem to have considered gesticulation an innate impropriety, characteristic only of certain non-"Nordic" groups, but merely a "foreign" vulgar custom, disliked by "us calm Englishmen". He seems to have assumed, however, that *all* Englishmen of all times were as calm and parsimonious in their expressive bodily motions as were apparently the habitués of his club. Had he spent some time looking through the window of history, instead of leisurely watching from his club window the sidewalks of an exclusive section of Victorian London, he might have learned that a good many of his ancestors of the Georgian epoch used to gesticulate as warmly as the "foreigners" of his own lifetime (Efron 1972: 45).

The time has come now to investigate gestures, even different kind of pointing gestures, which would have been so vulgar an activity in the 19th century. McNeill (1985) claims that gestures that ordinarily accompany speech can and often do serve referential functions. He also reports on an exhaustive study of gestures that accompany speech and comes to several conclusions about the nature of gestures (at least those that accompany speech):

1. Iconics depict, by the form of the gesture, some feature of the action or event being described; such as "he climbed up the pipe" accompanied by the hand raising upwards to show the path (Cassell, McNeill, McCullough 1999: 5). "An iconic gesture is one that in form and manner of execution exhibits a meaning relevant to the simultaneously expressed linguistic meaning. Iconic gestures have a formal relation to the semantic content of the linguistic unit" (McNeill 1985: 354). He also says that "Iconic gestures are typically large complex movements that are performed relatively slowly and carefully in the central gesture space". He also claims that such gestures accompany "only sentences classified as narrative" (1985: 359).

2. Metaphoric gestures are also representational, but the concept being depicted has no physical form. An example is "the meeting went on and on" accompanied by a hand indicating rolling motion. Some common metaphoric gestures are the "process metaphoric" just illustrated, and the "conduit metaphoric", which objectifies the information being conveyed, representing it as a concrete object that can be held between the hands and given to the listener.

---

[1] Cf. *The Habits of Good Society: A Handbook for Ladies and Gentlemen.* By the man in the Club Window (London, Low and Co., 1870) pp. 284–285.

"Metaphoric gestures are like iconic gestures in that they exhibit a meaning relevant to the concurrent linguistic meaning. However, the relation to the linguistic meaning is indirect. Metaphoric gestures exhibit images of abstract concepts. In form and manner of execution, metaphoric gestures depict the vehicles of metaphors" (1985: 356).

3. Deictics spatialize, or locate aspects of the story being narrated in the physical space in front of the narrator; such as "Adam looked at Chuck, and he looked back" accompanied by a hand pointing first to the left and then to the right.

4. Beat gestures: small baton-like movements that do not change in form with the content of the accompanying speech. A beat is a "simple and rapid hand movement of a type that usually accompanies words whose importance depends on multisentence text relations" (1985: 354). Beats are not iconic in nature.

A. Kendon (1998) has set out in broad terms what appear to be the main ways in which gestures are used. Gestures (i.e. phrases of bodily action that have the characteristics that permit them to be "recognized" as components of intentional communicative action) may be:
- utterances on their own
- they may be employed as components of utterances in alternation with speech
- they may be employed in conjunction with speech

Gestures usually mean hand movements. It was said that *gesture* is behavior that is treated as intentionally communicative and that such behavior has certain features which are immediately recognizable (Kendon 1986b). A gesture is a hand movement accompanying speech and acquiring its meaning in the context of conversation, or possessing a language-independent meaning (Tenjes 1996). However, gestures are not simply symbols, entities for carrying meaning about something else, but physical actions with their own distinct properties — for example, they occur at specific moments in time and at particular points in space (Goodwin 1986). Pointing and referring gestures in space may be coded as iconic gestures. In this article the working definition of these gestures is similar to Kendon's or Haviland's: pointing gestures are representational gestures and they accompany speech to depict or represent entities in space, as well as the referential content of what is being conveyed by an utterance.

4. Iconic gestures

Iconic gestures have been said to be "intrinsically coded", i.e., they bear natural resemblance to the entities they denote. Iconic gestures provide spatial representations of shapes, sizes, motions, etc., but these profiles are elaborated and become recognizable "as" representations by virtue of the adjacency of other gestural units since what an iconic gesture provides is "filled in" with the semantic profiles of the words spoken (Streeck and Knapp 1992). Iconic gestures are used to display objects, spatial relations, and actions (e.g., illustrating the orientation of two robots at a collision scene) (Drakos 1994). I agree with Hadar and Butterworth (1997) that the meaning of an iconic gesture is typically vague. Whilst iconic gestures often have recognizable physical features, their meaning can seldom be derived from their form with any degree of certainty. The shape and dynamics of an iconic gesture are not sufficient to derive its meaning, which requires also the identification of that part of the verbal message to which the gesture relates.

Any utterance is produced in some sort of social situation; it is produced under the guidance of some pragmatic aim; it plays a role in the interactional setting; it has a content that is being conveyed, etc. Some aspects of the content may be represented by a gesture. Gestures depicting a path of movement, a mode of action, relations in space between objects or entities are what McNeill (1992) has called "iconic" gestures. The content that is represented need not be descriptions of actual or possible actions, events, spatial relationships, but may be "as if" entities, actions, spatial relationships that serve as metaphors for concepts at any level of abstraction (cf. McNeill 1992; Calbris 1990; Kendon 1993).

An iconic gesture is typically placed at the onset of or just prior to the speech unit to which it relates (Kendon 1983). It means, that the gesture "foreshadows" that unit. It aids listeners in the operation of understanding by enabling foresight. Iconic gestures "project" upcoming components of talk (Streeck 1988).

5. Points as foreshadowed gestures

Gesture-types similarly placed (i.e., pre-positioned) are "points" (Schegloff 1984b). These are brief motions of the hand with the thumb extended, often in a direction away from or to the back of the speaker, and foreshadowing "they", "there", or "then" (Sreeck, Knapp 1992: 13). They pre-indicate the distance location in time or space of an entity about to be referred to in speech. While "points" are brief and not visibly attended to by the participants, they are also distinct from acts of pointing to locations in the real environment of the inter-

action. Both of these gestures — "points" and pointing gestures — are under closer investigation in this paper.

Iconic gestures ("points") foreshadow types of activities the speaker is about to be engaged in — for instance, types of speech acts — or to project features of the upcoming utterance such as a list. What makes these gestures difficult for the analyst to understand is the fact that they often seem to stand in a loosely metaphorical relationship to the actions they project. In other words, while they project features of "linguistic" action, their imagery draws upon other action domains.

The following are some examples about iconic gestures as points or foreshadowed gestures used in an interview. The material is recorded in a Tartu TV studio, Estonia. The interviewer (marked by initials PU) talks to well-known people in Estonian society from the Soviet period, the so-called stagnation period. Here I have used one of the interviews where the interviewer PU and the respondent KK are talking in a theatre's backstage room in 1994. The interview has been transcribed in detail: speech together with all accompanying hand gestures. The underlined part of the utterance indicates at what moment (parallel to) the words the gesture was performed. In all cases the question and answer contain more than one utterance.

Examples (1)–(3):

(1) PU and the Professor of the Department of Drama (henceforth KK) talk about the KGB (State Security Committee) during the Soviet period.

1.1. PU: Aga tul-i   seda   ette?
          but   come-PST   that+PRT   up+ADVERB OF PLACE

'But did it happen?'

1.2. KK: [---] Aga   kui   palju   ol-i   ne-i-d
             but   how   many   be-PST-3PL   these-PL-PRT

asj-u,   kus   järgmine (1) hommik   kell
things-PL-PRT   where   next   morning+SG+NOM   clock+SG+NOM

    (2) üheksa juba   julgeoleku-st   helista-t-i,   et   mis
        nine   already   security-SG-ELA   call up-IMPERS-PST   that   what

su   poisi-d   eile   teg-i-d?
your+GEN's SHORT FORM   boy-PL-NOM   yesterday   do-PST-3PL

Vaat   nii.
look+IMPERATIVE's SHORT FORM   so

'But how many times it happened that next (1) morning already (2) at nine there
was a call from the KGB asking what your guys were up to yesterday? There
you are.'
(1), (2) — raises his right hand briefly and points forward.

These brief gestures point to the following and important part of the utterance: a
call from the KGB. The gestures convey a sense of ambiguity: they visualize
time and a forthcoming object; they foreshadow the importance of this object.
As iconic gestures, they "project" upcoming components of talk.

(2)
2.1. PU: Vaada-tes   nüüd   pilgu-ga

        look-DECLINABLE FORM OF VERB   now   glance-SG-COMIT

    tagasi, siis   kes   ol-i   lavakunstikateedri
    back   then   who be-PST-3SG   Drama+Department+SG+GEN

    juhataja   enne, kui   teie sinna   jõud-si-te?
    head+SG+NOM before when   you   to that place   reach-PST-2PL

'Looking back now, who was the head of the Drama Department before you
came there?'

2.2. [---] KK: Ja (1) siis   ol-i   Eedu Tinn. Ja (2) tema siis
                and   then be-PST-3SG   Eedu Tinn   and   he   then

    läks   mine-ma   ja (3) see   koht   jä-i
    go+PST+3SG go-INFINIT and   this   place+SG+NOM stay-PST-3SG

    vakantse-ks.
    vacant-SG-TER

        'And (1) then there was Eedu Tinn. And (2) he then went away and (3)
        this position was left vacant.'

(1)–(2) — points briefly forward with the forefinger
(3) — turns the hand and points briefly forward with the thumb

There are three *points*, gestures that refer briefly to *then*, *he* and *this*, respectively. The gesture appears just before the word. The first *point* stresses the time ("then") and at the same time foreshadows the object (Eedu Tinn). The second *point* refers to the same object ("he") in the second utterance. And the third one refers to the distance location in time ("... and this was a vacant place"). J. Cassell *et al.* have a viewpoint that the demonstrative "this" may be seen as a placeholder for the syntactic role of the accompanying gesture (Cassell, McNeill, McCullough 1999).

(3) PU has wondered how KK took over the position of the head of department.

3.1. KK: [---] Ja,   ja,   ja   siis,   noh ... <u>(1) veelkord   ütle-n,</u>   et
                    yes yes yes then   well   again+once say-PRES-1SG that

Venno Laul   teg-i   ettepaneku.
Venno Laul   make-PST-3SG   proposal+SG+GEN

'Yea, yes, and then, well ... <u>(1) I repeat again</u> that Venno Laul made the proposal.'

(1) — a slight flick forward with the right hand's forefinger

The gesture of KK expresses firmly the speaker's position: all that he says is true. At the same time the gesture introduces the following utterance whereby the speaker explains the circumstances. Thus, this gesture projects features of the follow-up utterance.

Each gesture is constructed differently. Generally, all gestures are initiated far before the speech-unit to which they "belong". They *preface* speech units and *prefigure* the concepts communicated by them (Streeck 1995). They, thus, enable recipients to *anticipate* conceptual profiles of subsequent talk. The semantic relationship between the profiles supplied by the gesture and those encoded in lexical units are manifold.

6. Pointing gestures as pre-points in space

Many gestures have a pointing component, and many seem to be "pure" points. These gestures are also under closer investigation in this paper. What is pointed to can be actual objects in the world that surrounds the participants (actual object pointing), objects that can have a physical location, and do, but are not immediately present (removed object pointing), objects that can have real locations in space, but which are not present — which are given locations for

the purposes of current discourse (virtual object pointing), but also things that cannot in fact have any sort of object status at all and can have no location (metaphorical object pointing).

Pointing gestures — or rather, gestures which have a clear pointing component (Kendon 1998) — represent a relatively simple kind of gestural action where, by examining the combinations of movement, body part and handshape types employed, we might rather easily gather data that can bear on the issue of "compositionality" in gesture.

The next examples come from an experiment where the subjects had to go on an imaginary journey and describe it to another person, the "guest". En route the "guest" was shown some historic and cultural sights. The subjects did not know that the goal of the experiment was to investigate the gestures. They worried about their knowledge of history. All of them know the region of the town well enough to image the journey and to describe it. Each "guide" "went" from the starting point to the destination in 10 minutes (narrative time). 11 subjects were videotaped. The aim of this experiment, which involved face-to-face interaction, was to understand space-relation gestures and coverbal speech in face-to-face interaction. (For more about the results see also Tenjes in press, and Tenjes 2001.)

Haviland (1996) distinguishes between four different "gesture spaces": local space, narrated space, interactional space, and narrated interactional space (and the laminations and transpositions connecting them). This set of distinctions replaces an obviously insufficient two-fold dichotomy between "real space" (and "real pointing", which Haviland calls "relatively presupposing" pointing gestures) on the one hand, and "symbolic space" (and "symbolic pointing", what Quintillianus called gestural "pronouns" and Haviland calls "entailing") on the other: according to this older view, we either point to a location to direct our interlocutor's attention to it, or we point to a location between us to set it up as a symbolic entity for further reference. Haviland, however, shows that we use both local and interactional space — their concrete, physical features — as "props upon which cognition may be externalized". Although local space and interactional space are both physical, real, and concrete, they differ drastically in their use as cognitive and communicative props: local space is the specific place where we are and that we know about; interactional space is constituted through the use of abstract, generic practices (of orienting our bodies, looking at one another or away, and so on) that we carry around with us. Cognition and communication are distributed across both, and the symbolic potential that we gain from them — for example, for the construction of narrated spaces — is dependent upon their joint use and interaction (Streeck 1996).

During the experiment the gesture indicating "this over there", "this over here", etc. appeared very often *before* the most important concept of the sentence. The concept mostly denoted an object or the shape of a path.

According to Kendon, the depictive movement combines with pointing. So the hand starts to point the direction, and moves simultaneously to denote the shape of the crucial concept ("from here" + image the street below or "look down" + shape of the bridge or "here" + shape of the statue).

Examples (4)–(6)[2]:

(4)   ⌐
Kui   te   nüüd siit   mäe-st   alla   vaata-te,
when you   now   from here hill-SG-ELA down look-PRES-2PL

                                                        ⌐⌐
vaat   sealt   paista-b
look+IMPERATIVE's SHORT FORM   from there be seen-PRES-3SG

Kuradisild.
devil+bridge+SG+NOM

'When you look down from this hill now, look, you can see the Devil's Bridge over there.'

Hand refers to "look down" and at the same time starts to image the shape of the bridge. (See figure 1.)

Figure 1.

---

[2]   The arrows show the main type of the hand movement.

(5)   ⟨

Vene	aja-l	seis-i-s	siin … selle	ees
russian+GEN	time-SG-ADE	stand-PST-3SG	here this+SG+GEN	in front

muidugi   suur Lenin.
of course big Lenin

'During the Russian time… a big Lenin of course stood in front of this.'

Hand (forefinger) points "here" and at the same time images the shape of the statue. (See figure 2.)

Figure 2.

(6)   ✓

    Ja   sealt   saa-b   alla las-ta.
    and from there can-PRES-3SG down fire-INFINIT

'And one can fire down from there.'

Hand points "from there" and at the same time starts to images the path of the shooting. (See figure 3.)

Figure 3.

This study indicates that referring gestures have *two simultaneous roles*: (a) to point to spatial relations and (b) to image (to denote) *the most important* concept in the sentence that *follows*. W. Edmondson has shown on the basis of sign languges' studies that the sign has complex structural properties, which expose the integrative monostratal nature of the formalism rather well. He has an example where both hands are involved (these can stand for different modalities), and one hand is doing two things simultaneously, both in terms of its shape and its movement (Edmondson 1996). There is a clear semantic link between the gesture and the single underlined word in the accompanying speech (Hadar and Butterworth 1997: 152). It means that the gesture and the language have a common base. But is it a underlying idea unit (McNeill 1999: 2)?

According to overall human cognition, the underlying connection between the gesture and the word may be a *process* or a certain type of *information*.

7. Lexical affiliate and onset of iconic gesture

According to Schegloff (1984a) the word to with the gesture is presumed to be related is its "lexical affiliate". By general consent, some temporal proximity is required to determine verbal-gestural coordination: words occurring a few sentences away from a gesture would not be considered as lexically affiliated with the gesture. The underlying assumption here, accepted by most researchers in the field, is that if there is cognitive coordination between the verbal and gestural channels, the related processes must temporally overlap. In the examples (1)–(6), there is a clear meaning link between the gesture and a word in the accompanying speech. On the other hand, Kendon (1985) gives examples of gestures related to whole ideas but there is no space for a broader discussion about these examples. Most iconic gestures have a preparatory phase during which the arm moves to a starting position at a relatively low speed. This is followed by the iconic part of the gesture (its "stroke" according to Kendon 1980) and it is this part of gesture that will henceforth be referred to as iconic gesture. Iconic gestures usually start before the related speech event (Butterworth and Bettie 1978; Kendon 1980; McNeill 1985; Morrel-Samuels and Krauss 1992).

McNeill (1992) holds a very different view of speech production. In his view, linguistic processing evolves from generic units, "growth points", containing the meaning of the whole idea-to-be-expressed in an embryonic form. In this view, the eventual size of the verbal unit is irrelevant to understanding the gesture, but only the analysis of temporal, pragmatic, and semantic relations. According to McNeill, gesture and speech arise together from an underlying propositional representation that has both visual and linguistic aspects; the relationship between gesture and speech is essential to production of meaning and to its comprehension (Cassell, McNeill, McCullough 1999).

Conceptualization, in various terminological guises, has been favored as an origin of gestures by many researchers on both theoretical and empirical grounds. For example, McNeill (1985: 368) presented a case where the phrase "he found a knife" was accompanied by a gesture pantomiming the *grasping* of the knife. The most parsimonious explanation here is that the gesture originated at a stage prior to linguistic processing, where related, yet different, concepts were considered for articulation. Speech then articulated one concept, and the gesture the other. McNeill (1985, 1999) has a somewhat different story, whereby the gesture originated at a stage of processing where "grasp" and "find" joined in a single unit of meaning (the "growth point") having both

linguistic and imagistic components. As Hadar and Butterworth (1997) suggested, the origin of gesture may be even further down from prelinguistic message construction: the speaker may have chosen "grasp" for articulation, but then failed to retrieve the word. Instead, "find" was retrieved, while the gesture expressed the originally selected concept.

Now, in the majority of cases, the onset of iconic gesture is known to precede the onset of the related speech unit (Butterworth and Beattie 1978; Morrel-Samuels and Krauss 1992). Hadar and Butterworth have presented a model to explain the relation between iconic gesture generation and speech production (Hadar and Butterworth 1997: 161-162). The first fundamental assumption of the model is that conceptual processing activates visual imagery, presumably automatically and presumably to the extent that the features involved in the conceptual processing are imageable. Some support for this can be found in evidence showing iconic gesture and pantomime as early forms of communication. Gesture may occur in the course of reading: it is not the result of a fully intentional process. The second fundamental assumption is that a visual image mediates between conceptual processing and the generation of iconic gestures. The model (see also Hadar and Butterworth 1997: 163) proposes that the visual image facilitates word-finding in three distinct ways: by focusing on conceptual processing, by holding core features during semantic reselection, and by directly activating word forms in the phonological lexicon. Word-finding failures themselves tend to elicit imagery and the associated gestures. Conceptual ("message level") processing constructs or selects a set of semantic features to be realized linguistically. The processing may also activate a visual image via the preverbal route. The visual image may, in turn, feed into the conceptualization process, and hence into subsequent processes of word-finding. The idea here is that the visual image will be translated back into semantic features that can then engage in conceptual processing. This influential model proposes that there is a "direct route" from a visual image to the phonological form, which can facilitate the activation of the form. The accessibility of lexical processing to visual images has only indirect empirical support.

All the available data show that the onset of a gesture precedes its lexical affiliate. McNeill (1992, 1999) accounts for this by assuming that gesture production starts before lexicalization is achieved; in Hadar and Butterworth's model gestures start before the lexical affiliate is produced, irrespective of their processing origin. Some questions still remain. It is not clear why some gestures should have sentence-initial onsets, i.e., the gestures start before the selection of the affiliate has become relevant in the production of the utterance.

Kendon has already said in 1986 that "Gesture Phrases are not, thus, by-products of the speech production process. They are directly produced, as are Tone Units, from the same underlying unit of meaning." "Thus, it is found that

Gesture Phrases are often begun in advance of the Tone Unit to which they are related and they are often completed before the Tone Unit's completion" (1986b: 34).

Gestures are fully organized at the outset of speech units that also express the representational of content. Evidently then, meanings are not transformed into gestural form by way of spoken language formats. They are transformed directly, and independently. This means that meanings, in whatever way they are stored, are stored quite separate from the formats of spoken language, however abstractly these may be conceived. The evidence from gestures thus provides that knowledge is stored in complex configurational structures (Kendon 1986a). Gesture and speech must be considered separate representational modes which may nevertheless be coordinated and closely associated in utterance because they may be employed together in the service of the same enterprise (Kendon 1986b). Butterworth and Hadar have claimed that iconic gestures in speech are largely attributable to aspects of lexical search and such gestures play an important functional role in lexical retrieval.

8. Conclusion

Iconic gestures are designed to communicate; they provide imagery and kinaesthetic profiles. Gestures receive the attention of the listener and thereby become components of conceptual understanding. Gestures are functionally adapted to the requirements of understanding in human communication. Therefore, one has to examine how these structures aid listeners in the processing of speech.

It is appreciated when speakers have the ability to make themselves understood because of the unconscious intelligence of their bodies, that is, their hands' competence is surrounding speech with subtle, intricate, and "telling" spatial imagery. This is possible because listeners, too, have the capacity to process abstract spatial imagery. As Bouissac has said, gestures can be construed as embodiments of information between intending and understanding minds (Bouissac 2000).

Like language-units, gestures are symbols, i.e., pairs of meaning and form, but exactly what types of meaning are conveyed by gestures remains an unresolved question. In a broader perspective one can see that gesture is a critical link between the evolution of perception, conceptualization, and language.

References

Bavelas, J. B., N. Chovil, D. A. Lawrie, and A. Wade (1992) "Interactive Gestures". *Discourse Processes* 15, 469–489.

Birdwhistell, R. L. (1970) *Kinesic and Context: Essays on Body Motion Communication.* Philadelphia: University of Pennsylvania Press.

Bouissac, P. (2000) "Information, Imitation, Communication: An Evolutionary Perspective on The Semiotics of Gestures". Based on a plenary lecture of the same title given at the conference *Gestures: Meaning and Use.* 1.–4. April. Oporto, Portugal.

Butterworth, B. and G. Bettie (1978) "Gesture and silence as indicators of planning in speech". In *Recent Advances in the Psychology of Language: Formal and Experimental Approaches.* R. Campbell and P. T. Smith, eds. 347–360, London: Plenum.

Calbris, G. (1990) *Semiotics of French Gesture.* Bloomington: Indiana University Press.

Cassell, J., D. McNeill, K.-E. McCullough (1999) "Speech-gesture mismatches: Evidence for one underlying representation of linguistic and nonlinguistic information". *Pragmatics and Cognition* 7(1), 1–33.

Dittmann, A. T. (1974) "The body movement-speech rhythm relationship as a cue to speech encoding". In *Nonverbal Communication.* S. Weitz, ed. 169–181, New York, London, Toronto: Oxford University Press.

Drakos, N. (1994) "Gesture Taxonomies".
http://hwr.nici.kun.nl/~miami/taxonomy/node143.html

Efron, D. (1972) *Gesture, Race and Culture.* Paris and Hague: Mouton (Originally published in 1941 as *Gesture and Environment.* New York: King's Crown Press)

Eisenberg, A. M., R. R. Smith (1971) *Nonverbal Communication.* Indianapolis: Bobs-Merril.

Edmondson, W. (1996) "A Notational Basis for Integrated Accounts of Gesture and Speech". In *Proceedings of Workshop on the Integration of Gesture in Language and Speech.* L. S. Messing, ed. 86–92, Wilmington Delaware: University of Delaware.

Ekman, P., W. V. Friesen (1969) "The Repertoire of Nonverbal Behavior: Categories, Origins, Usage, and Coding". *Semiotica* 1, 49–97.

Feyereisen, P., J.-D. de Lannoy (1991). *Gestures and Speech: Psychological Investigations.* Cambridge, Paris: Cambridge University Press, Editions de la Maison des Sciences de l'Homme.

Goodwin, C. (1986) "Gestures as a resource for the organization of mutual orientation". *Semiotica* 62, 1/2, 29–49.

Hadar, U. and B. Butterworth (1997) "Iconic gestures, imagery, and word retrieval in speech". *Semiotica* 115, 1/2, 147–172.

Haviland, J. (1996) "Pointing, Gesture Spaces, and Mental Maps". *Language and Culture: Symposium* 3.
http://www.language-culture.org/archives/subs/haviland-john/1.html

Kendon, A. (1980) "Gesticulation and speech: two aspects of the process of utterance". In *The Relationship of Verbal and Nonverbal Communication.* M. R. Key, ed. 207–227, The Hague: Mouton and Co.

Kendon, A. (1983) "Gesture and Speech: How they Interact". In *Nonverbal Interaction.* J. M. Wiemann and R. P. Harrison, eds. 13–43, Beverley Hills: Sage.

Kendon, A. (1985) "Some uses of gestures". In *Perspectives on Silence*. D. Tannen and M. Saville-Troike, eds. 215–234, Norwood, NJ: Ablex.

Kendon, A. (1986a) "Some reasons for studying gesture". *Semiotica* 62, 1/2, 3–28.

Kendon, A. (1986b) "Current Issues in the Study of Gesture" In *The Biological Foundations of Gestures*. J.-L. Nespoulous, P. Perron, A. R. Lecours, eds. 23–48, New York, Hillsdale: Lawrence Erlbaum Associates.

Kendon, A. (1993) "Human gesture". In *Tools, Language and Cognition in Human Evolution*. K. R. Gibson and T. Ingold, eds. 43–62, Cambridge: Cambridge University Press.

Kendon, A. (1995) "Gestures as illocutionary and discourse structure markers in Southern Italian conversation". *Journal of Pragmatics* 23 (3), 247–279.

Kendon, A. (1998) "An agenda for gesture studies". *The Semiotic Review of Books* 7, 3, 9–12.

Langacker, R. W. (1988) "An Overview of Cognitive Grammar". In *Topics in Linguistics*. B. Rudzka-Ostyn, ed. 3–48, Amsterdam/Philadelphia: John Benjamins Publishing Co.

Langacker, R. W. (1990) "Cognitive Grammar: The Symbolic Alternative". *Studies in the Linguistic Sciences* 20, 2, 3–28.

McNeill, D. (1985) "So you think gestures are nonverbal?" *Psychological Review* 92, 350–371.

McNeill, D. (1992) *Hand and Mind: What Gestures Reveal About Thought*. Chicago: University of Chicago Press.

McNeill, D. (1999) "One ontogenetic universal and several cross-linguistic differences in thinking for speaking". Based on a plenary lecture of the same title given at the 6th International Cognitive Linguistics Conference, Stockholm, Sweden, 13 July.

Mehrabian, A. (1971) *Silent messages*. Belmont: Wadsworth.

Morrel-Samuels, P. and R. M. Krauss (1992) "Word familiarity predicts temporal asynchrony of hand gestures and speech". *Journal of Experimental Psychology: Learning, Memory and Cognition* 18, 615–623.

Poyatos, F. (1980) "Interactive Functions and Limitations of Verbal and Nonverbal Behaviors in Natural Conversation". *Semiotica* 30, 3/4, 211–244.

Scheflen, A. E. (1973) *Communicational Structure*. Bloomington: Indiana University Press.

Schegloff, E. A. (1984a) "On Some Gestures' Relation to Talk". In *Structures of Social Action: Studies in Conversational Analysis*. J. M. Atkinson and J. Heritage, eds. 266–296, Cambridge: Cambridge University Press.

Schegloff, E. A. (1984b) "On Some Question and Ambiguities in Conversation". In *Structures of Social Action: Studies in Conversational Analysis*. J. M. Atkinson and J. Heritage, eds. 28–52, Cambridge: Cambridge University Press.

Schneller, R. (1992) "Many Gestures, Many Meanings: Nonverbal Diversity in Israel". In *Advances in Nonverbal Communication: Sociocultural, Clinical, Esthetic and Literary Perspectives*. F. Poyatos, ed. 213–233, Amsterdam/Philadelphia: John Benjamins Publishing Co.

Shannon, C. E., W. Weaver (1959) *The Mathematical Theory of Communication*. Urbana: The University of Illinois Press.

Streeck, J. (1988) "The Significance of Gesture: How it is Established". *Papers in Pragmatics* 2 (1), 25–59.

Streeck, J. (1995) "On projection". In *Social intelligence and interaction*. E. N. Goody, ed. 87–110, Cambridge: Cambridge University Press.

Streeck, J. (1996) "Review of "Pointing, Gesture Spaces, and Mental Maps"". http://www.language-culture.org/archives/mailing-lists/l-c/199604/msg00004.html

Streeck, J., M. L. Knapp (1992) "The Interaction of Visual and Verbal Features in Human Communication". In *Advances in Nonverbal Communication*. F. Poyatos, ed. 3–24, Amsterdam/Philadelphia: John Benjamins Publishing Co.

Tenjes, S. (1996) "Gestures in Dialogue". In *Estonian in the Changing World*. H. Õim, ed. 163–192, Tartu: University of Tartu.

Tenjes, S. (in press) "Gestures and spatial relationships in Estonian." *Proceedings of the Conference "Gestures: Meaning and Use" in Oporto, Portugal, 31 March – 5 April 2000*. Portugal, Oporto: Universidade Fernando Pessoa, University of North Carolina, Technische Universität Berlin.

Tenjes, S. (2001) "Gestures in communication and their use for pointing and referring in space: Estonian examples". In *Papers in Estonian Cognitive Linguistics*. I. Tragel, ed. 216–248, Tartu: University of Tartu.

Varela, F. J., E. Thompson, E. Rosch (1991) *The embodied mind: cognitive science and human experience*. Cambridge, Mass: MIT Press.

Abbreviations

1, 2, 3 — person
ADE — adessive
COMIT — comitative
ELA — elative
GEN — genitive
IMPERS — impersonal
INFINIT — infinite
NOM — nominative
PART — participle
PL — plural
PRES — present tense
PRT — partitive
PST — past tense
SG — singular
TER — terminative

VII

METAPHORIC GESTURES AND CONCOMITANT VERBAL PHRASES: ESTONIAN EVIDENCE

Silvi Tenjes

Department of General Linguistics
Tartu University, Estonia

The present study investigates how metaphoric gestures and verbal expressions are related in Estonian. Two slightly different aspects have been studied: (1) which type of gestures co-occur with Estonian verbal metaphoric expressions, if any; (2) how do metaphoric gestures work in different conversational situations in Estonian. Two essential theoretical considerations are presented: (1) the connection between iconicity and metaphoricity in language, (2) the connection between linguistic relativity and metaphorical gestures or metaphorical verbal phrases. While the metaphors and metaphorical gestures in Estonian data seemed generally compatible with the classification of metaphor proposed by Lakoff and Johnson ("localism" in expressions "up is good"-"down is bad"), the other which suggests that the relationship between metaphor and linguistic relativity may be more complicated than it first appears.

INTRODUCTION

"It may well be that world history is the history of a certain number of metaphors" — this is how the famous Argentine author J. L. Borges begins his short story "Pascal's Sphere". We could agree with his claim if we define metaphor in a broader sense. If it defines the metaphor in a broader sense as bases of thought, in which case all the languages are so intertwined with metaphors.

The present study investigates how metaphoric gestures and verbal expressions are related in Estonian. As Cienki (1998) has already shown, verbal metaphoric expressions do not necessarily co-occur with metaphoric gestures, or vice versa. This paper focuses on the hand gestures that accompany speech. Two slightly different aspects have been studied: (1) which type of gestures co-occur with Estonian verbal metaphoric expressions, if any; (2) how do metaphoric gestures work in different conversational situations in Estonian.

1

THE FUNCTIONS OF METAPHOR

Metaphor is the use of an expression in a novel and figurative sense on the basis of similarity. The understanding of metaphor as a figurative use of word makes it ubiquitous; however, it also blurs the concept of the metaphor. One of the main functions of metaphor is that it enables us to name things by means of other things. It allows associating the things described according to those features that are important at the moment and ignoring the others. Word meanings are multifaceted, and the content of both poetic and philosophical thinking is primarily a kaleidoscopic association of meanings and semantic components in new combinations. There is no doubt that one of the aims of this kaleidoscope game is to maintain order and stability in people's attitudes (Kaplinski 1997: 220). It could well be one of the functions of metaphor.

The use of metaphor presumes the presence of two levels — the levels of description and comparison. The latter could be regarded as a kind of microcosm, a world picture, which the human being has designed as simple, clear, and concrete enough. The objects of the comparison level are sufficiently distinguishable from one another, and are often clearly opposed to each other with respect to such features as *good-bad, low-high, black-white*, etc. If we ascribe a name of the comparison level to an object of the description level, we will express a clear and traditional attitude to the described. It is important that the level of comparison should be relatively limited. The attitude to the base word will be transferred to here. The existence of such a comparison level that is divided into clear-cut antonymic concepts helps us to orient ourselves in the world, where objects are too complicated and unstable for us to shape a certain attitude towards them. The metaphor then is a method of simplifying the intricate and diverse reality, making it more "palatable" to the human (Kaplinski 1997: 221). This is another function of the metaphor, related to the first one.

PROBLEMS WITH CLASSIFYING GESTURES

There have been various competing classifications of gestures in the literature, though the terminology has often been somewhat misleading (see, for example McNeill 1985; Feyereisen and de Lannoy 1991). Gesture typologies often involve two broad crosscutting dimensions: *representationality*, and *convention* or *autonomy* (Haviland 1996: 11). The first dimension has to do with whether and how the bodily movements that accompany speech depict or represent the referential content of what is being conveyed by an utterance. Some gestures seem tailored to the "meaning" of speech, via various semiotic modalities, whereas others, for example, appear to be more closely aligned to the rhythm of talk.

D. McNeill and his associates have developed an influential classificatory scheme distinguishing between "iconic" and "metaphoric" gestures, which bear a relation of resemblance to aspects of utterance content, "deictic" gestures,

which index referents both concrete and abstract, and "beats" which seem to be non-representational (Haviland 1996: 40). The scheme is elaborated and compared with competitors in McNeill (1992):

1. Iconics depict by the form of the gesture some feature of the action or event being described; such as 'he climbed up the pipe' accompanied by the hand raising upwards to show the path (Cassell, McNeill, McCullough 1999: 5). 'Iconic gestures have a formal relation to the semantic content of the linguistic unit' (McNeill 1985: 354).

2. Metaphoric gestures are also representational, but the concept being depicted has no physical form. An example is 'the meeting went on and on' accompanied by a hand indicating rolling motion. Metaphoric gestures include, e.g., the "process metaphoric gestures" just illustrated, and the "conduit metaphoric gestures", objectifying the information being conveyed, representing it as a concrete object that can be held between the hands and given to the listener.

According to this definition, metaphorical gestures include many more gestures. The material that I collected includes an example, where the speaker points at the supermarket and tells the interlocutor, "This big house over there is the supermarket", at the same time making a rectangular gesture with both hands in the air designating the big quadrangular shape of the supermarket. While analyzing the present material, I did not treat such and similar examples as metaphorical gestures although D. McNeill's definition would allow it. 'Metaphoric gestures are like iconic gestures in that they exhibit a meaning relevant to the concurrent linguistic meaning. However, the relation to the linguistic meaning is indirect. Metaphoric gestures exhibit images of abstract concepts. In form and manner of execution, metaphoric gestures depict the vehicles of metaphors' (McNeill 1985: 356).

One of the crucial and confusing matters about this classification relates to McNeill's dividing gestures into "iconic" and "metaphoric" in one article and regarding them as representatives of one sub-type of gestures in another. 'There are two further sub-types of iconic gesture: conduit gestures and metaphoric gestures' (McNeill 1985: 354). Let us turn to a more subtle and flexible classification of gestures. What I can consider a better classification of gestures — the one proposed in the works of A. Kendon. Gesture may function as an autonomous utterance and may occur in conjunction with speech in a variety of ways. Thus, most draw a distinction between speech-associated gesturing that somehow provides a direct representation of some aspect of the content of what is being said, and gesturing that appears to have a more abstract sort of relationship to speech (Kendon 1986: 31). The latter would include metaphorical gestures as well.

It is not always clear, which types of gesture co-occur with a verbal phrase. As we know, on the one hand, metaphor entails iconicity. On the other hand, iconicity entails metaphor (Hiraga 1998). If we accept this view, there is no contradiction between the parts of McNeill's classification. Hiraga's views help

to establish the mutual relationships between hand gestures and language more clearly.

METAPHORICITY IN SPEECH AND GESTURES

Since the theory of nonverbal metaphor is quite complex, we will restrict the discussion here to quote some remarks by Eli Rozik (1992: 132): "(a) metaphor conveys meaning that essentially does not differ from literal description. ... The same hand movement can be both indicative and metaphorical."

I agree with Max Black that a successful metaphor is *realized* in discourse and need not be treated as a riddle. Metaphorical statements occur in specific and relatively complete acts of expression and communication. According to Black, a statement will be identified by quoting a whole sentence, or a set of sentences, together with as much of the relevant verbal context, or the nonverbal setting, as may be needed for an adequate grasp of the actual or imputed speaker's meaning (Black 1993: 24).

When we examine examples of discourse, we can also find evidence that mode of expression in gesture and mode of expression in speech can have much in common. Thus co-speech gesturing is often employed to provide concrete visual images of actions, shapes, spatial relationships or movements through space that are metaphors for abstract concepts (McNeill 1987, Calbris 1990). It is notable that the metaphors employed in gesture are the same as the metaphors that find expression verbally. The verbal metaphor receives gestural expression. A. Kendon (1991: 7) has given a few examples to illustrate this. In a group discussion of a psychiatric case, with five psychiatrists and a social worker as participants, the social worker who had had an interview with the patient was asked to explain what she had learned about the patient during the interview. At the beginning of her reply she says: "I saw her one time, to get some background information, I didn't get very much, but I picked this up all through her conversation." An element in the background information that she goes on to describe is what she refers to as something she had "picked up" during the interview. This is thus being referred to as something that can be treated as a physical object, which can be "picked up." As she says "picked this up" she makes three upward movements with her open hand, as if picking something up from an imaginary surface.

At another point in the same discussion, the social worker is commenting on the rapidity and readiness with which the patient had expressed certain ideas. She said: "She spoke very rapidly and this was all coming out very spontaneously." In saying "this was all coming out" she is using the metaphor of the person as a container, and ideas or feelings as flowing out of the container. As she said this, she also expressed the metaphor gesturally, making a broad outward sweeping movement with her hand, just before she says "all" — thus

4

providing a visual image of the outward flow of something that she also mentions in her speech.

Another very widespread metaphor is to speak of time as if it were space. If we are speaking about ourselves in relation to the past or the future, we often speak as if the future is ahead of us and the past is behind. Gestures in utterances about something or someone in the past or in the future can be characterized quite unambiguously: when speaking about the *past* the speaker points behind, back over the shoulder, etc.; in case of *future* the movements are directed to the front. It has also been pointed out by the well-known French researcher G. Galbris (Calbris, Montredon 1986: 139; Calbris 1987: 73, Calbris 1990). G. Calbris (1990) gives examples of French speakers who give a forward lift of the chin or a forward movement with the hand as they refer to something that, for them, is in the future, or make a backward movement with the head or point the thumb backwards over the shoulder as they refer to something in the past. Estonians similarly make forward movements to refer to the future and backward movements to refer to the past but they may also refer back in time using absolutely different gestures. Speakers appear to refer forward in relation to *space* or *objects* (Tenjes 1996: 187–189). If the same metaphors can find representation in both gesture and speech, it would seem that both modalities are drawing on the same representational substrate. This seems to be related to the internalizations of our sensory, especially visual perceptions and manipulations of the physical world. Recent work on metaphor in cognitive linguistics provides additional support for this idea. It appears that the metaphors that predominate in discourse employ as their vehicles motor manipulation of space and objects within it and sensory experience, especially visual experience. In large part, intellectual activity is represented in spoken language through metaphors that draw upon our visual experience of the world (Lakoff 1987; Johnson 1987; Danesi 1990; Sweetser 1990). If thinking is an internalization of overt transactions with the external world, then it is no accident that language, if it is regarded as a means of representing this process for others by way of socially shared symbols, should make extensive metaphorical use of such visual experiences and perceptuo-motor processes. Nor should it be surprising that when gesture is employed to express abstract content it should do so in the same way (Kendon 1991: 8).

ANALYSIS OF THE ESTONIAN-LANGUAGE MATERIAL

Metaphor serves as an essential aid, and certain things can be expressed most precisely only metaphorically. Metaphor plays an important role in the thinking process. It seems that most of all it is associated with the sense of sight. Thinking in time (in space-time) is the same as sight in space. Their relationship is a reflection of the inevitable relationship between space and time in us. Our consciousness is not merely a mirror — a memory thread ties each of our per-

5

ceptions to something in the past. We have no pure present — memories bring the past dimension into it and expectations imply the future. Imagination and thinking combines it all into new pictures and thoughts (Kaplinski 1980).

In this paper, metaphoric gestures were studied together with Estonian (Finno-Ugric < Ural-Altaic) verbal expressions. The examples come from four different sources:

(1) From the weekly-review program *Brauser* (video recording from the Estonian TV);

(2) An experiment where the subjects had to go an imaginary journey and had to describe it to another person;

(3) Students' free conversation about the event of an Estonian historican finding the oldest Estonian settlement place, dated from 11 000 years ago;

(4) The 1999 election campaign in Estonia (video recording from the Estonian TV).

People construct cognitive models of more abstract phenomena on the basis of their earlier more concrete experiences, the first level of which is constituted by their immediate physical and bodily experience. One of the basic transfer mechanisms is metaphorization, whereas the transfer does not occur for individual words but is largely regulated by the entire source domain (Lakoff 1990). Thus, when interpreting the cognitive model of more abstract domains, it is important to adequately fix its source domain(s). The so-called localism hypothesis in semantics (Lyons 1977) tells us that our images of physical space, the conceptualization of space, serves as the basis for many cognitive models with an abstract content. For example, most temporal expressions (*enne* 'before', *pärast* 'after', *(millegi) järel* 'after something' originate in spatial expressions, and psyche originates in metaphorical space. Psychic states and processes are conceptualized rather generally as certain spatial regions, where one happens to find oneself, where one arrives, which one leaves, or gets out of, etc (Õim 1997: 259).

After Lakoff and Johnson (1980), there are three major types of conceptual metaphor — structural, orientational, and ontological metaphors. I used this distinction in exploring my data. To sum up, 30 examples included 13 metapho-lrical gestures that gave a metaphorical meaning to the phrase, and 17 metaphorical expressions were accompanied by a gesture. The metaphorical gestures accompanied by verbal phrases included 4 orientation metaphors, 12 ontological metaphors, and 1 structural metaphor.

CONCLUSIONS

It appeared that although metaphoric gestures did co-occur with verbal metaphoric expressions, it was not very common. Hand gestures, which can be both indicative and metaphoric, may occur very often. The mapping line from source to target was seen in verbal metaphoric expressions and the concomitant gestu-

res, but was not clearly seen in gestures, which occurred in indicative positions. It may be concluded that

(1) Verbal metaphoric expression is often accompanied by metaphoric gestures in positions where the underlying concept is the spatial domain *up-down*. We use our knowledge of physical space to structure our understanding of emotions or consciousness (about sources and targets in Estonian mental worldview see also Õim 1997). These gestures are like iconic gestures according to McNeill (1985: 354).

(2) Metaphoric gestures often "express" the concepts *greatness, great number, very important, very beautiful, not important at all, very ugly,* either independently (finish the verbal phrase or sentence) or with concomitant verbal phrase, irrespective of the conversation. Most of these gestures seem to be iconic, too.

(3) There were slightly more autonomous metaphorical gestures than metaphorical expressions with concomitant gestures. A metaphorical gesture provides a linguistic expression with metaphoricity. In a metaphorical expression with a concomitant gesture they both contribute to the efficient conveyance of the meaning.

DISCUSSION

It seems that metaphor belongs first and foremost to language. Metaphor belongs to gestures in the pantomime, theatre, etc. In everyday conversation metaphorical gestures either accompany metaphorical expressions or act independently, supporting either the entire phrase or concept. Without language, however, comprehension would be more difficult. Thus, metaphor belongs rather to language, and iconicity belongs rather to the hand. Language has developed from manual pointing to symbolic meaning, and metaphor gives a new (meaning) facet to a bleached word. If metaphor belongs to language, and if one speculates that language originated from hand gestures (G. Hewes 1973a; 1973b; 1976, A. Kendon 1991, U. Place 1998 and M. Corballis 1999), then iconicity, metaphoricity, and symbolism in language become fully understandable. Pointing and referring hand gestures were the first means of communication. The transition to articulated speech occurred step by step, and the role of the hand diminished. The primary 'metaphorical transfer' occurred when the iconic meanings of hand gestures became meanings expressed by voice. They came to be used as symbols with a certain meaning. In the course of time there occurred a 'second metaphorical transfer' — the expression was permanently transferred to other similar situations. It would be more accurate to say that from this moment on one is dealing with 'metaphorical transfer' as a certain process, where symbols become new metaphors and new meanings emerge. In this process the hand cannot act any more as the performer of the primary role

7

because it has delegated this role to language. On the other hand, it has still maintained many functions that are not fully clear as yet.

No language is fully translatable into another language, and some verbal metaphors in Estonian cannot be found in English. At the same time it was the Estonian metaphorical expressions that were accompanied by gestures. What does that indicate? When we compare the material to the conceptual metaphors suggested by Lakoff and Johnson, we come across many ontological and orientational metaphors. There are also some structural metaphors, but their number is smaller. It seems that we conceptualize reality in the same manner across different cultures and languages. "Localism" seems to be universal.

When looking at how metaphorical expressions or metaphorical gestures function in Estonian, we can see, however, that in many cases they do not have a metaphorical equivalent in English. Therefore, I had to ask from myself *Why is it so after all? Where is the place where the gesture and language meet before the expression is uttered* (many studies of gestures have indicated that they do meet)? Professor Haldur Õim ((2001,) personal communication) has suggested that the solution may be offered by the idea of an *intermediate layer* in language. As we know, this idea comes from the 19th-century linguist Wilhelm von Humboldt. Language classifies the world, and each language does it differently. Language may have a deeper layer, the *inner form* according to Humboldt (in German *innere Sprachform*). Both gestures and language-specific metaphors originate in there. Our everyday language — the verbal layer — reveals words and gestures. The metaphors are situated in the verbal layer, but the metaphor *originates* in the intermediate layer.

Perhaps gestures reflect *image schemata*, not just underlying concepts. How do we understand the source domain in the first place? Mark Johnson endeavored to answer this question by proposing that meaning was grounded in repeated patterns of bodily experience. These patterns give rise to what Johnson called *image schemata*, which provide the cognitive basis for the concepts and relationships essential to metaphor. Referring to the previously mentioned intermediate layer in language, one might say that language-specific metaphors are not bound by language. There exists certain linguistic relativity as well as schemata. *Image schemata* is an excellent idea, but one need not derive them from English. Metaphors are not located but *originate* in the intermediate layer as a result of very different and complicated kinds of 'refraction'. 'Refraction' is similar to the way light is refracted on the sphere. This is what makes the finding of the ground for metaphors, gestures, and word meanings in general so complicated and interesting. Language may also have a sub-linguistic deep layer that is universal. Thus, language is a multi-layered phenomenon, and metaphor is not universal. Each language has a language-specific layer that gives rise to metaphors and gestures. It is the intermediate layer. And gestures, too, have an intermediate layer, where everything is refracted and reflected. The universal layer enters the intermediate layer, is refracted, and the fragments are scattered all over the surface layer of language. How can we then establish how

what is universal is expressed in a certain language? By way of conclusion we can once again quote the short story "Pascal's sphere" by Borges. At the end of the story the author writes, "It may well be that world history is the history of different intonations of various metaphors". But this is another story.

EXAMPLES

(1) 'mitu   aste-t   spekuleerimis-t' ('lot of speculation')
        several stair-SG-PRT   speculating-SG-PRT
('stair   of   thinking'>concrete   object   is   transferred   to   mental sphere>personification>ONTOLOGICAL MP)
metaphoric phrase + metaphoric gesture (See Figure 1.)

Figure 1.

(2) 'jumala-st   hea   koht'   ('a perfect place')
        god-SG-ELA   good   place
(gesture refers to up>good is up> ORIENTATIONAL MP)
autonomous metaphoric gesture (See Figure 2.)

9

Figure 2.

(3)   'trepp   tule-b   vastu'   ('there is a stairwa\
       stairway   come-PRES-3SG   towards
(personification>ONTOLOGICAL MP)
metaphoric phrase + metaphoric gesture (See Figure 3.)

Figure 3.

(4)   'otseselt'   ('found it personally')
        directly
(direct>orientation>ORIENTATIONAL MP)
metaphoric phrase + metaphoric gesture (See Figure 4.)

Figure 4.

(5)   'ne-i-d   katseklaas-i   nalj-u'
        these-PL-PRT test-tube-SG-GEN   joke-PL-PRT
('his test-tube baby jokes')
(life/entity is joke>STRUCTURAL MP)
metaphoric phrase + metaphoric gesture (See Figure 5.)

Figure 5.

(6)　　'mõte　hakka-s　　　jooks-ma'　　　('he started to think')
　　　　thought　start-PST-3SG　run-INFINIT
(personification>ONTOLOGICAL MP)
metaphoric phrase + metaphoric gesture (See Figure 6.)

Figure 6.

(7) 'tunda   end   ülendatu-na'   ('to feel great')
    feel-INFINIT   self-SG-PRT   elevated-SG-ESS
(gesture refers to up>orientation>ORIENTATIONAL MP)
metaphoric phrase + *metaphoric gesture* (See Figure 7.)

Figure 7.

REFERENCES

Battey, B. (1998). An Investigation into the Relationship between Language, Gesture, and Music. From the World Wide Web:
http://students.washington.edu/bbattey/Ideas/lang-gest-mus.html

Beattie, G. & Shovelton, H. (1999). Do iconic hand gestures really contribute anything to the semantic information conveyed by speech? An experimental investigation. *Semiotica, 123, 1/2,* 1–30.

Black, M. (1998). More about metaphor. In A. Ortony (Ed.), *Metaphor and Thought* (pp. 19–41). Cambridge: Cambridge University Press.

Borges, J. L. (2000). *Valik esseid.* Tallinn: Vagabund. (Translated into Estonian from J. L. Borges. Obras completas. Emecé Editores. Barcelona 1989.)

Calbris, G. (1987). Geste et motivation. *Semiotica 65, 1/2,* 57–96.

Calbris, G. (1990). *Semiotics of French Gesture.* Bloomington: Indiana University Press.

Calbris, G. & Montredon, J. (1986). *Des gestes et des mots pour le dire.* Cl° International, Paris.

13

Cassell, J., McNeill, D. & McCullough, K.-E. (1999). Speech-gesture mismatches: Evidence for one underlying representation of linguistic and nonlinguistic information. *Pragmatics and Cognition, 7(1)*, 1–33.

Cienki, A. (1998). Metaphoric Gestures and Some of their Relations to Verbal Metaphorical Expressions. In J.-P. Koenig (Ed.), *Discourse and Cognition: Bridging the Gap* (pp. 189–204). Stanford, CA: Center for the Study of Language and Information.

Corballis, M. C. (1999). The Gestural Origins of Language. *American Scientist 87*, 2, 138–145.

Danesi, M. (1990). Thinking as seeing. *Semiotica 80*, 221–237.

Feyereisen, P. & de Lannoy, J.-D. (1991). *Gestures and Speech: Psychological Investigations.* Cambridge, Paris: Cambridge University Press, Editions de la Maison des Sciences de l'Homme.

Haviland, J. (1996). *Pointing, Gesture Spaces, and Mental Maps*. Language and Culture: Symposium 3. From the World Wide Web: http://www.language-culture.org/archives/subs/haviland-john/1.html

Hewes, G. W. (1973a). An explicit formulation of the relationship between tool-using, tool-making and emergence of language. *Visible Language 7*, 101–127.

Hewes, G. W. (1973b). Primate communication and the gestural origins of language. *Current Anthropology 14*, 5–24.

Hewes, G. W. (1976). The current status of the gestural theory of language origins. In S. R. Harnad, H. D. Steklis & J. Lancaster (Eds.), *Origins and evolution of language and speech. Annals of the New York Academy of Sciences 280*.

Hiraga, M. K. (1998). Metaphor-Icon Link in Poetic Texts: A Cognitive Approach to Iconicity. *The Journal of the University of the Air, 16*, 95–123.

Johnson, M. (1987). *The Body in the Mind: The Bodily Basis of Meaning, Imagination and Reason.* Chicago: University of Chicago Press.

Kaplinski, J. (1980). *Jaan Kaplinski kirjutisi.* Omakirjastuslik trükk. (in Estonian)

Kaplinski, J. (1997). *Võimaluste võimalikkus.* Tallinn: Vagabund. (in Estonian)

Kendon, A. (1986). Current Issues in the Study of Gesture. In J.-L. Nespoulous, P. Perron & A. Roch Lecours (Eds.), *The Biological Foundations of Gestures* (pp. 23–48). Hillsdale N.Y.: Lawrence Erlbaum Associates.

Kendon, A. (1991). Implications of Recent Research on Gesture and Sign Languages for the Gesture Theory of Language Origins. From the World Wide Web: http://welcome.to/LOS

Lakoff, G. & Johnson, M. (1980). *Metaphors We Live By.* Chicago: The University of Chicago Press.

Lakoff, G. (1987). *Woman, Fire and Dangerous Things.* Chicago: University of Chicago Press.

Lakoff, G. (1990). The Invariance Hypothesis: is Abstract Reason Based on Image schemas? *Cognitive Linguistics, 1*, 39–74.

Lyons, J. (1977). *Semantics I–II.* Cambridge: Cambridge University Press.

McNeill, D. (1985). So you think gestures are nonverbal? *Psychological Review 92*, 350–371.

McNeill, D. (1987). *Psycholinguistics: A New Approach.* New York: Harper and Row.

McNeill, D. (1992). *Hand and Mind: What Gestures Reveal About Thought.* Chicago: University of Chicago Press.

Place, U. T. (1998). The role of the hand in the evolution of language. From the World Wide Web: http://dbiref.kub.nl:2080/~place/utplace/HAND98.htm

Rozik, E. (1992). Metaphorical hand gestures in the theatre. In E. Rozik (Ed.), *Assaph: Studies in the Theatre, no. 8* (pp. 127–152). Tel Aviv University: Faculty of Visual and Performing Arts.

Sweester, E. (1990). *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure.* Cambridge: Cambridge University Press.

Tenjes, S. (1996). Gestures in Dialogue. In H. Õim (Ed.), *Estonian in the Changing World* (pp. 163–192). Tartu: University of Tartu.

Wescott, R. W. (1971). Linguistic iconism. *Language 47*, 416–428.

Voronin, S. (1991). Approching the Iconic Theory of Language Origin: Pertinent Laws and Tendencies from Phonosemantics. From the World Wide Web: http://baserv.uci.kun.nl/~los/Articles/voron.html

Õim, H. (1997). Eesti keele mentaalse maailmapildi allikaid ja piirjooni. In M. Erelt, M. Sedrik & E. Uuspõld (Eds.), *Pühendusteos Huno Rätsepale* (pp. 255–268). Tartu: Tartu Ülikool. (in Estonian)

ABBREVIATIONS

3 — person
ELA — elative
ESS — essive
GEN — genitive
INFINIT — infinite
MP — metaphor
NOM — nominative
PL — plural
PRES — present tense
PRT — partitive
PST — past tense
SG — singular

CURRICULUM VITAE

SILVI TENJES

Citizenship: Estonian
Date and place of birth: September 3, 1958 in Vändra, Estonia
Married, two children
Address: Tartu University
Ülikooli 18, Tartu 50090
Estonia
Telephone: +372 7 375 224
E-mail: stenjes@psych.ut.ee
or
stenjes@ut.ee

Education

1976   graduated from Miina Härma Secondary School in Tartu
1991   graduated from the University of Tartu *cum laude* (Estonian Language and Literature)
1995   M.A. from the University of Tartu (general linguistics)
1996–1997   Research Institute for Linguistics of the Hungarian Academy of Sciences, Theoretical Linguistics Doctoral Program

Professional employment

1991   Tartu University, Laboratory of the Estonian Language, junior research fellow;
            Tartu University, Department of the Estonian Language, senior assistant
1991–1993   Tartu University, Laboratory of History of Journalism, junior research fellow;
            Tartu University, Department of General Linguistics, research group of Estonian corpora and computational linguistics, research fellow
1993–1995   Tartu University, Department of General Linguistics, M.A. student
1995–   Tartu University, Department of General Linguistics, Ph.D. student

CURRICULUM VITAE

SILVI TENJES

Kodakondsus: Eesti
Sündinud 3. septembril 1958 Vändras, Eestis
Abielus, kaks last
Aadress: Tartu Ülikool
Ülikooli 18, Tartu 50090
Telefon: 07 375 224
e-post: stenjes@psych.ut.ee
või
stenjes@ut.ee

Haridus

1976	Tartu Miina Härma Gümnaasium
1991	Tartu Ülikool *cum laude* (eesti keel ja kirjandus)
1995	*magister artium* üldkeeleteaduse erialal Tartu Ülikoolis
1996–1997	Ungari Teaduste Akadeemia Lingvistika Instituut, teoreetilise lingvistika doktoriõppe programm

Teenistuskäik

1991	Tartu Ülikooli eesti keele labori nooremteadur, Tartu Ülikooli eesti keele kateedri vanemlaborant
1991–1993	Tartu Ülikooli ajakirjanduse ajaloo labori nooremteadur, Tartu Ülikooli üldkeeleteaduse õppetooli juures tegutseva eesti keele korpuse ja arvutuslingvistika uurimisrühma teadur
1993–1995	Tartu Ülikooli üldkeeleteaduse õppetooli magistrant
1995–	üldkeeleteaduse õppetooli doktorant

DISSERTATIONES LINGUISTICAE
UNIVERSITATIS TARTUENSIS

1. **Anna Verschik.** Estonian yiddish and its contacts with coterritorial languages. Tartu, 2000. 196 p.