The point at issue: personal pronouns*

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*The figures in this version of the thesis are made black due to privacy reasons.

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Preface

Gesture research is like mind reading

This quote is something I recently heard a researcher in the field of gesture research say. And it is true. The *whats* and *whys* of a particular gesture that coincides with a particular utterance of a particular person, who is in a particular mood and has a particular gesture style, in a particular situation while he is surrounded by other particular speech participants are not easy to discover. Luckily, during the writing of this thesis I have had the privilege and the pleasure to be supervised by experienced people: Helen de Hoop who convinced me that the topic was research-worthy, who has read and corrected all of my attempts and continued to say that it was going to be *leuk*, Onno Crasborn and Els van der Kooij who helped me with the start of the annotation of my data and answered my questions, Marianne Gullberg of the MPI who has been so kind to help me out with the growth point theory and to comment on my initial thesis proposal, Peia and Jorrig who helped me with the annotation of the video clips and last but not least all the members of the Optimal Communication group (and Onno) who took the time to comment on this thesis and led me to true eye-openers.

1. Introduction[1]

> "Willingly or not, humans, when in co-presence, continuously inform one another about their intentions, interests, feelings and ideas by means of visible bodily action." (Kendon, 2004)

Since Classical Antiquity people have studied of the gestures speakers produce while they are speaking. In those early days people also acknowledged the importance of these gestures for the discourse; several philosophers discussed gestures in their works about rhetoric. However, the attitudes toward gestures varied. Aristotle for example considered gestures to be unwanted in discourse because they reminded him of theatrical techniques, unworthy to serious discussions. Others, for instance Cicero, contemplated the gestures as being valuable although he too found it important to distinguish between the movements made on stage and speech supporting movements in discourse. One of the most complete discussions of gestures in ancient times is in the eleventh part of *Institutio oratoria* by Marcus Fabius Quintilianus written in the first century AD. In this book Quintilianus divides speech into two components: Voice and Movement (*gestus*) and provides an elaborate explanation about the body parts that can be used for this 'gestus'. According to Quintilianus, both voice and gesture are of great significance to the discourse.

Due to a variety of reasons the topic of gesture did not receive much further attention until the sixteenth century. It was by then that the *Institutio oratoria* of Quintilianus received renewed interest. This work convinced the public speakers that gesture was of great importance to speech craft and, moreover, that gestures could be taught. The upper class of society used the skill of gesturing as an indication of a high social position. Thanks to this interest, important works on gesture were published in the seventeenth century like, Giovanni Bonifacio's *L'arte de' Cenni (1616)* in which all signs that people can produce with bodily action are surveyed, and John Bulwer's *Chirologia or the Natural Language of the Hand and Chironomia or the Art of Manual Rhetoricke (1644)* totally devoted to actions made with the hands. Both Bonifacio and Bulwer made an important claim: gesture might be a universal language innate to humans that could solve the confusion that spoken languages of different cultures might bring about. This claim does not imply, however, that gestures could not be learned; the innate actions still had to be refined by lessons.

The view of Bonifacio and Bulwer was picked up by philosophers of the eighteenth century. Also in this century the focus was not on the relation between speech and gestures. Instead, philosophers focused on gestures as being an autonomous phenomenon and being a possible universal language. These philosophical discussions reached far, with Giambattista Vico proposing that in the beginning humans were mute and could only communicate by gesturing, Denis Diderot stating that gestures might provide a more direct means for the expression of

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[1] Historical overview based on Kendon, 2004

thought, and Abbé Charles-Michel de l'Epée starting to construct a sign language together with deaf French people.

In the nineteenth century four major researchers worked on the topic of gesticulation: Andrea De Jorio, Edward Taylor, Garrick Mallery and Wilhelm Wundt. De Jorio differs from the other three in that he did not focus on gestures being a possible primitive form of communication, but rather discussed them as being inherited from our ancestors; the primitive forms of gesture developed into the forms we know today. This indicates a Darwinian point of view for which, unfortunately for De Jorio, the nineteenth century was not ready yet. Therefore, his research did not receive much further attention.

Taylor, Mallery and Wundt, on the other hand, continued to view gesture as a possible universal. Taylor used gestures to indicate the development of symbolic communication, Mallery studied gesture in all its different aspects and Wundt designed a semiotic classification of the different kinds of gesture. All three of them also did important research on sign language.

By the end of the nineteenth century the phenomenon of gesticulation had received much attention which led to a great understanding of the nature and significance of gestures. However, in the beginning of the twentieth century the interest in gesture research declined. The use of sign language was prohibited and in the first half of the century gesticulation was seen as a social convention, which no longer made it a plausible candidate for a universal underlying language. Finally, the lack of a theoretical framework to deal with gestures made gesture research no longer interesting.

However, in the second half of the twentieth century gesture received renewed interest from the field of psychology and linguistics. Of great impact was the work of Noam Chomsky that focused on describing the mental state that enables language to occur rather than on describing language itself. Researchers like Kendon and McNeill recognized that gesture was highly patterned in speech and more systematic research on gesticulation made its entrance.

1.1 Speech and gesture as one

In 1970 Adam Kendon published an article in which he states that there is a non-arbitrary relation between body motion and speech. In this article a fragment of the speech of an individual in a London pub is discussed. According to Kendon the gesticulation of the individual is organized in several hierarchical levels: prosodic phrases, locutions, locution groups and the discourse. These levels correspond to the levels in which speech is organized: syllables that combine into phrases, which combine into locutions (the principal unit into which phrases combine), locution groups and locution clusters. Kendon proposes that gesture develops the same way speech does, with different representations for each level. That is, at the prosodic phrase just a finger might move (a small unit just like a syllable), while at the discourse level the entire body might. This would be evidence for gestures to behave just as speech does.

Kendon found another interesting detail in his data. Prior to each speech unit a 'speech-preparatory' movement of the body was made. When the form of the movement could be matched to a lexical item (necessary to define whether the gesture and the speech are co-expressive) the gesture started before the lexical item, but was completed at the same moment the matching speech was. These two observations led Kendon to the conclusion that:

> "It seems that the speech-accompanying movement is produced along with the speech, as if the speech production process is manifested in two forms of activity simultaneously: in the vocal organs and also in the bodily movement, particularly in movements of the hands and arms." (Kendon 1970)

This quote states that gesture is not a primitive mode to which a speaker flees when he cannot express his thoughts in speech. Gesticulation occurs during fluent speech, and coordination between lexical items and speech appears to be very precise. According to Kendon, gesture and speech are therefore controlled by the same mechanism.

The study of Kendon is one of the first in which gesture and speech are investigated systematically as being two sides of the same coin and this hypothesis resulted in more interest in gesture research. The fields of work of the researchers interested in gesticulation and the topics that interested these researchers varied enormously. One of these researchers is the anthropologist Desmond Morris. In 1977 he published his book *Manwatching: A field guide to human behavior*, which describes human behavior in all its facets. A relatively large part of the book is dedicated to gesticulation. Morris considers it to belong to (and even to form) every day life.

Morris' point of view differs from that of Kendon's in that Morris believes that gestures cannot be understood when they are woolly and vague. Therefore, according to Morris, gestures have to develop a 'typical form' that shows comparatively little variation. Thus, Morris believes gestures to be more or less comparable to those in sign language: according to him they should be performed with the same speed, strength and amplitude on every occasion they occur.

Even though this vision is rather hard to accept, especially after just discussing Kendon's evidence for spontaneous gestures, Morris comes up with some other valuable statements. One of those is the distinction he makes between 'Primary' and 'Incidental' gestures. This means that gestures (the incidental ones) might look like gestures but do not transfer a signal to the addressee, like for instance sneezing. The primary gestures, on the other hand, do send signals; waving, winking and pointing can be seen as examples of this category. Morris even provides a convenient test to distinguish between the two categories: would I do it when I was completely alone? If I would, the gesture is incidental, if I would not, the gesture is primary.

> "We do not wave, wink, or point when we are by ourselves; not, that is, unless we have reached the unusual condition of talking animatedly to ourselves." (Morris, 1977, p.24)

Today's research proves that it is not as simple as that. For example, in a study of Marianne Gullberg (Gullberg, 2006a), participants continued to gesture when a screen was placed between the speaker and the addressee (although there are some qualitative differences between the gesture in the visible and the not-visible condition). Nevertheless, the important thing to note here is the distinction Morris made between significant and non-significant gestures: a distinction that still holds.

Furthermore, Morris provides examples in which the same gesture (mostly emblems which are more or less standardized gestures that represent the same meaning every time) in different languages and cultures can lead to difficulties in interpretation. Where a gesture stands for a positive attitude in one culture it might represent an insult in another. Even though the notion 'stands for' already indicates that this is not about spontaneous gesticulation, but about more sign-language-like gestures, later research confirms the culture-specific constraints on gesturing (e.g. Haviland, 2000).

A last important observation made by Morris, and one that should be kept in mind throughout this thesis, is the fact that gesturing, just like speech, depends on the situation in which the speaker is performing, the speaker's own performance style, the attitude of his audience and the speaker's own excitement; gesticulation is highly idiosyncratic and differs from person to person, culture to culture, occasion to occasion, mood to mood and audience to audience.

1.2 Gestures as a source of information

The statement of Adam Kendon that gesture and speech are co-expressive is adopted by many researchers (e.g. McNeill, 1992, Butterworth, 2003). This statement makes gestures an interesting source of information when the utterances of language users are investigated. That is, gestures could reveal specific features of words that cannot be seen from the words itself. In this thesis I would like to explore the nature of a specific word class by considering the gestures that coincide with it, namely the class of personal pronouns. Why are pronouns so interesting? Personal pronouns are said to refer to entities that have been mentioned in the discourse before. Together with their low semantic content (this will be further explained in section 6.1.3) this might give the idea that pronouns are semantically rather insignificant to discourse. This view is also expressed by the following quote.

> "The growth point in an utterance is similar to Vygotsky's 'psychological predicate', i.e. it represents a significant departure from what precedes in an immediate context, and represents the new 'idea'. The growth point is materialized in gesture and speech simultaneously – in linear analytic form in

speech, and in global synthetic form in gestures, each modality contributing the part of the information for which it is best suited. Since gestures reflect a new idea, they occur either with predications or with referential expressions in focus, […] (Levy & McNeill, 1992). This account indirectly explains why there are no gestures with pronouns. **Since pronouns inherently express presupposed material that is not part of the growth point, they should not (and do not) receive gestural expression.** [Bold is mine, MZ] " (Gullberg, 2006a)

Immediately one might have some objections against this claim. Imagine a situation where you are pointing at your addressee while saying "You have to keep your big mouth shut!" as in Figure 1[2]. The pointing gesture then clearly relates to the personal pronoun 'you' and makes the expression more powerful. The example without the point might even seem a bit odd.
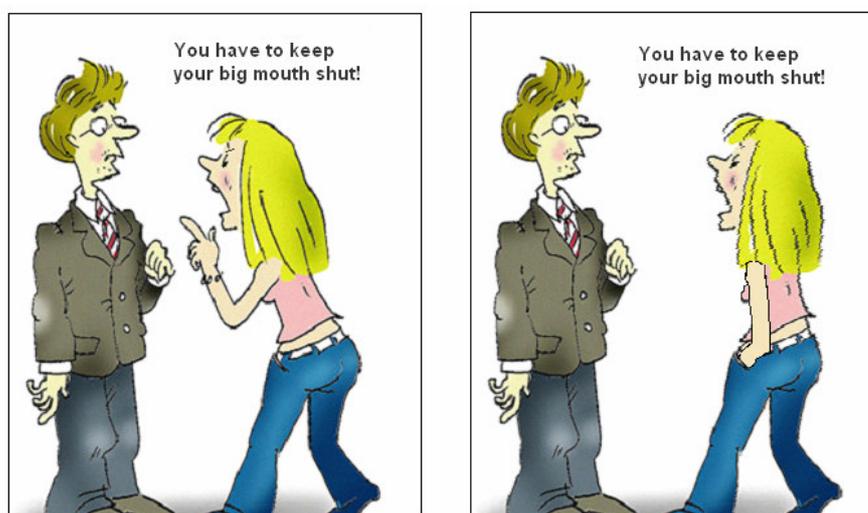
Figure 1 Personal pronouns with and without pointing

This situation already indicates that the situation of personal pronouns might be much more complicated than is suggested in the quote. Pronouns can not simply be called old information. In this thesis I will address several questions involving personal pronouns in Dutch. The first big question is:

1. Do personal pronouns and gestures coincide at all?

If pronouns really are old information and have an insignificant semantic value in discourse we expect no gestures to coincide with them since there is no information that could be expressed by

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[2] Orginal picture from www.searchenginepeople.com. Text and adaptation second picture are mine.

a gesture. However, if this question is answered affirmatively, that will mean that pronouns express more information than might seem at first sight.

Closely related to question one in the following:

> 2. What functions and features of personal pronouns might trigger gestural expression to coincide with them?

If pronouns and gestures coincide features inherently present in the pronouns might trigger gestural expression. In order to answer question 2 we have to take a closer look at personal pronouns and single out their relevant features and functions.

The next question is a follow up on the previous one.

> 3. When do personal pronouns and gestures coincide? Are there general situations?

If we can find instances in which personal pronouns and gestures coincide it would be worthwhile to look for a system in these occurrences. Are they arbitrary or are these instances linked to the features and functions of personal pronouns we have found as an answer to question 2.

Question 2 and 3 lead to main question of this thesis:

> 4. If personal pronouns and gestures coincide, then what does that tell us about the nature of personal pronouns?

To answer the above-mentioned questions for personal pronouns in Dutch, I have set up a corpus of 200 minutes of Dutch television programs, namely *De wereld draait door* en *Villa Felderhof.* In chapter 2 I will first provide background information of gestures: how are they analyzed, what is the growth-point, what types of gestures do we distinguish, what do we know about the gesture type pointing and its hand shape variants?

In chapter 3 the focus is on personal pronouns. Their basic function of reference as well as other functions and characteristics that could play a role in pointing will be discussed. In chapter 4 the methodology used to find occurrences of pronoun-gesture combinations will be explained. Chapter 5 will focus on the occurrences of pronoun-point combinations in the corpus and on the possible explanations for these occurrences. With chapter 6 a first attempt is made to answer question 4.

2. What *do* we know about gestures and pointing?

In the first section (2.1) of this chapter I will illustrate how the examples given in this thesis should be interpreted. In section 2.2 a way of categorizing the different gestures that are made by language users is discussed. Section 2.3 focuses on the gesture category *pointing*.

2.1 Describing gestures

Gesture research follows a number of conventions concerning gesture description. Generally gestures are taken to consist of three basic phases: preparation, stroke and retraction (e.g. McNeill, 1992).

In the preparation phase the speaker prepares his gesture by lifting his hand(s) out of their resting position and bringing them into position for the stroke of the gesture. The preparation phase does not have to occur per se since the hand(s) can already be in the right position as a result of a preceding gesture. The stroke is the significant part of the gesture. It is this part of the gesture that represents its meaning and it is therefore obligatorily present. Normally, but not necessarily, the gesture ends with a retraction phase in which the hand(s) return(s) to its/their initial resting situation. Preparation, stroke and retraction together are called a *gesture phrase*. Gesture phrases, for their part, can combine into gesture units. An example of a gesture phrase can be seen in figure 2. The speaker is lifting and opening his hands (preparation) in order to get them at the desired height, then performs the stroke of the gesture by holding his hands at about shoulder height as can be seen at the second picture of figure 2. It is this part of the gesture that is co-expressive with speech and that transfers meaning. Afterwards the speaker lowers and closes his hands again (retraction). Of course, while performing this gesture phrase the speaker speaks at the time. The speech will be relevant to later examples, but not to this one.
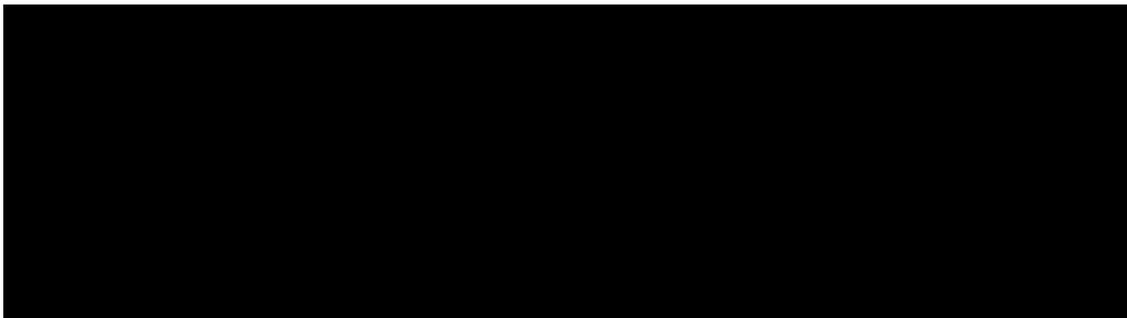
Figure 2 Gesture phrase

Besides the three basic phases it is also possible for a speaker to perform a *hold* within a gesture phrase. Holds are temporary discontinuations of movement without leaving the gesture hierarchy. A hold can occur as a pre-stroke hold (the hand is brought into position for the stroke and is held briefly because the stroke onset is delayed) or as a post-stroke hold (the hand is held in position after the stroke because the co-expressive speech is delayed). Thus the structure of a gesture is:

Preparation (optional) → pre-hold (optional) → **stroke (obligatory)** → post-hold (optional) → retraction (optional).

In this thesis, multiple examples in the form of utterances and corresponding pictures clarify the descriptions of gesture types and hand shapes. For now, the structure of the examples is important for the correct interpretation of these examples.

The first line given in an example is always the original Dutch utterance as it was annotated. The second line gives the glosses (word-by-word translation) of the Dutch utterance. The last line of the example contains a grammatical translation of the Dutch sentence into English. See for example (x):

(x) (…) en er   zijn in [deze scriptie] meerdere # voorbeelden gegeven
      (…) and there are in this   thesis   multiple   # examples   given
      '(…) and several examples are given in [this thesis].'

The round brackets indicate that this utterance is the last part of the complete sentence uttered by the speaker. The # indicates a pause in the utterance. The square brackets mark the stroke of the gesture (in this case it could be for example a point at the thesis that lies on the table). The stroke is not repeated in the word-by-word translation but can be found back in the English translation. To keep matters relevant preparation and retraction are not marked in the examples. With every example a picture is given.

2.2. The growth point
Since the term *growth point* plays an important role in the quote of Marianne Gullberg that was mentioned above and since several researchers have taken the growth point-concept as an explanation for the occurrence of gestures with speech (e.g. McNeill & Duncan, 2000; Quek et al, 2002; McClave, 2004) it will be discussed in more detail in this section. The purpose of this section is to show the basic principles of the growth point-concept and, more importantly, the many problems that surround the concept. The conclusion of this section is that the growth point-concept will be excluded from the analyses in this pilot-study.

Speech does not originate from gestures and gestures do not originate from speech. They evolve together. To account for the relation between speech and gesture McNeill (1992, 2000, 2003) develops a framework in which the growth point is the central notion. The growth point (GP) is taken to be the underlying starting point of a sentence, the opening up of a microgenetic process of which the full utterance is the final stage. It is the minimal unit containing the properties of the whole. In the growth point only the basic elements of speech and gesture significant for the utterance are represented as opposed to the concrete speech and gesture in the utterance. This means that a gesture is only imagistic; all its elements are present but a clear kinesic form cannot

be distinguished yet. The same goes for the speech part of the growth point: it is only an idea. The image and idea of speech come together in what McNeill calls *deep time*. In deep time the image and the idea of speech are tuned (creating the growth point) to decide which part of the meaning of the whole utterance they are going to express. The combination of image and the idea of speech is constructed to form actual co-expressive speech and gesture during the preparation phase. This construction forms the basis for the rest of the utterance. Speech and gesture remain a unit as the rest of the utterance develops around, and is build out of, them. An illustration of this process can be seen in figure 3.
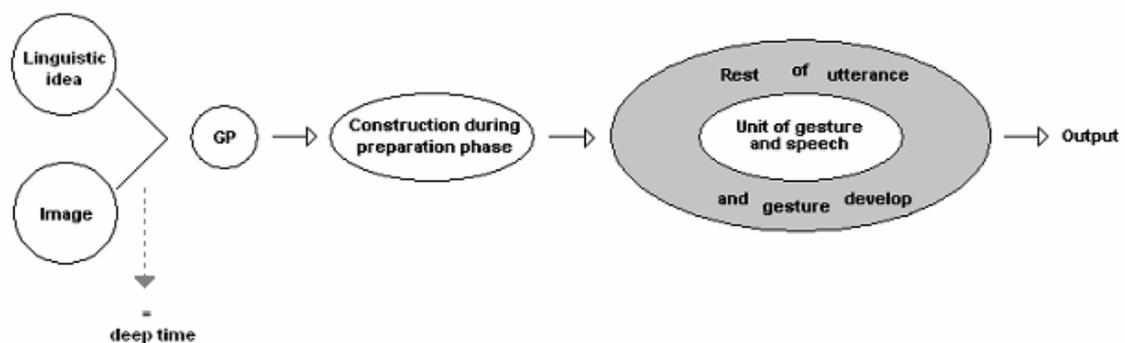

Figure 3 Illustration of how a growth Point develops into an utterance

According to McNeill the growth point might be seen as the most significant information of the utterance; it represents the new information given against a contrasting background. McNeill states that contrasting new information against a given background is the fundamental way in which human thinking is carried out. The speaker constructs a semantic-pragmatic background which is called a *field of oppositions* by McNeill. Against the field of oppositions the speaker differentiates *significant (newsworthy) contrast*: a GP within the background (McNeill, 2003). The speaker shapes his background in such a way as to give significance to the intended contrast. Eventually, this results in an utterance of which a part is highlighted by a gesture (together with the coinciding speech): the new information of the utterance.

To find the growth point of an utterance McNeill takes the gesture stroke as the point of departure. He states: "the growth point is seen in the gesture stroke, together with the linguistic segment with which it co-occurs, plus a word that follows this segment if this word preserves semantic and pragmatic synchrony." (McNeill, 1992)

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An Example

In the following example the guest (the woman in figure 4) is reading a book in the garden when the host (not in the picture) comes up to her and asks her about the book and its writer. The woman then says that she is an admirer of the writer. She explains to the host that the way the writer gives shape to his characters is magnificent (1).

(1) Het personage waar waar # waar de schrijver [in gaat] # (…)

      the character   where where # where the writer   in goes # (…)

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                           pre-hold

'The character the writer [goes into] (…)'
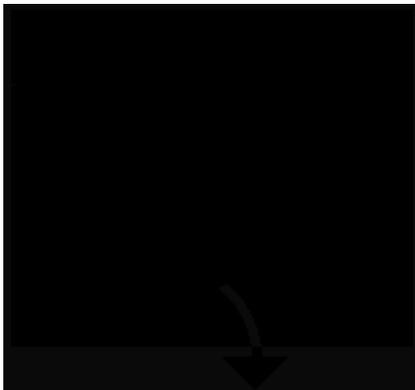

Figure 4 Metaphoric gesture ^{VF1601 00:37:26}

This gesture is an example of a metaphoric gesture (gesture types will be discussed in section 2.3). The moment the speaker moves her bill-shaped hand forward and downward to indicate an act of going into something she utters *in gaat* 'goes into'. The gesture that depicts the going-into-something-event is synchronized with that part of the speech that most specifically refers to this act. The gesture also suggest something like the depths of the characters: the writer himself goes into the characters so that they come to life. So, the gesture strengthens the words 'goes into'.

Following the growth point concept of McNeill the going-into-something-event is the most significant part of the whole utterance since it is accompanied by a gesture. The whole utterance is thus developed out of some fundamental conceptual idea of 'going into something'. Schematically this would look like the representation given in figure 5.
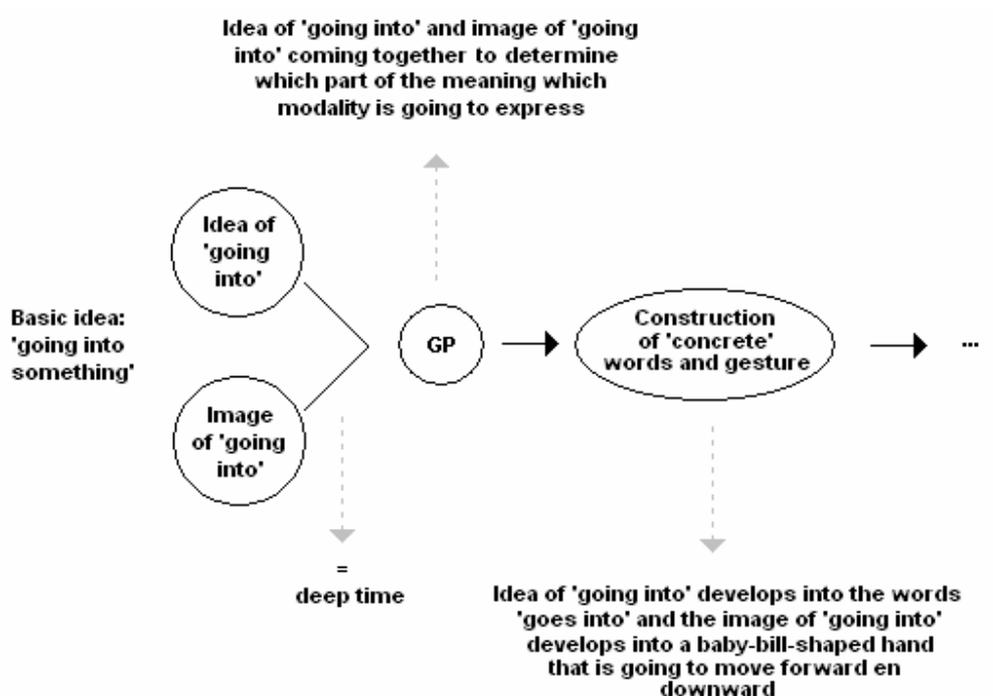
12

Figure 5 Development of an utterance

After the gesture and words are constructed they stay together while the elements 'character', 'where' and 'writer' are added, resulting in the utterance: 'The character the writer [goes into]'
………

According to McNeill for every conceptual utterance an image and a speech idea are initially available. How can the growth point concept account for utterances without a gesture then? McNeill introduces the Communicative Dynamism (CD), a term of Jan Firbas (1964), a member of the Prague school. CD is a property that indicates how a message is pushing the communication forward. If a speaker is telling a story he moves between story lines and levels. The element that is in focus at a given moment will provide a peak of CD. In other words: how important is the message for the entire discourse? An utterance with complex gestures indicates a high CD. However, if a sentence lacks gesturing this indicates a low CD, i.e. the content of the sentence is not relevant enough for the discourse to be accompanied by a gesture and the growth point is completely transformed into the linguistic format.

Another explanation for the lack of gestures in an utterance is time. If speech and gesture cannot be brought together into the growth point there is no way of synchronizing them and thus no gesture is represented in the utterance.

Although the growth point is argued to be some sort of universal theoretical concept in which speech and gesture come together, McNeill acknowledges that the gesture itself still

depends on language specific characteristics. McNeill and Duncan (2000) illustrate this with an experiment with Chinese, Spanish and English participants retelling verb-motion events, which typically consist out of a moving object, a reference object, a path and a manner. They hypothesize that different languages lead to different forms of thinking-for-speaking. For example, a satellite-framed language like English in which manner is encoded in the main verb will behave differently from a verb-framed language like Spanish in which manner information is not bundled in the verb itself. Speakers choose those features of an event to express in speech that fit the conceptualization of the event and are readily encodable in the language.

An illustration: in the experiment of McNeill and Duncan the Chinese, Spanish and English participants had to describe a cartoon in which a character rolls down a drain pipe onto the street. The English participants highlighted manner (*roll*) when it was part of their focus. The Spanish speakers hardly ever performed gesturing to indicate manner in gesture since they have no co-expressive verb to coincide it with. Spanish verbs typically indicate path (in this case, the fall of the character) instead of manner.

Thus, participants of different languages indeed appear to use different gestures for the same motion-event they had to describe, which seems to depend on typological differences like being a verb-framed vs. a satellite-framed or a topic-prominent vs. a subject-prominent language. These findings can be taken as evidence that different languages might result in different ways of thinking which leads to different kinds of growth points.

2.2.1 Problems with the growth point

The idea of a growth point underlying both speech and gesture is not at all unproblematic as will become clear in this section.

First of all the method used to find the growth point is not verifiable. As mentioned before, McNeill takes the stroke of the gesture plus the corresponding speech to be the final stage of the original growth point. This leads to a circular reasoning: the actual speech and gesture are used to find their supposed source (i.e. the growth point) which itself grew into the actual speech and gesture before, so constructing its own evidence. The idea of a growth point theory completely depends on the presupposition that the combination of gesture and speech is the final stage of that growth point. If it is not, there is no theory. McNeill provides no independent, and thus more reliable, way to find the growth point of an utterance. Moreover, as can be seen in figure 3 the growth point stage of an utterance is not its earliest stage. Before the growth point the image and linguistic idea were separated and represented a meaning of their own. What did this stage looks like and how exactly did image and linguistic idea came together? These questions cannot be answered by using the method provided by McNeill.

Secondly, how to find the growth point when no gesture is present in the utterance at all? According to McNeill every utterance originates from a growth point. The growth point is

new/significant information accompanied by a gesture. If no gesture is present, the utterance, or a part of it, is communicatively seen not interesting enough to get a gesture, so no new information is given. No growth point is present then? That is not possible since, generally, it is assumed that all sentences have a 'focus'. The growth point concept cannot account for this.

The precise formulation of the background also raises questions. McNeill claims the background to consist of 'old growth points', thus new information that became old, forming a perfect background to contrast new information against. In example 1 above, following McNeill's detection method for finding the growth point, the new information is the going-into-something-event and the rest of the utterance (character and writer) thus functions as background. However, the speaker did not speak about a character before. This results in two problems: (i) why does no gesture accompany the word *personage* 'character' since it is new information and (ii) how did the 'character' became background if it did not occur in the speakers speech before?

Another serious problem is the presumed symmetry (see figure 3) in the growth point concept: image and linguistic idea both form the growth point. Since McNeill argues that speech and gesture are equally important for the meaning of an utterance, then why is it (almost) always the gesture that gets omitted when only one of the two modalities is expressed? Therefore, the model in figure 3 should have an operator that adds the image to the linguistic idea only when the linguistic idea needs the image to express a meaning. To account for gestures to be omitted (or put differently, not starting to evolve) McNeill has to presuppose them to be subordinated to speech which is exactly the claim McNeill wants to argue against: gestures are not complementary to speech.

The symmetry of the model also leads to the problem of hesitations in spontaneous speech like the one in example (1) (*waar waar waar* 'where where where'). While the actual 'going-into' of the gesture coincides with the corresponding speech the speaker of (1) actually started the gesture much earlier, resulting in a pre-hold which is illustrated in (2):

(2) Het personage waar waar # waar de schrijver [in gaat]
    the character   where where # where the writer   in goes
               ----
                         pre-hold

If gesture and speech develop together as the model of McNeill suggests then how can the gesture precede the corresponding speech? In this example the gesture is ready for performance but has to hold since the speech is not. If gesture and speech develop as a unit this should not be possible. However, hesitations like these are very frequent in spontaneous speech.

Sometimes timing is given as a reason to explain that in some utterances no gestures occur. Yet, the occurrence of pre-holds and post-holds indicates that time cannot be a big problem for gesture and speech to coincide: gestures simply hold, to coincide with the speech.

And even if hesitations would not exist in spontaneous speech, the explanation in terms of time would still be strange. The image and linguistic idea come together in deep time in which they are tuned. They are already a unit even before they start to develop into concrete elements. So time should not be a problem.

A last problem discussed here concerns the universality of the growth point concept. In his experiment with Duncan, McNeill shows that the growth point is susceptible to language-specific characteristics. However, this cannot explain differences between speakers of the *same* language. It is perfectly possible that one speaker expresses the utterance 'The cat falls down' and performs a hand/arm movement downwards, while another speaker in the same context would utter the same sentence without gesturing. According to the model the utterance when expressed in the same situation should have the same growth point.

Together these problems and the lack of a clear concept of the growth point are taken to be sufficient reason to put it aside as a possible notion to explain how gesture and speech coincide. Therefore, the idea of a growth point will not play any role in the description nor the analysis of the data discussed in this thesis.

2.3 Gesture types

After having discussed the construction of a gesture and the way the annotations in this thesis should be interpreted we will now focus on the way of categorizing gestures. That they can be categorized seems obvious, however the way of doing that is more problematic. Since gestures are highly idiosyncratic and evolve spontaneous, grouping them is a hard job to do. David McNeill (1992) tried a semantic method of categorization: he formulated a category in coordination with the speech content in which the gesture occurred. This method resulted in one of the most widely accepted categorizations and will be briefly discussed in this section. The five types of gesture that McNeill distinguishes are *iconics, metaphorics, cohesives, beats*, and *deictics*.

Iconics bear a close formal relationship to the semantic content of the speech with which they coincide. The speaker is performing the activity or is representing the object he is talking about in his speech physically and the gesture movement coincides with that part of the utterance that indicates the same meaning and provides more specific information about the way the action is performed than is indicated by the words.

Metaphorics are like iconics in that they are pictorial, but they refer to an abstract idea rather than to a concrete object or event. The gesture thus represents an abstraction as being something concrete, representing something 'invisible' as an image. If the speaker seems to 'hold and present' the situation in his hands this is termed a *conduit container* by McNeill (1992). It means that a certain abstract entity is represented as being a physical container into which an

abstract substance can be put and from that moment on it can be moved and presented to the addressees.

The third gesture type McNeill distinguishes, cohesives, serve to tie together thematically related but temporally separated parts of the discourse. They depend on repeating or holding the same gesture form, movement, or locus in the gesture space. Because of this consistency cohesives indicate continuity. However, a cohesive is a cohesive because of the repeating or the holding activity. They always also have another function such as being an iconic, metaphoric, beat or deictic.

With a beat the hand moves along with the rhythmical pulsation of the speech (it could also be a once-only movement). A beat tends to have the same form regardless of the content. The movement is short and quick and is often made in the periphery of the gesture space. Although these characteristics might give the idea that beats are insignificant, this is not the case. They carry a certain semiotic value because they indicate the word or phrase they accompany as being significant for the discourse-pragmatic content.

The last category of gesture types McNeill mentions is the deictic. These gestures are used to indicate persons, objects and events in the concrete world. It is this gesture type that is of interest in this thesis since it has the clear function of referring just as pronouns do. Therefore, deictic gesturing will be discussed more extensively in the next section.

2.4 About pointing

> "We take it all for granted, and yet when one considers all the subtle distinctions between the different types of directional signaling, it is clear that even here there is a whole complex world of gesture communication, enabling man to express with just the right degree of precision the 'whereness' of the objects, places and people around him." (Morris, 1977)

The gesture type 'deictic' will, henceforth, be called 'pointing' because the distinction between deictic and anaphoric reference will become important further on in this thesis. Pointing has a very obvious main function. It is used to indicate concrete objects and events in the actual world. However, it also plays a part when there is nothing objectively and physically present to point at. In fact, most of the pointing that is done is abstract pointing: it creates a metaphorical gesture space in which abstract ideas have a physical locus. In the following, examples of different types of pointing are given. The first one (example (3)) could be called a proto-typical pointing event. With his point the speaker refers to the woman sitting in front of him while speaking to (and looking at) his addressee at his left side:

(3) [Zij heeft daar niets van gemerkt]

       she has there nothing of   noticed

‘[She didn’t notice that]’

Figure 6 Person Pointing DWDD 040408 00:21:18

The moment the speaker utters the pronoun *zij* ‘she’ he starts pointing at the she-person with an index finger extended, palm down, this way indicating to his addressee the person he is talking about.

In example (4) the speaker is referring to a physically present object: the painting of his addressee. Open hand point, palm down (see figure 7), he indicates that part of the painting he likes best:

(4) [De initialen zijn het mooist]

       the   initials   are the beautiful

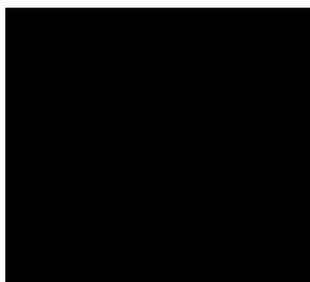‘[The initials are the most beautiful part]’

Figure 7 Object Pointing VF 1606 00:21:41

Example (3) and (4) are both examples of concrete pointing: the entities which the speakers are referring to are physically present and can be seen by both the speaker and his addressee(s). Example (5) illustrates a pointing gesture that is used to point at something that is absent in the local context:

(5) Had je het gevoel toen je # hem zag [of hem ontmoette #] dat het heel bekend was al?

   had you the feeling when you # him saw or him   met   # that it very familiar was already?

   'Did you have the feeling, when you saw him [or met him], that it was already very familiar?'

Figure 8 Abstract Pointing ^{VF 00:33:16}

The host (A) is sitting at a table with his guest (B) and is talking with her. At one moment A asks B about her husband and the way they met. The husband is absent. B tells the host about her and her husband's chance meeting a couple of years ago. So far the husband is not located in the gesture space. A then continues asking about the meeting and utters (5). When A says *of hem ontmoette* 'or met him' he moves his hand to the space besides him as can be seen in figure 8. A thus places the absent person in his gesture space. This example nicely illustrates how a (third) person who is absent in the local context can still be referred to by pointing.

2.4.1 Kendon's categorization

The above mentioned examples of pointing share at least one common characteristic. They all involve extending the forearm to refer to an (concrete or abstract) entity. However, the hand shape used to point differs for each utterance. In example (3) an extended index finger is used, in example (4) the speaker points with an open hand, palm facing down and in example (5) the pointing hand is again an open hand, but this time the palm is facing up.

Several researchers have proposed the hand shape used in figure 6 to be the universal prototypical point: with the index finger. George Butterworth (2003), for instance, claims it to be the first use of pointing for babies. But there are counter-examples as well. David Wilkins (2003) shows that Arrernte children (in the north of Australia) learn to use different hand shapes by adult correction which indicates that pointing with the index finger is not that easily termed a universal.

Adam Kendon is one of the researchers who recognized the variety of hand shapes used in pointing. According to Kendon (2004) this variation cannot be arbitrary: a different hand shape represents a different intention of the speaker. He distinguishes seven different hand shape/forearm orientations:

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- index finger extended prone (palm down);
- index finger extended neutral (palm vertical);
- thumb extended (orientation of the forearm is variable);
- open hand (i.e. all digits extended and abducted) neutral (palm vertical);
- open hand supine (palm up);
- open hand oblique (partial forearm supination, palm of the hand faces obliquely upwards);
- and open hand prone (palm faces downwards or away from the speaker, depending upon flexion of the elbow or extension of the wrist).

Each of these hand shapes and their possible meanings will be illustrated in the following. It should be noted however, that for this categorization Kendon relies on Campanian data (a region in southern Italy). Even though *he* claims it to be a universal classification (some hand shapes possibly more frequently used in one culture than in the other) I do not know whether the different meanings that, according to Kendon, correspond to different hand shapes also hold for Dutch. Several researchers such as Haviland (2000) and Enfield (2004) showed that forms used for pointing differ from culture-to-culture. However, the categorization of Kendon is a nice starting point as will become clear from this section.

Index finger extended prone

The index finger extended prone is supposed to be the most frequently used hand shape of speakers. This shape is used to single out an object which needs specific attention. This can be seen in example (6) in which the TV host (A) switches his attention from his guest (B) to his side-kick (C, not in the figure) while the guest is finishing his utterance. Since this part of the program is a short item the host strictly directs it and says to the side-kick:

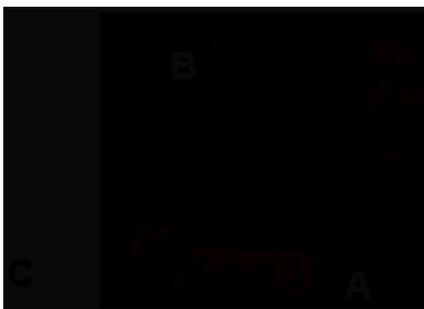(6) [Laatste vraag]
     last   question
    'Last question'

Figure 9 Index finger extended prone ^{DWDD040408 00:38:53}

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There is no question about who the topic is of the host's pointing finger. The side-kick is clearly singled out among the speech participants, which is even more important since the guest B is still speaking. The host gives his addressee C the possibility to ask a last question and the guest is assured it is no longer his turn to speak.

<u>Index finger extended neutral</u>

In his corpus of Campanian material Kendon observed a difference in meaning between using the index finger extended prone and neutral. If his participants distinguished another object that should be placed in relation to the first object, or if they continued to speak about the individuated object, or if the indicated object was the cause or condition of something else, then the participants tended to use the index finger extended neutral instead of the prone variant. An example of this can be seen in (7) and figure 10. A speaker is talking about a famous band and their concert and then makes a comment about the band:

(7) [Zij z]eiden tijdens het concert ook (…)
     they said   during the concert also
     'During the concert [they s]aid (…)'

Since in the preceding conversation the band which zij 'she' refers to is already mentioned several times, the speaker continues to talk about an established topic of the conversation. According to Kendon, this is why the index finger extended neutral is used in this particular utterance.
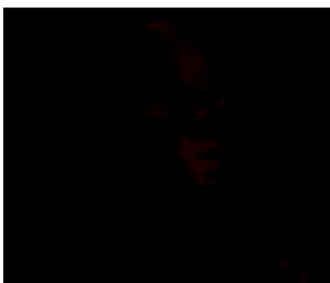
Figure 10 Index finger extended neutral ^{DWDD 040408 00:35:28}

<u>Thumb extended</u>

When using the thumb to point, anatomy plays an important role, but not the only role. Although most objects to which the thumb refers are besides or behind the speaker, Kendon and other researchers have found many instances in which the index finger is used to refer to a point besides or behind the speaker. So anatomy cannot be the entire story.

When does the thumb point occur then? Kendon states that it is used when it is not important to establish the precise location or identity of what is pointed at. This is often the case

when there is clearly shared knowledge of the environment among the participants. Apart from this interpretation of the thumb, it is also often interpreted as being a grumpy or irritated gesture. The object or person pointed at then apparently does not deserve much attention according to the speaker.

In figure 11 the person using the thumb point is not even speaking. With his point he refers (without any negativity) to the speaker who is saying what he himself intended to say. With his point he thus indicates that the addressee has to listen to her, because it is exactly what he meant. A precise identity of the speaker is not necessary, since it are the words the speaker utters that are of importance and there are only three speech participants: there could be no doubt about who the person is who is referred to.
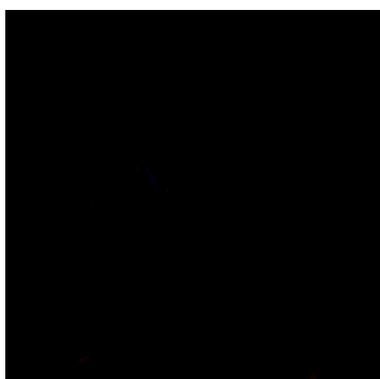
Figure 11 Thumb extended ^{VF 1601 00:02:03}

Open hand vs. Index finger extended

According to Kendon (2004) a distinction can be made between the use of the index finger extended and the use of the open hand as a pointing gesture. With the index finger an object is individuated while with the open hand the object being indicated is not the primary topic or focus of the discourse. Instead, the object is linked to the topic:

> "either as an exemplar of a class, as the location of some activity under discussion, because it is related to something that happened, or it is something that should be inspected or regarded in a certain way because this leads to the main topic." (p.208)

Moreover, Kendon states that when the index finger is used for pointing it often coincides with a deictic word, while when the open hand is used, deictic words occur less often. The index finger prone and neutral are variants of the general pointing type *index finger extended*. The following hand shapes are regarded as being variants of the general type *open hand*.

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Open hand neutral

The open hand neutral is often used not to distinguish an object from other objects like with the index finger point but to allow the addressee to see what is meant with the entity being pointed at. The next example clarifies this:

(8) [Dit mocht niet per trein # niet per boot # dit moest per vliegtuig vervoerd worden]
      this may   not per train # not per boat # this must   per airplane transported   be
   '[This could not be done by train # not by boat # this had to be transported by airplane]'

Figure 12 Open hand Neutral DWDD 040408 00:08:53

The speaker is talking about the way the object (a small painting) had to be transported. While he is uttering (8), his hand indicates the box in which the painting is stored. It is not the case that many boxes are scattered on the table and only one of them contains the painting. The addressee (and more important: the audience) cannot mistake the referent of the hand point, so individuating is not the reason for pointing here. Instead, the utterance is concerned with the transportation and the painting plays a major role in it: it is the object 'undergoing' the transportation.

Open hand supine

When using the open hand supine for pointing the speaker is generally 'presenting' the object he pointed to. The object is not a topic of the conversation but something that needs further attention and inspection. More generally: the open hand supine is used to 'present' and 'receive'. An example of this hand shape and its function can be seen in (9) and figure 13.

(9) Kijk de de charme was natuurlijk # we we hadden helemaal geen stuntmensen # dus
      look the the charm   was of course # we we had   entirely   no   stunt men   # so

   hier [zie je ook] eh
   here see you too   eh

   'The nice thing about it was of course we didn't had any stuntmen, so here you can see'

Figure 13 Open hand supine DWDD 040408 00:42:20

The man in figure 13 is a film director telling about the stunts done in a movie he made. A still of the movie is displayed on the TV screens. The topic of this part of the discourse is thus 'movie stunts' of which the still is an example and it is presented by an open hand supine point since it is an example that needs further inspection.

<u>Open hand oblique</u>

According to Kendon (2004) the open hand oblique is used to "indicate an object when a comment is being made, either about the object itself or, in some cases, it seems, about the relationship between the interlocutor and the object. Commonly, the object indicated is a person, and the comment being made is negative."

In (10) the host speaks to his addressee (a politician). He quotes an article in which ten of the most influential scientists of the Netherlands are mentioned. The addressee is the number ten of the list and according to the host the author of the article holds it against the guest that he gave up his scientific career for politics. Thus, the host confronts his addressee. To illustrate the negative tone of the utterance, the whole utterance (10) is given. Besides the gesture of interest here other gestures occurred. However, these are not discussed.

(10) u wordt nogal wat verweten want u had op één moeten staan bijvoorbeeld in
you are rather what blamed because you had on one must stand for example in

Zomergasten [waar u] de eerste wa van was eh eh deze zomer # heeft u het over al
Zomergasten where you the first wa of was eh eh this summer # have you it about all

uw hobby's gehad # maar niet over het Hogere Onderwijs met andere woorden u heeft
your hobbies had # but not about the higher education with other words you have

echt totaal afscheid genomen van die tijd
really total goodby taken of that time

'You are blamed, because you should have been number one. For example, in *Zomergasten* [where you] have been the first this summer you talked about all of your hobbies but not about higher education. Put differently, you completely said goodbye to that time.'

Figure 14 Open hand oblique DWDD 010908 00:12:40

After this the conversation takes a more hostile turn in which the addressee is confronted with political decisions he made. This might indicate that the speaker was preparing an 'attack' and therefore pointing to his addressee with the open hand oblique, which, according to Kendon, indicates negativity.

Open hand prone

When the palm of the hand faces away from the speaker, he is referring to an object and its spatial aspect (location) or to several objects that are considered to belong together. This can be seen in the following example and in figure 15.

(11) Nogmaals we hebben het [hier over een pronkstuk uit de kunstgeschiedenis]

   again   we   have   it   here about a   showpiece of the   art history

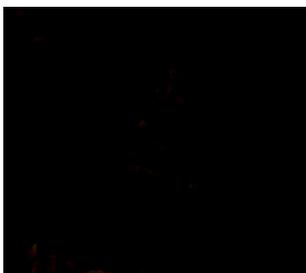   'Again, we are talking about [a showpiece of the history of art]'

Figure 15 Open hand prone DWDD 040408 00:06:32

A speaker talks about a painting that can be seen on a TV screen. In his speech there is no word that refers to the TV screen (although, perhaps, *hier* 'here' can be an indication) but by using his point, the addressees can derive the location of the object being referred to.

A summary of the different hand shapes and their meaning is given in table 1.

Hand shape	Meaning
Index finger extended	Person or object is individuated
Prone	Singles out an object which needs specific attention
Neutral	Places object in relation to the first object, or continues the individuated object, or indicates object that was the cause or condition of something else
Thumb extended	Used when it is not important to establish the precise location or identity of what is pointed at
Open hand	Person or object that is indicated is not primary focus
Neutral	allows the addressee to see what is meant with the object
Supine	Used object is not a topic of the conversation but something that needs further attention and inspection
Oblique	The object indicated is a person, and the comment being made is negative.
Prone	Refers to an object and its spatial aspect (location) or to several objects that are considered to belong together.

Table 1 Hand shapes and their meanings

3. Pronouns

> "Of course, you're right. She can't get over you… She's still in love with you… Makes perfect
> sense. Except for the pronouns."
> (In:*House*)

Pronouns play a major role in our day to day discourse. They occur in almost every utterance we make and are used to refer to entities that were mentioned in the linguistic context or that are present in the local context. In the quote of Marianne Gullberg that was introduced in chapter 1 and is partially repeated below, the function of all pronouns is described as being shorthand expressions that express only presupposed material:

> "This account indirectly explains why there are no gestures with pronouns. Since pronouns
> inherently express presupposed material that is not part of the growth point, they should not (and
> do not) receive gestural expression." (Gullberg, 2006)

However, the function of personal pronouns is much more complicated than just representing old information. In this chapter I will focus on the characteristics of pronouns in general and on local pronouns in particular. This will show that the use and the reasons for using pronouns is more complex than may appear at first sight.

3.1 Personal pronouns

All languages in the world have personal pronouns, such as first person 'I' referring to the speaker, second person 'you' referring to the addressee(s), and third person 'she', 'he' or 'it' referring to another referent, i.e. neither the speaker nor the addressee. With personal pronouns the speaker regulates the discourse in an economic and understandable way. Instead of repeating a full nominal over and over again or referring to (third) persons in the discourse with their full name, the speaker can simply refer to entities in the discourse with pronouns. Compare the following examples:

(12) A: Hi, Derek! How are you? Did you go to that fantastic Halloween party with your
          sister yesterday?
    B: Hi, Julia! Yes, I went to that Halloween party with my sister.
    A: Great, did your sister like the Halloween party?
    B: Yes, my sister liked the Halloween party, but my sister was very tired afterwards!

    (13)A: Hi, Derek! How are you? Did you go to that fantastic Halloween party with your sister yesterday?

          B: Hi, Julia! Yes, I did.

          A: Great, did she like it?

          B: Yes, she liked it, but she was very tired afterwards!

Because the fact that example (13) is more economic it comes across more naturally and lively. The use of pronouns to refer to an entity is thus necessary to (i) design a comprehensible discourse and (ii) create an attractive story for the addressee.

This chapter is divided in two parts of which the first concerns pronouns in general and the second local pronouns. The first part is set up as follows: n section 3.1.1 the most important function of personal pronouns, reference, will be split up in an anaphoric and deictic function. The way the low semantic content of personal pronouns can lead to ambiguity will be discussed in 3.1.2. Although all languages in the world possess personal pronouns, their pronominal systems differ considerably. This will be discussed in 3.1.3. and their use to indicate contrast in section 3.1.4.

3.1.1 Reference

The common function of all personal pronouns is that of reference. Referring with pronouns has economical motivations as was illustrated with examples (12) and (13). Pronouns can refer to entities within the text that were mentioned before as well as to entities outside the text that are prominent in the local context (cf. Bresnan, 2001). The first of these two possibilities is called anaphoric reference and the second possibility is called deictic reference. An example of deictic reference with a pronoun is the following: two persons are talking to each other on the street. A boy drives by on his bike and the speaker says to his addressee:

    (14)*He* drives by every day, but I don't know where *he* comes from.

The pronouns *he* refers deictically to the boy. That is, the boy is present in the local context and therefore does not require an introduction in the linguistic context. Opposed to this example is the following:

    (15)Every day a boy drives by, but I don't know where *he* comes from.

In this case, the boy is not present in the local context at that very moment. Therefore, he has to be introduced linguistically first before the speaker can refer to the boy with a pronoun. This form of reference is called anaphoric.

Clearly, there is a distinction between entities within the local context where a speaker can refer to without further introduction and entities outside the local context that have to be introduced in the linguistic context before they can be referred to with a pronoun. In either case (anaphoric as well as deictic reference) the accessibility of the referent is an important factor for whether referring with a pronoun is possible at all. If the referent is prominently present in the local context or in the linguistic context, referring with the shortest form possible i.e. a pronoun is preferred. On the other hand, when a referent is hard to retrieve the addressee needs (or the speaker thinks the addressee needs) more information to find out which referent is intended. Factors that play a role in deciding which form of reference is best from the speaker's perspective are the distance between the referent and the reference, the prominence of the referent in the discourse and other referents that are competing with the intended one (cf. Ariel, 1991).

3.1.2 Ambiguity

Overall, speech participants have no trouble at all with finding the referents that are indicated by pronouns. Usually the speaker refers in such a way that his addressee can easily trace back the referent. However, sometimes resolving a pronoun is not that easy. For instance when multiple addressees are present and only one of them is singled out:

(16) You've all been very kind, but you were the kindest.

Or when multiple third persons (of the same gender) are present and one of them is referred to:

(17) John and Peter won the award, because he was fantastic!

Or when the distance between referent and reference is considerable and other possible referents occur in between as in (18).

(18) Yesterday John visited Susan. She baked cookies and made hot chocolate. The smell of this all made the postman come in and join them during the afternoon. Afterwards he [i.e. John] and Susan cleaned up the house.

In these situations the low semantic content of pronouns plays an important role. Because they do not contain (much) information about the referent pronouns can refer to every suitable speech participant. This property makes that pronouns in ambiguous situations like in example (16), (17) and (18) need a more detailed description to enable the addressee to single out the correct referent. However, the specification of pronouns is a delicate matter. Since their primary function is to switch between referents and not being bound to referents permanently, pronouns generally

do not accept modifiers and complements to co-occur with them (Bhat, 2004). How situations like (16), (17) and (18) are solved is partly language-specific but in general speakers choose a more elaborate way of referring, for instance with a full nominal expression.

It should be noted that the low semantic content of pronouns does not mean that they are of minor importance in a discourse. Opposed to a low semantic content pronouns have a high cognitive demand. With their occurrence a speaker and the addressee have to link all of the preceding information in the discourse that is suitable with the reference made with the pronoun; speakers have to plan their discourse beyond the level of a single clause when they use pronouns. This planning requires language proficiency as becomes clear from data of second language learners who have a hard time referring with pronouns. In the earliest stages of their language learning process most language learners refer with full nominal expressions when pronouns are more suitable, because they are not sure about the correctness of their pronouns concerning number and gender (cf. Gullberg, 2006).

3.1.3 Number

Languages develop pronouns that are able to 'contain' different sets of persons. That is, a single person is referred to by singulars; multiple persons are referred to by plurals, a man is referred to by a masculine pronoun, etc. The quantity of these pronominal systems differs considerably between languages. When we consider the category of number, English for instance has a modest pronominal number system. In terms of number only singular and plural are distinguished:

(19) **English**

	Singular	Plural
1	I	we
2	you	you
3M	he	they
3F	she	they
3N	it	they

However, Tinrin (a Melanesian language spoken in southern New Caledonia) distinguishes, besides singular and plural, a dual category for first, second and third person (Bhat, 2004). In addition the language also makes the distinction between an inclusive and exclusive form for both the dual and the plural category:

(20) **Tinrin**

	Singular	Dual		Plural	
		Excl	Incl	Excl	Incl
		_____		_____	
1	nro	haru	komu	hari	kevi
2	nrü	kou		wiri	
3	nrî	nrorru		nrorri	

The differences between English and Tinrin indicate that number is a complicated matter. Why would one language distinguish fewer forms of number pronouns than another language? Although discussing this issue is beyond the scope of this chapter, it should be noted that it might play a role in the use of pointing gestures as will be discussed in the next chapter. Languages without an extensive system, like English, might have to employ different strategies when they want to make a distinction between for instance an inclusive *we* ('I' and 'you') and an exclusive *we* ('I' and 'they'). Thus, when in Tinrin a speaker wants to refer to 'me' and 'you' he can simply say *kevi*, while in English a speaker has to spell out the different participants saying 'me and you' or has to ask for more information. Since these kinds of solutions seem to be less economical it could be that languages like English seek for different solutions in such situations.

> *Minister*: So, we have to start working now!
> *Clerk*: Do you mean *we* plural or do ministers use the majesty's plural nowadays?
> (In:*Yes Minister*)

3.1.4 Contrast

When using pronouns for reference, speakers of languages with free pronouns have a choice between reduced, unstressed and stressed variants of the pronoun. Whether the speaker chooses for one or the other is determined by the context and the message a speaker would like to communicate. That is, a speaker can for instance prefer a stressed pronoun when he likes to express contrast as in (21).

(21) When John and Susan came home SHE opened the door and HE carried in the groceries.

In this case one person (John) is contrasted with the other (Susan). The stress is not necessary to find the correct referent for the pronouns (and thus to eliminate ambiguity) since there is only one female and one male person in the sentence. Instead, the stress indicates that it is SHE and not HE who opened the door and HE and not SHE who carried in the groceries.

In sentence (21) the reference is anaphoric. Of course, contrast can also be used in deictic reference as in (22) when a man and a woman are standing next to each other.

(22) He is very lazy, but SHE is usually very active.

Again, this is a matter of contrast and not of ambiguity since only one woman and one man are present besides the speaker and the addressee. The man is contrasted to the woman. Most naturally, the speaker accompanies (22) by a point or an eye gaze toward the person indicated with the stressed pronouns to clarify the utterance for his addressee.

Contrast has a lot to do with stressed and unstressed pronouns and the topic of the discourse. Generally, it seems to be that unstressed pronouns are used to indicate a *continuing topic,* while the use of stressed pronouns initially gives a contrastive reading (cf. De Hoop, 2004).

3.2 Local pronouns

"[…] the pronouns *I* and *you* are well-established semantic primitives […] in every known human language." (Bhat, 2004)

Almost all languages of the world give greater prominence to the speaker and addressee(s) than to the other participants involved in the conversation and the speaker receives even more prominence than the addressee does. The reason for this special status of speaker and addressee is that those speech participants are necessarily always involved in a discourse while third persons are not. First and second person pronouns (respectively speaker and addressee) therefore always refer to entities in the local context. Because of this they are called *local pronouns*, a term I will use from now on. First and second person are the most important but at the same time the most trivial or redundant pronouns. In many languages, pronouns can be omitted when they refer to first and second person subjects, because their meaning is easy to recover. Even in English, the addressee is understood but not expressed in imperative constructions (*Close the door, please!)* and sometimes in questions (*Need any help?*), while the speaker (author) can remain implicit in diary language (*Went to the market yesterday).* Clearly, local pronouns do not need to have syntactic antecedents as they can be used by any speaker to refer to the speaker or the addressee directly.

As a result of the property of local pronouns to always be present in the local context, sentences with these pronouns can lead to different interpretations/readings than when third person pronouns are used. Consider the following examples (cf. Foolen & De Hoop, 2007):

(23) He might try to put the key into this lock.
(24) You might try to put the key into this lock.

The only point on which these two sentences differ linguistically is the pronouns. In (23) something is said *about* a third person and in (24) something is said *to* an addressee. However, regarding the interpretation of these two sentences there is another point on which they differ. In the first sentence a third person is described. The sentence implies that the he-person could put the key into the lock or not and nothing more. But when a speaker utters (24) to his addressee, the addressee does not interpret this as his ability to put a key into the lock or not. Of course, he himself is the best judge of that. Instead, the addressee interprets (24) as a suggestion of the speaker to actually put the key into the lock (Von Fintel, 2006). Hence the sentence is no longer meant to convey (objective) information about the world (it might happen that…) but rather to instruct the addressee. What is of importance here is that replacing the third person pronoun by a second person pronoun changes the interpretation of the sentence. Making a descriptive comment about a person who is in face-to-face interaction with the speaker is odd and therefore the preferred reading is an interactional one.

This example indicates that there is a difference between the interpretation of first and second person vs. third person that heavily depends on the specific status they have in discourse. This distinction will be specified in this section. In 3.2.1 reference done by local pronouns opposed to third person pronouns is discussed. In 3.2.2 this opposition in relation to ambiguity will be discussed. 3.2.3 briefly stipulates the position of the third person in discourse.

3.2.1 Reference

Concerning reference, local pronouns are more restricted than third person pronouns in that the referent of local pronouns is obligatorily found in the local context (deictic reference), while third person pronouns may use the local context (deictic reference) or text (anaphoric reference) to pick out a referent. Again, the reason is that speaker and addressee are obligatorily present in a face-to-face discourse. They are therefore also called inherently deictic. It is not possible for first and second person to refer to an antecedent in the linguistic context. See for example (25) and (26):

(25) John$_i$ is reading a book and he$_i$ likes it
(26) The speaker$_i$ is reading a book and I$_j$ like it

In (25) the pronoun is clearly a short hand expression for John. 'John' and 'he' are one and the same person. If first and second person would be shorthand expressions like 'he' in (25) 'I' in (26) should be able to refer to 'the speaker'. However, this is not the case. When a person utters (26) he refers to a third person by saying 'the speaker' while referring to himself with the first person pronoun. First and second person pronouns cannot be replaced (that easily). That is, in sentence (26) it is impossible for the first person pronoun to pick out a hypothetical speaker distinct from

the real one. 'I' leads with direct reference to the actual speaker (cf. Maier, to appear; Bhat, 2004).

This also has implications when local pronouns switch referents. When a third person is referred to with *he* and later on another third person is referred to with *he* nothing serious happens. However, when a first and a second person pronoun switch referents the division of roles of the discourse changes entirely. That is, a person can be *I* and thus a speaker and another person can be *you* and thus an addressee at one moment, while at the next moment the former addressee can start to speak and become a speaker, while the former speaker becomes an addressee. Thus, third person pronouns refer to different persons without changing the speech roles while local pronouns refer to different persons and thereby also change the speech role of those persons.

3.2.2 Ambiguity

It has already been mentioned that personal pronouns semantic value is low. They express as little information as possible about their referents in order to function as shifters. Within the group of personal pronouns some pronouns contain more semantic information about their referents than others do. Third person pronouns often make a gender distinction, like *he* and *she* in English. When a speaker talks about a *he* the addressee does not now as much about him as when the speaker called him a boy, a sailor or a father. However, the addressee does know that the speaker is talking about a male. With local pronouns, this is not derivable from the pronoun itself, but the genders of first and second person can be derived directly from the context.

On the one hand the referents of local pronouns are easy to recover because they are always present in the local context. On the other hand, local pronouns have such a low semantic value that in situations where multiple speakers or addressees are present the information the pronouns provide is not sufficient. In those situations ambiguity can arise. In the case of third person pronouns the speaker has the possibility to further specify his reference with gender.

3.2.3 The position of the third person

A short comment has to be made on the position of third person pronouns. Although the speaker and the addressee (local pronouns) are the only persons who are *obligatorily* involved in a conversation, third persons can also be present in the local context. This does not make third person pronouns local pronouns. A conversation remains a two-way affair between speaker and addressee. It might be, however, that languages handle entities present in the local context differently than entities that are not locally present.

4. Methodology

In the previous chapter several functions and features of personal pronouns were discussed as possible triggers for pointing gestures to coincide with the pronouns. In order to see whether these functions and features really do this data needs to be examined. In this chapter the methodology used for finding point and pronoun-combinations will be discussed.

4.1 A corpus of television programs

The corpus used for this pilot-study consists of 200 minutes of Dutch television programs, namely 'De wereld draait door' and 'Villa Felderhof' in which the standpoints of the cameras appeared to be most optimal. In both 'De wereld draait door' and 'Villa Felderhof' guests (sometimes one, sometimes multiple at the same time) are interviewed by a host while they are sitting at the table. In 'De wereld draait door' a diversity of (popular) current events is discussed with experts (one expert for each topic). A map of the studio of this program can be seen in figure 4. Important to note here is the fact that seven TV screens are located in the studio. Sometimes these screens show a short video clip but they can also present a still of, for example, a small painting about which the host and his guest are talking.
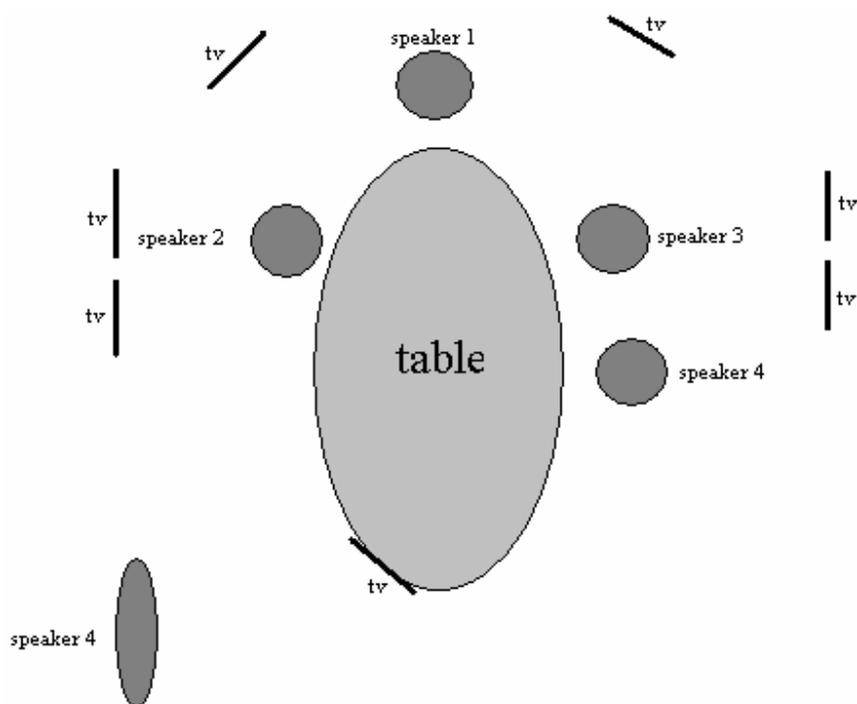

Figure 16 Studio of 'De wereld draait door'

In "Villa Felderhof" two guests are invited to the villa of the host which is located in France. The guests are interviewed by the host while they are sitting at the table or when they undertake little excursions to, for instance, the market. The atmosphere of the program is more laid-back than in

"De wereld draait door" and the topics are more personal. The program is all about the lives of the guests; their husbands or wives, their children, their first successes and so on. The guest brings along a photo-album to the villa which is continually present on the table during the interviews.

All speakers (in 'De wereld draait door' as well as in 'Villa Felderhof') were native speakers of Dutch. In total the speech of 16 different speakers was analyzed. Two of those were the hosts of the two television programs and were recurring in every video clip.

4.2 Elan

The TV programs are annotated in the annotation program ELAN, a tool developed by the Max Planck Institute for Psycholinguistics in Nijmegen, with which complex analyses of video and audio resources can be made. The annotations can be added on multiple layers, named tiers. For the TV programs used in this thesis ten tiers per speaker were created. These tiers and their definitions are included in table 2.

Tier	Definition
1. Speaker	Utterance involving a personal pronoun
2. Pronoun	Personal pronoun within the utterance
3. Gesture	Complete gesture made around the personal pronoun utterance
4. Stroke	Most significant part of the gesture
5. Gesture Type	Metaphoric, pointing, iconic, cohesive or beat
6. Orientation	Focus of the gesture
7. Movement	Sort of movement
8. Reference	Deictic or anaphoric reference
9. Hand Shape	Shape of the pointing hand
10. Co expressiveness	Occurrence of the pointing with a personal pronoun

Table 2 Elan tiers

On tier 1 the utterances involving a pronoun are recorded. Criteria were formulated to do this systematically:

- The whole sentence, including coordinated sentences, is annotated as one
- Repetitions of groups of words (e.g. 'I think I think') are annotated as one
- Repetitions of pronouns (e.g. 'I I I think') are annotated as one
- Utterances that are temporarily interrupted by another speaker are annotated as one

All of these criteria depend on the notion of context-sensitivity since the context is extremely important while working with gestures. Sometimes utterances, following the above-mentioned criteria, were annotated separately while the gesture clearly marked them as being one. In that case the utterances were combined.

In every annotation made on tier 1 a pronoun can be found. These pronouns are annotated separately on tier 2 to indicate the place of the pronoun within the utterance. This tier eases the comparison between stroke and pronoun.

Tier 3 contains the gesture made during the utterance. That is, every movement that coincides with the utterance (whether that is the preparation, stroke or retraction phase) that is not an incidental movement, like for instance playing with a pen, is annotated. The stroke tier then marks the most significant part of the gesture. Due to the criteria handled on the gesture tier it could be that a stroke falls outside an utterance annotation (e.g. if only the retraction phase of a gesture coincides with the beginning of an utterance, the stroke takes place before the utterance.) With tier 5 the actual description of the gesture begins; on this tier the stroke is classified as metaphoric, pointing, iconic, cohesive or beat. The tiers 6, 7 and 8 are mainly constructed to describe the category of pointing, although the other categories are also described on these tiers. The orientation tier (6) indicates to what the hand is pointing at, so for instance the addressee or an object. Tier 7 describes the movement of the stroke and tier 8 indicates whether a point is deictic (referring to something in the local context) or anaphoric (referring to something not locally present).

The following tiers are only used for pointing gestures. Tier 9 describes the hand shape of the gesture as will be discussed in chapter 5; tier 10 indicates whether the pointing gesture is co-expressive with a personal pronoun.

5. Pronouns and pointing

Chapter 1 and 2 showed that gesturing is highly patterned in speech (c.f. Kendon, 2004; McNeill, 1992). In this thesis I follow this claim and assume that gestures are related to speech and do not have an accidental meaning in discourse. I suppose that gestures systematically transfer information depending on the discourse and the speech they co-occur with. As I have already mentioned in section 1.2 this makes gestures an information source when analyzing words that on their selves do not betray their inherent features. In this pilot-study the point at issue are personal pronouns. Chapter 3 already showed that pronouns have several functions and features that might play a role in pointing. In the corpus I have set up to find co-occurrences of personal pronouns and pointing 90 instances of these combinations can be found. In this chapter I will discuss examples and situations in which personal pronouns and points coincide and see whether these co-occurrences can be explained by the functions and features of pronouns.

Pointing has the same naturalness as language has: we never think about the way we use it, but without it we would be communicatively handicapped. To quote Morris (1977) again:

> "we take it all for granted, and yet when one considers all the subtle distinctions between the different types of directional signaling, it is clear that even here there is a whole complex world of gesture communication, enabling men to express with just the right degree of precision the 'whereness' of the objects, places and people around him." (Morris, 1977, p. 67)

The naturalness of pointing in human language does not alter the fact that it is always highly dependent on the individual that performs the gesture. Morris (1977) already mentioned this fact and later on it is repeated by others (Wilkins, 2000; Goodwin, 2003).

The situation in which discourse takes place plays a major role in the functions that can be assigned to the gestures. In the case of the data used for this thesis, the function of the gesture type pointing has to be linked to the situation of a more or less informal interview in which the host is the person who has to structure the discourse: he decides who is allowed to speak and who is not and so he makes extensive use of pointing. Of course the host is not the only person who has reason to point. Many reasons can be thought of for the other speech participants to point as well. It is the speaker who points and the speaker does not necessarily have to be the host.

In chapter 3 it is stated that pronouns do not necessarily represent old information in the discourse. Especially in the situation of deictic reference the referent has not been mentioned in the linguistic context before and therefore cannot simply be called old information. The fact that a referent is salient in the local context does not mean that referring to it represents old information.

Furthermore, one of the most important characteristics of pronouns is that they can easily switch between different referents because of their low semantic content. As a consequence, the very same pronoun can refer to one person in the local context at a certain moment and to another person in the local context at the next moment, referring to a new person and thus representing new information. This means that the argument that gestures (or in this case pointing) do not coincide with personal pronouns, because pronouns do not represent new information while gestures always do, cannot be valid.

Example (3) in chapter 2 repeated below as example (27) is a very clear illustration of the fact that pointing *does* coincide with personal pronouns. There is no doubt about which word coincides with the point, namely *zij* 'she':

(27) [Zij heeft daar niets van gemerkt]

she   has   there nothing of   noticed

'[She didn't notice that]'

Figure 17 Point coinciding with third person personal pronoun DWDD 040408 00:21:18

On the other hand, it should be noted that pronouns do not *always* coincide with pointing. In fact, personal pronouns are not very often accompanied by a point. If the reference is already coded by the linguistic element it seems redundant to code it again by extra-linguistic means. Therefore, a pronoun only coincides with a pointing gesture if it meets certain conditions. Possible conditions already became clear in chapter 6 in which several characteristics of pronouns were discussed. The most important function of pronouns is reference with the distinction between deictic and anaphoric reference. It will become clear that this distinction also plays a role when considering pointing with personal pronouns. This will be discussed in section 5.1. In section 5.2 other important characteristics of a personal pronoun will be discussed: the accessibility of the referent, the degree of ambiguity that results from the use of the pronoun and the role of contrast between different referents. Subsequently, in section 5.3 I will show that the special status of local pronouns as opposed to third person pronouns.

5.1 Deictic and anaphoric reference

One of the most important functions of pronouns is their ability to refer to entities within and outside the linguistic text. When an entity is mentioned in the linguistic context it can be referred to anaphorically. With anaphoric reference the antecedent is found in the linguistic context. If a speaker would like to code the anaphoric reference (for instance 'she' referring to a female referent mentioned earlier) with extra-linguistic elements too (for instance a point) difficulties are created for the orientation of the point. That is, there is nothing physical to point at when a referent only exists in the linguistic context and not in the local context. It could possibly create confusion for the addressee who does not know what to focus at. To solve this problem a speaker first has to localize the referent in gesture space in order to be able to refer to it later on. This makes a point that coincides with an anaphoric personal pronoun meaningful and comprehensible. In sign language this type of reference is very common. For example:

(28) MAN index$_3$ SCARED index$_3$

In this sentence an absent person is localized in the signing space of the signer. The sign for *man* is made and next he is localized (*index$_3$* in which the subscript '3' refers to third person). If a signer would then like to say something about the man, for instance that he is scared, the signer makes the sign for scared and then points toward the place where he has localized the man earlier.

This extensive way of physically referring to absent referents is a grammatical construction in sign language but not in speech. However, sometimes a situation similar to (28) can occur in spoken language like in (29):

(29) (…) maar [hij] zit da[ar nog voor] # hoe belangrijk [was hij]?
     (…) but   he sits there still before # how important   was he?
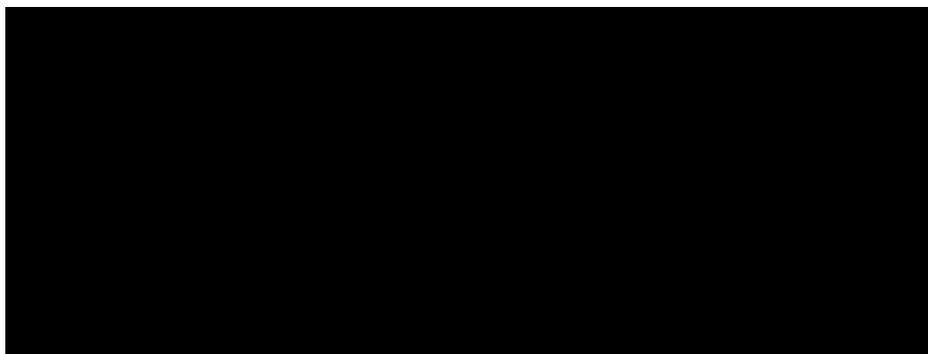   '(…) but [he] comes [before that]. How important [was he]?'

Figure 18 Anaphoric reference DWDD 040408 00:12:29

In (29) the speaker is talking about an absent historical painter. The speaker mentions names of several other absent painters and calls them the capita selecta of Dutch art history. Next he says that the absent historical painter (his name is not mentioned here) lived before this capita selecta and while the speaker is saying *hij* 'he' he places the painter in space as can be seen on the first picture in figure 18. Then the speaker continues to say *daar nog voor* 'before that' and moves his hands to the side to supposedly the capita selecta as can be seen on picture two. Finally he asks his addressee *hoe belangrijk was hij?* 'how important was he?' indicating the historical painter. At the moment the speaker says 'he' his hands move back to the point where the historical painter was localized before. This way a situation arises that is more or less similar to the construction in sign language. The absent painter is assigned to a point in space to which the speaker refers again later on. Examples like these are scarce in the corpus (although I will give another example in (30)). This is not surprising. In (29) the speaker is perfectly capable to communicate his intended message without placing the referent of his anaphoric references in space first. Without gestures this utterance probably would have been just as comprehensible for his addressee. So why does the speaker point? In this case it seems that the speaker tries to structure his discourse. As is already said, the name of the person to which the speaker refers is not mentioned in the recent discourse. The exact person to which the first *hij* 'he' refers is pushed away by other information. Therefore, the speaker lacks a clear referent in the linguistic context. To compensate for this he locates the referent in the extra-linguistic context. The reason could be that either the addressee knows who is meant by the pronoun and/or that the speaker himself does not loose track of the discourse structure.

It should be noted however, that the localization of the referent is done when a pronoun is uttered and not when the speaker mentions a full nominal expression like the name of the painter. An example of the latter is (30):

(30) de laatste Geertgum die op de markt was # eh is [door DG] van Beuningen dus dat is
    the last   Geertgum that on the market was # eh is by DG van Beuningen thus that is

[een van onze twee naam]gevers van het museum # het is een van zijn allerlaatste
 one of our two name givers of the museum # it is one of his very last

aankopen in 1952 kwam er uit Amerikaans bezit een onvoorstelbaar mooi schilderij
purchases in 1952 came there out American property a unbelievable beautiful painting

De verheerlijking van Maria # en het probleem was dat # [hij] had geen liquide middelen
De verheerlijking of Maria # and the problem was that # he had no liquid assets

meer # hij had geen geld van Van Beuningen

more # he had no money of Van Beuningen

'The last Geertgum on the market is [by D.G.] van Beuningen, who is [one of the two name] givers of the museum. It is one of his very last purchases. In 1952 an unbelievable beautiful painting came from American property: *De verheerlijking van Maria*. And the problem was that [he] didn't have liquid assets anymore. Van Beuningen had no money'
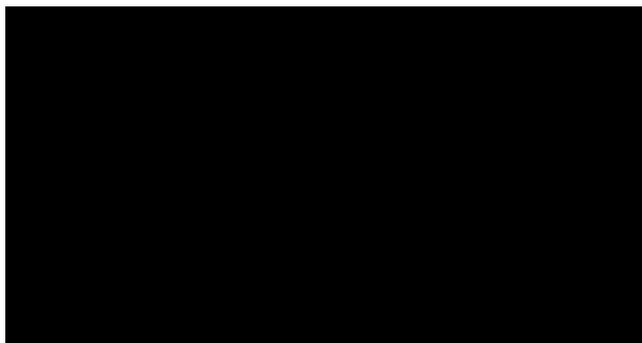
Figure 19 Anaphoric reference DWDD 040408 00:10:56

The speaker is telling about an art expert *D.G. van Beuningen* who wanted to buy a particular painting. At the moment the speaker utters the name of this art expert he places the absent person with an open hand prone on the table in front of him as can be seen on picture 1 of figure 19. Next the speaker continues his story and a diversity of information passes by: the person in question is one of the two name givers of the museum (at this point the speaker again points (with an open hand prone) at the place where D.G. van Beuningen is localized to indicate that he is one of the two name givers), a date, a country, the title of a painting and eventually the speaker starts to talk about a problem. The moment the speaker says *hij* 'he' in *hij had geen liquide middelen meer* 'he didn't have liquid assets anymore' the speaker again refers with a point with the same hand shape to the location where he previously placed the absent person on the table. With this reference the speaker indicates that he is still talking about the same person, namely D.G. van Beuningen. After the sentence in which the speaker says that the absent person did not have liquid assets anymore the speaker restates the sentence. 'Liquid assets' becomes 'money' and the 'he' is clarified by adding the last name of the referent. It seems that the speaker is not convinced that the sentence 'he didn't have any liquid assets more' is interpreted correctly (even with his point) and he restates it.

Again a not-local entity is placed in space and is then used to point at when the entity is referred to with a pronoun. There can be multiple reasons for the speaker to do this. Like in (29) the speaker can use the gestures to structure the discourse for himself and/or for his addressee.

The speaker could also use the points to clarify an otherwise possibly ambiguous or unclear situation in which the exact referent of the 'he' is hard to derive. This seems to be the most logical explanation in this situation. As can be seen in (30) the speaker corrects himself by reformulating the last part of his utterance. If the point was used to structure the discourse a reformulation would be unnecessary since this does not influence the structure of the discourse. Instead, the speaker is in the belief that the referent of the pronoun is not salient anymore and needs clarification with a point. Later on, the speaker realizes that perhaps even the point is not enough to make the addressee understand the reference. Therefore, the speaker restates his utterance.

Besides this extensive almost sign-language-like reference it is also possible that a speaker points at an absent person only once, like in the next example:

(31) sterker nog we zijn ook uit mekaar   geweest # we zijn wel een maand of 5-6 uit   elkaar
stronger even we are also out each other been   # we are well a   month of 5-6 out each other

geweest # [zij] heeft op een gegeven moment heeft ze eh bij haar moeder eh bij d'r
been   # she has on a   given   moment has she eh at her   mother eh at her

ouders gewoond
parents lived

'Even more, we have been separated. We have been separated for 5 or 6 months. At one point [she] lived with her mother with her parents'
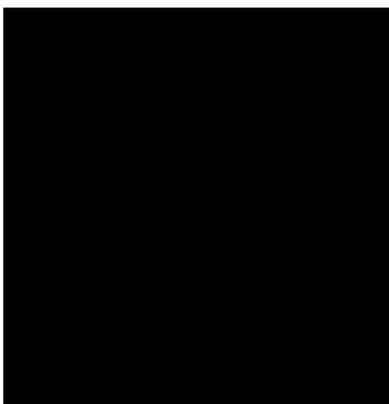

Figure 20 Pointing that coincides with an anaphoric pronoun ^{VF1601 00:12:43}

In the previous I stated that a point seems to be meaningless if there is nothing physically present to point at and that a speaker therefore has to localize his referent first. But in (31) the speaker refers to a she-person who has not been localized before. How is this possible?

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The speaker tells about a period in which he and his wife had some troubles. If the host asks him if they ever considered splitting up, the speaker utters (31). He talks about *wij* 'we' a few times and then starts talking about *zij* 'she', indicating the wife. At the moment he utters 'she' the speaker briefly points at an undefined place in space. Although it is not excluded, it does not seem to be the case that the speaker points only to help his addressee. If the addressee would have followed the index finger to see what the speaker was pointing at he would have had to turn. Moreover, even if the addressee would have searched for a possible point in space he had no way of finding a meaningful one since the referent had not been placed in space before.

It is more plausible to assume that the speaker makes a topic-shift and localizes the new referent when he uses the pronoun 'she'. He talked about his wife and himself as a 'we' but then he breaks up 'we' and sets 'she' apart. Thus, with *zij heeft op een gegeven moment …* 'at one point she …' the speaker shifts the topic of the discourse from 'we' to 'she'. When the speaker utters 'she' he localizes her with a point in the gesture space for possible future reference. However, this future reference does not occur and thus the localization never got beyond the first point.

> "Space, no matter how immediate or unproblematically accessible it may seem, it is always itself a construction, conceptually projected from not only where we are but who we are and what we know." (Haviland, 2000)

Although anaphoric pointing reference in speech is possible and can even be sign-language-like, this type of reference occurs less often than deictic reference. As mentioned, in the data-corpus used for this thesis a point coincided with a pronoun 90 times. Of these 90 occurrences 9 points and their co-expressive pronouns are anaphoric and 81 points and co-expressive pronouns are deictic. This is not surprising. Deictic reference is used for a referent in the local context. Because a referent in the local context already has an actual place in gesture space it does not have to be localized first like with anaphoric reference. Thus, deictic pointing is more concrete. The exact position of the referents of anaphoric reference is not very important since they are not locally present. Whether the speaker of (30) localizes the referent right in front of him or to his left is not of interest for the meaning of the discourse. With referents of deictic reference, however, the exact position of the referents is of great interest. All of the speech participants are aware of each other's position. When a speaker talks about a person sitting at his left side the speaker cannot say 'he' to refer to that person and pointing to a place at his right side. Pointing in the local context is thus a shared construction of all speech participants.

An example of deictic reference with pointing is given above in (27) and figure 17 and repeated as (32) and figure 21 below:

(32)[Zij heeft daar niets van gemerkt]

    she has there nothing of   noticed

'[She didn't notice that]'

Figure 21 Deictic reference ^{DWDD 040408 00:21:18}

In this case four persons are sitting at the table. They just watched a short video clip of a wrestler (the main guest at the table) who floors a journalist. After the clip has ended the host (not in the figure) says to all of his addressees *Zo sterk was Wim Ruska* 'Wim Ruska was that strong'. Then the speaker of (32) says *zij heeft daar niets van gemerkt* 'she didn't notice that' and points at one of the guests while looking at his addressee. However, the third person is not the main guest. The main guest and the topic of this part of the discourse is her husband who sits beside her. The woman is only there to support him. The salience of the speech participants at the moment the speaker utters (32) can be represented in a hierarchy:

Speaker & Addressee > main guest > wife of main guest

The woman at which the speaker points is the least salient person in the discourse at that particular moment. As a result of this, the point of the speaker when he utters *zij* 'she' can have multiple functions. First of all it could be that the speaker points to make sure that his addressee finds the correct referent for the pronoun because her low salience could lead to ambiguity. This is a plausible option, but it should be noted that the woman is the only female speech participant at the table. Therefore it is not possible to refer with *zij* 'she' to another woman at the table. It is thus not likely that this option is the (whole) explanation.

Another option is that the woman is contrasted with the journalist in the video clip. The woman, opposed to the journalist, did not notice Wim Ruska's strength since she was not floored by him.

A third explanation could be that the speaker of (32) wants to establish that the other speech participants focus on the woman and that he therefore uses a point to accomplish this. This option seems to be the most logical one. The woman is not the focus of attention when the video clip was shown and not when the host says 'Wim Ruska was that strong'. (32) indicates a topic-shift (this will be discussed in 5.1.4) from the main guest to the woman and without a point to

coincide with (32) the addressees might have had a hard time to adapt to the new situation. Hence, the pointing occurs.

Besides pointing at a local third person a speaker can also point at his addressee like in the following example:

(33) ik zei he*(t)* # ik heb het [je   gezegd] ik kan het niet

      I said i*(t)*   I have it   you said   I can it   not

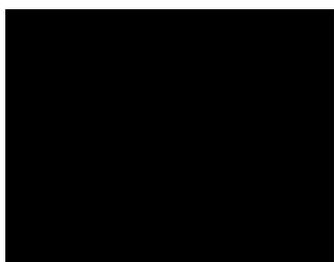   'I said i*(t)* # I [told you]: I can't do it'

Figure 22 Point at second person **VF1601 00:21:49**

The context of (33) is as follows: three speech participants are painting in the garden. When the paintings are finished the host (A in figure 22) looks at the painting of one of the guests (B) and makes a joke about it because he does not think it is any good. As a reply B utters (33). He starts with a general answer ('I said it'). However, B does not finish this part of the sentence, but instead reformulates it to also involve his addressee (A) in it. In this second part of the sentence the speaker points with an open hand at his addressee when he says 'said to you'. Why would the speaker do that?

Again, several explanations are possible. One is that when the speaker of (33) started his sentence with *ik zei he(t)* 'I said i*(t)*' he realized by the end of it that he also wanted to include the host in his answer. Therefore, he starts over again and says *ik heb het je gezegd* 'I have said it to you'. The extra part of this utterance is the second person pronoun. It could be that, to facilitate his speech or to make sure the pronoun is not left out again, the speaker accompanies 'you' by a point. Thus, the speaker points to help himself.

Another possible explanation is that the speaker wants to disambiguate the second person pronoun because two possible addressees are standing next to each other. With the point the speaker indicates which one of the two persons he means without having to spell it out in the linguistic context.

A third option is that while the speaker is formulating the first part of the sentence he realizes that he not just in general said that he could not paint *ik zei het* 'I said it' but that he specifically told the host that *ik heb het je gezegd* 'I told you'. So the point with (33) seems to indicate that the addressee is not allowed to joke about the painting because the speaker already

warned him specifically. That this last explanation might be the correct one appears from what follows. The host does not say anything anymore, points at a part of the painting he does like and then steps away from it. The point of the speaker at the host indicates that the host should also take responsibility for the failure of the painting: despite his objections the host still made the speaker paint.

It should be noted that while the speaker utters (33) his addressee is looking at the painting the entire time and thus does not notice the point of the speaker (or perhaps only sees it out of the corner of his eye). Anyway, the speaker keeps his hand in position longer than necessary and slowly retracts it, thus it could be assumed that he (maybe unconsciously) wanted the addressee to see the point.

Besides pointing at present third persons and the addressee the speaker can also point at himself like in example (34):

(34) ik ook # hoor
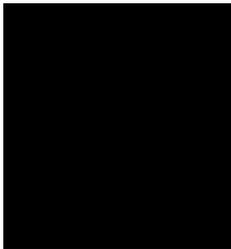   I   too # yes
    'Me too'

Figure 23 Point at first person ^{VF020108 00:02:51}

Three speech participants are sitting in the garden: the host and his two guests. One of the guests is telling that she gets homesick when she is away from home too long. The other guest (the man on figure 23) says he does not understand that because he likes to go away. The woman then answers that she just really appreciates what she has at home and feels very happy there. The other guest then replies with (34). While he utters (34) he points at himself. The reason for this seems to be that the speaker would like to stress that not only the woman is happy and satisfied at home but he is *too.* So, the woman is contrasted with the speaker (not only *you* are happy but *I* am too!) and the speaker creates a topic-shift to make himself the focus of attention.

Speakers are not only able to point at any person in the local context; they can also point at objects. When, for example, a book is on the table, a speaker can refer to it by saying 'that' and pointing at it. However, the situation gets more complex when the object that is pointed at is not actually what is meant by the point. Clark (2004) illustrates this with an example of a man pointing at a photo and saying "that's the guy who robbed me." According to Clark the intended referent of

the man is not the photo, because he cannot say "that robbed me". Instead the man is pointing at the man which is *on* the picture. The photo functions as a 'placeholder' for the actual robber at which the speaker can point. This 'place holder' is named the Perceptually Conspicuous Site (PCS) (Cark, 2004). It is a site that is perceptually salient and physically accessible for both the speaker and the addressee. A speaker can point at it, but the site is not the actual referent of the point. In order to get the correct referent (in the previous example that would be the man on the photo opposed to the photo itself) the PCS (the photo) has to be considered to have a second index with its own subject (the robber). This way, finding the referents of a photo is a two-step process: first the addressee has to look at the object being pointed at and then interpret is to have a referent of its own.

Pointing at photos as well as at TV screens happens quite frequently in the data used in this thesis. As is already mentioned in chapter 4, in the program *De wereld draait door* the speakers are surrounded by seven TV screens on which relevant stills can be seen. In the program *Villa Felderhof* guests are asked to bring along their photo albums as a support during the interview. How to handle this kind of reference? As Clark (2004) indicates, this type of reference is two-phased: the first part refers to something locally present, while the second part refers to something that is absent (but can be present too). Thus, logically, the first part of the reference is called deictic and the second part can either be anaphoric or deictic. Just calling this type of reference either deictic *or* anaphoric would be incorrect. The speaker is tempted to point at the TV screen or photo because it is physically present but the referent *itself* does not have to be. Example (35) illustrates this:

(35) als dat dingetje dichtging kon [hij] constant al   zijn broertje zien
      if   that thing   closed   could he constant   already his brother see
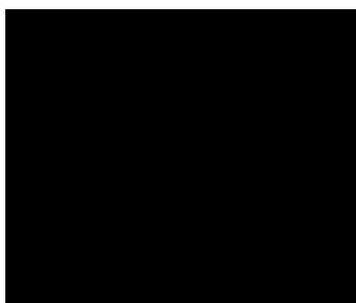   'If that thing was closed, [he] could already see his brother'

Figure 24 Perceptually Conspicuous Space^{VF261207 00:24:42}

The picture displays a baby, the speaker's son, in an incubator. The host A and the guest B are both looking at the picture and B illustrates to the host how his son could see his brother. When the speaker says *hij* 'he' he points at the baby on the picture. The picture is of course physically

present and makes pointing easy. However, the person being pointed at is absent. Thus, the first step of reference of the point at the picture concerns a present entity and the second step of reference of the point concerns an absent entity. This type of reference will, henceforth, be called *indirect reference*. It should be noted that the speaker probably would not have made a point that coincided with the third person pronoun if the picture had not be there. Again, the local context plays a very important role.

Thus, we can distinguish deictic, anaphoric and indirect reference. Supposedly, deictic reference is the most frequent one since with this type of reference the speaker can point at an entity that is present in the local discourse. Less frequent will be anaphoric reference with pointing. In order to point at an entity that is not present, the speaker has to localize his referent in the gesture space first, which makes pointing with anaphoric reference an extensive job. The third type of reference is special. A picture or a TV screen makes is easier for the speaker to point at an absent entity. Therefore, several instances of indirect reference can be expected. In table 3 the type of reference of every pronoun-point combination can be seen: the predications made in this section are born out.

Reference	
Deictic	64
Anaphoric	9
Indirect	17
	90

Table 3Type of reference

We can conclude this section by stating that the meaning of a point differs between contexts and that even within a certain context different explanations for a point can be thought of. Interpretations can only be done in the light of the complete context in which the point occurs. However, points at pronouns more often involve deictic reference than anaphoric reference. Thus, the distinction between referring to absent and present entities also plays a role in the form of pointing gestures of speakers.

5.2 General situations

In the previous section the umbrella function of personal pronouns was discussed, namely reference. We saw that personal pronouns and points more often form a combination when the intended referent of the pronoun is present in the discourse situation. However, we also saw that the explanations for the use of a point that coincides with a personal pronoun differ from context to context. There appear to be some general tendencies that can be traced back to the features and functions of personal pronouns. Those are disambiguation (5.2.1), number (5.2.2), contrast and topic-shift (5.2.3) and accessibility (5.2.4).

5.2.1 Disambiguation

Personal pronouns are believed to have a low semantic content (Bhat, 2004; Siewierska, 2004). This feature makes them suitable as shifters between speech participants. In the normal course of events the low semantic content of pronouns should not cause problems since they refer to referents that have been mentioned in the linguistic context before (anaphoric reference) or to referents that are prominently present in the discourse (deictic reference). Usually the speaker refers to salient entities in such a way that the addressee can easily determine the referent. However, it could also happen that the use of a pronoun leads to ambiguity. This is for example the case when multiple referents are present, like in example (36):

(36) ik weet zeker dat Wim intens van me houdt # dat als   ik morgen zz# [jou] moet

     I know sure that Wim intense of   me loves # that when I   tomorrow zz #   you must

bellen van Joop[3] is verzopen dat ik denk dat de   hele   wereld in mekaar   stort   #

     call   of Joop is drowned that I think that the whole   world   in each other crashes #

'I know for sure that Wim loves me very much and that when I have to call [you] tomorrow to say that Joop has drowned that the entire world collapses'
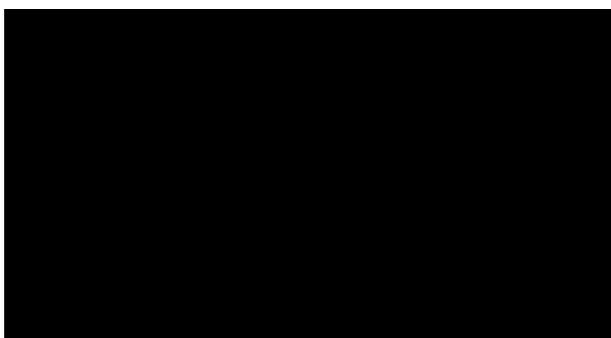

Figure 25 Disambiguation ^{VF020108 00:15:26}

The speaker (A) of (36) answers the question of the host (C, not in the picture) about his intimacy with his partner Wim. The speaker stands next to another guest (B) and to her and the host he makes a plea for love of which (36) is the last part. At this moment the speaker has two addressees. When he pronounces (36) and says *jou* 'you', a singular personal pronoun, either one of the addressees could be the focus of attention. However, the speaker has a particular person in mind, namely the host. To solve this problem of ambiguity a more detailed description is needed to enable the addressees to single out the correct referent of the second person pronoun.

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[3] The speaker means 'Wim'

However, pronouns generally do not accept modifiers and complements to co-occur with them, because these will add semantic information to and restrict the scope of reference of the pronouns which conflicts with their primary function of shifting between referents.

Therefore, for a more detailed reference the speaker could use a full noun phrase instead of a pronoun *or* the speaker accompanies the pronoun by a point, as can be seen in figure 25. This way the ambiguity is resolved simultaneously without extra encoding in speech. Moreover, since the 'modification' of the pronoun occurs in a different modality it does not affect the grammaticality of the utterance.

A speaker can also disambiguate between multiple speakers or a third person between other third persons (of the same gender) with a point. It could also be the case that a speaker repeats a thought or utterance that was made by another person in a different time and in a different situation, called quotation as in (37):

(37)(…)mijn zus   had een hamster # en   die had ze # omdat het mooi weer   was
        my   sister had a   hamster # and that had she # because it   nice   weather was

dacht   ze   ja [ik zit in] de zon de hamster moet ook in de zon
thought she yes I   sit in the sun the hamster   must also in the sun

'My sister had a hamster and she had it, because it was nice weather she thought: well, I am in the sun, the hamster must also be in the sun'

Figure 26 Disambiguation ^{VF261207 00:04:02}

The speaker is talking about his sister who used to have a hamster. One day the weather was very nice and she took the hamster outside to sit in the sun. When the speaker says *dacht ze ja ik zit in de zon* 'well, I am in the sun' the 'I' in the sentence is not the speaker but his sister. The speaker indicates with a hand movement toward an unidentified place in front of him (figure 26) that the speaker of (37) and the speaker (or thinker) of 'well, I am in the sun' are different persons. Whether the speaker performs this disambiguating gesture for his addressee or for himself is not completely clear here. However, since the speaker also had the possibility to point at himself while saying 'I' is seems to be that the speaker distances himself of what happened to the hamster (the animal was scorched by the sun).

51

Thus, a very clear function of pointing is to disambiguate in a context where multiple entities can be the intended referent which can be traced back to the inherent low semantic content of personal pronouns. Because the points do not interrupt the linguistic elements of speech they can be expressed simultaneously. Moreover, since pronouns are generally not allowed to take modifiers and complements (the speaker would have to elaborate his speech with full nominal expressions) pointing also seems to be a less costly solution. In general, an important advantage of gestures (whether they are cohesives, metaphorics, iconics, points or beats) is that they are very economic: a gesture can represent a large part of the utterance and can do this simultaneously with speech.

5.2.2 Number

As was discussed in section 3.1.3 the pronominal systems of languages differ considerably. Some languages have extensive systems, making distinctions between exclusive and inclusive forms and between singular, dual and plural forms, while others have more modest paradigms. The paradigm of personal pronouns in Dutch is given in (38).

(38) **Dutch**

	Singular	Plural
1	ik	wij
2	jij	jullie
3M	hij	zij
3F	zij	zij
3N	het	zij

This paradigm is quite similar to that of English (except for the 'you' singular/plural in English). Concerning number, only singular and plural are indicated by the pronouns and it is not possible to distinguish inclusive forms from exclusive forms with only one form. When languages do not encode the difference between inclusive and exclusive 'we' and 'you', the context usually provides the information that is necessary to determine which interpretation is intended by the speaker. Example (39) illustrates this.

(39) daarbij   hebben [we ook nog l]ang eh op het toilet gezeten
　　　Furthermore have   we too still long eh on the toilet seated
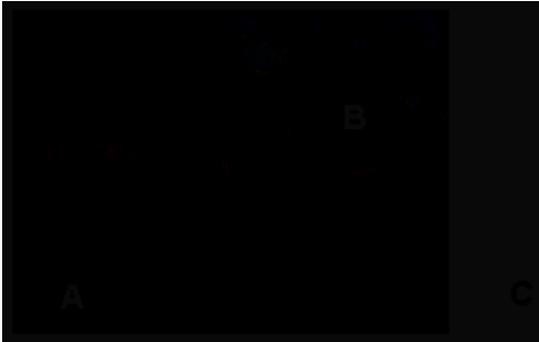　　　'Furthermore, [we also] spend a long time on the toilet'

Figure 27 Exclusive 'we' ^{VF261207 00:42:35}

Here the host (C, not in the picture) and his guests (A & B) are painting in the garden. When one of the guests (A) has finished his painting the host asks him to tell him what his painting represents. The guest jokes that he painted the omelet that the host made for them that morning. The guest states that it was very 'surprising' and then utters (39). As soon as he says 'we' he is not talking about himself and the host, who is his addressee, but about himself and the other guest (B). To indicate this he makes a pointing movement to (B) as can be seen in figure 27. This makes it clear that the second person plural pronoun that the guest uses indicates an exclusive 'we'. So even though Dutch does not have inclusive and exclusive pronoun forms the speaker is able to makes distinctions between those forms with the use of pointing.

Another example of the use of an exclusive 'we' is found in (40). In this example however, there is no third person available for the speaker to point at.

(40) toen gingen [we] # met de getuigen aan tafel
      then went   we # with the witnesses to   table
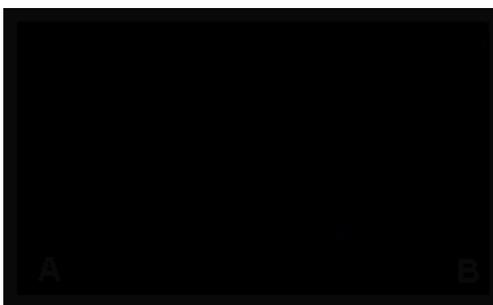   'Then [we] went to table with the witnesses'

Figure 28 Exclusive 'we' ^{VF261207 00:39:55}

The host (A) and his guest (B) are sitting at the table. The guest is telling about his wedding and utters (40). When he says 'we' he directs his hands toward his body. This way the speaker

indicates that the 'we' means him and his new husband and not him and the host. Thus, even without a third person locally present the speaker is able to clarify the inclusive or exclusive form of his pronoun with the help of gesturing.

If a point can be used to indicate an exclusive 'we' it should also be possible to indicate the use of an inclusive 'we'. And indeed, the speaker of (41) performs such a point:

(41) nou de een die   heb de mooi   # [wat we zeiden] (…)
       well the one that has the beautiful # what we said
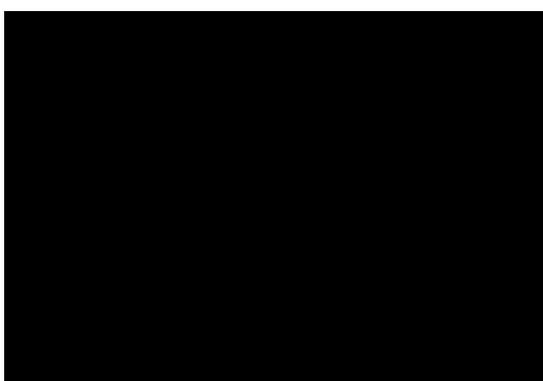   'Well, someone has a beautiful… [What we said]'

Figure 29 Inclusive 'we' ^{VF020108 00:37:32}

The host (C, not in the picture) asks one of his guests (A) why she does not go to the fancy parties to which she often gets invited. The guest explains her insecurity about the way she is supposed to behave and dress when she walks the red carpet. When the host asks her why, she utters (41) to indicate that all persons walking the red carpet are always showing off. During the first part of the sentence *nou de een die heb de mooi #* 'Well, someone has a beautiful…' the speaker directs her speech to the host. However, she interrupts her sentence, turns to the other guest (B) and says *wat we zeiden* 'what we said' and performs a thumb-point with it. At that moment, B is her addressee and with the point the speaker indicates that with 'we' she means herself and the other guest (B). Since B was not her addressee before and because she only briefly turns to him (directly after saying 'what we said' she starts speaking to the host again) it seems that with her point she wants to make clear to her addressee (B) that she includes him in her 'we' and not the host (so, in fact, the host is excluded).

Thus, these situations can be traced back to the inherent feature of personal pronouns to express number and indicate that even though pronouns in Dutch do not express an inclusive and exclusive distinction in their surface form, the distinction might play a role inherently.

5.2.3 Contrast and topic-shift

In chapter 3 it was argued that speakers can use a stressed pronoun to create contrast between different entities. To strengthen the contrast made with a full pronoun a speaker has the possibility to accompany the pronoun by a point. Creating contrast is therefore another possible feature of pronouns that results in the use of points. At first sight it might seem as if contrast results from ambiguity since different entities are set apart. When it is not clear which referent is meant with a particular personal pronoun the speaker can stress the pronoun and (most naturally) point at the intended referent to enable the addressee to single out the correct referent. However, the use of contrast does not only occur to disambiguate. Consider for example (42):

(42) [ik wil   hetz]elfde [ook tegen hem z]eggen [maar ik] ben natuurlijk heel anders daarin
    I want the same   also to   him say   but I am of course very different in that
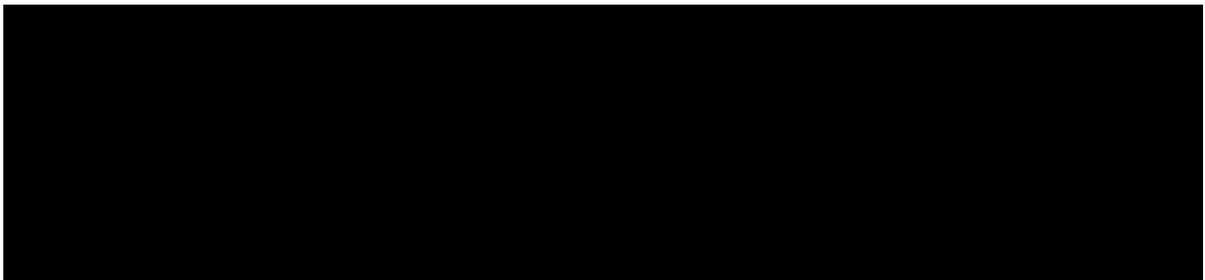'[I want to] say the same thing [to him too] [but I] am completely different in that'

Figure 30 Contrast ^{DWDD040408 00:14:30}

The host (A) directs the attention of his guest (B) to the kind character of another guest who is inside the house. B agrees with the host and says that the other guest always is around for other people and that B only has to make a phone call to make him come over. Then B utters (42). While saying *ik wil hetzelfde* 'I want the same' he directs his hands toward his body as can be seen on picture 1 in figure 30. Next the speaker says *ook tegen hem* 'to him too' and as he says this he moves his hands forward in the direction of the house (2 in figure 30). Finally, the speaker returns to himself and utters *maar ik* 'but I' meanwhile pointing at himself, illustrated in picture 3 of figure 30. These points are not used to disambiguate. Instead, the speaker uses the points to make clear that he and the other guest are two completely different persons: the speaker and his personality are explicitly contrasted with the other guest and his personality.

    In the next example the speaker and his addressee sit face to face. The host (A) has asked his side-kick (B) if he has something important to say today. The side-kick answers affirmatively. The host then utters (43):

(43) dan tel   ik af van drie # en dan nee[m jij   het woord]

     then count I   off of tree # and then take   you the word

     'Then I will count down from tree and then the [floor is yours]'
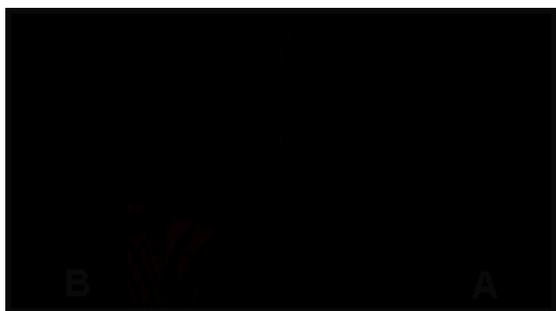

Figure 31 Contrast stressed ^{DWDD040408 00:03:09}

As soon as the host says *jij* 'you' he moves his hand toward B as can be seen in figure 31. It is as if the speaker wants to say: it is *you* who is allowed to speak, not me. Again, this is not a matter of ambiguity. There is only one addressee who is sitting apart from other possible addressees. Thus, the second person pronoun does not need disambiguation.

     Related to contrast is the matter of topic-shift. When a speaker suddenly changes from one topic to another this shift might need some further explanation. Especially when the topic to which the speaker turns is physically present (this could be a person but also an object) the speaker is likely to point at it. Example (44) illustrates this:

(44) had [je   het gevoel toe]n je   # hem zag of hem ontmoette #

     had you the feeling   when you # him   saw or him   met   #

     dat het heel bekend was al?

     that it   very familiar   was already

     'Did [you have the feeling whe]n you saw him or met him, that it was very familiar?'
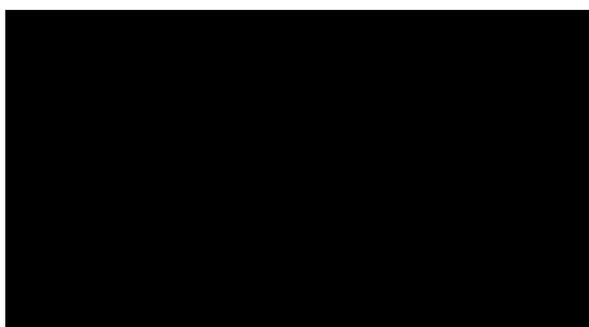

Figure 32 Topic-shift ^{VF1601 00:33:14}

The host (A) is talking with his guest (B) about her husband (absent) and the way they met. The guest tells the host that they were in a bar when she first saw him. During the entire answer of B the husband is the topic of the speech. When B stops talking the host takes over again and utters (44). When he says *had je het gevoel* 'did you have the feeling' he points at his addressee (figure 32). With this point the host shifts the topic to the feelings of the guest again instead of to her husband. Between the two sentences (the one of the guest and the one of the host (44)) the topic shifts.

Thus, two other plausible reasons for a speaker to point at a person or an object is to intensify contrast or to indicate a topic-shift. It should be noted that the pronoun with which the point coincides does not always have to be stressed as can be seen in example (44). Here the speaker uses an unstressed version of the second person singular *je* 'you' instead of the stressed second person pronoun singular *jij* 'you'. I assume that unstressed pronouns are used to indicate a *continuing topic,* while the use of stressed pronouns initially gives a contrastive reading or a topic-shift (cf. De Hoop, 2004). But since the speaker points while saying *je* and it is interpreted as a topic-shift, pointing apparently can also be used to indicate a topic-shift even when the pronoun is not stressed (This is not the case with contrast. Then a pronoun does have to be stressed.). Table 4 illustrates this.

Stress	
Stressed	56
Unstressed	34
	90

Table 4 Stressed pronouns

Of the 90 occurrences where points and personal pronouns coincide 56 concern stressed pronouns and 34 unstressed pronouns. One explanation could be that language users use pointing with unstressed personal pronouns because the stress of the sentence already is on another word. Consider for instance the following constructed example:

(45) A. Do you see that man over there? He is a great psychiatrist. He solves every problem.
　　 B. Well, I have a problem. Whenever I'm alone, I get awfully scared. I already visited
　　　　 three shrinks but they couldn't help me out.
(46) A. Then you'll have to make an appointment with him, because HE CAN
(47) A. Then you'll have to make an appointment with him, because [he] CAN

Two women in the supermarket are talking to each other (A & B). Suddenly A sees a man she recognizes as a great psychiatrist and she draws the attention of B to him. B then admits that she has a problem no shrink seems to have a solution for. A then wants to emphasize two elements:

the great psychiatrist opposed to the other shrinks and the fact that the first will succeed where the others have failed. A has two possibilities of doing that represented by (46) and (47). In (46) A stresses both 'he' and 'can'. As a result A would need to pause shortly between the two words to be able to stress them both. In (47) A pronounces 'he' without stress and 'can' with stress but accompanies the third person pronoun by a point. This way, both words are emphasized but the speaker does not need to pause between them. (47) therefore is the more fluently and less costly solution.

It should be mentioned that most of the time (but not always) the shape of the point that coincides with an unstressed pronoun differs from a point with a stressed pronoun. In the case of an unstressed pronoun the realization of the point seems to be more 'sloppy' and is often a combination of a pointing gesture with a metaphoric gesture. Example (48) illustrates this:

(48) maar [als je   dan in Afrika komt (…)]
   but if you then in Africa come
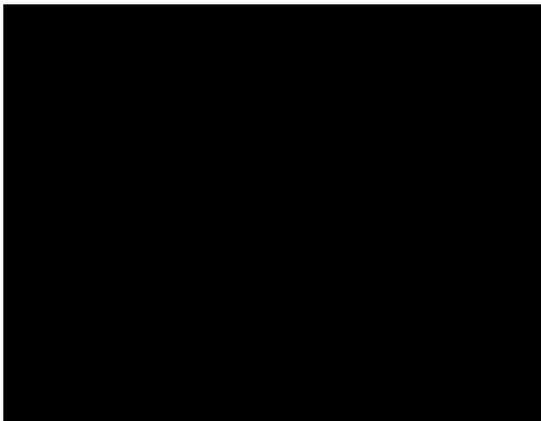 'But [if you go to Africa (…)]'

Figure 33 Combination of point and metaphor VF1601 00:27:52

The host (A) and his guest (B) are discussing the topic of religion. B tells the host that she is a Catholic and that she likes this religion because it is such a loving belief. The host then confronts her with how the Catholic belief interferes with the lives of people in Africa, a country which she visits quite often, by starting with (48). In (48) the host uses the unstressed pronoun *je* 'you'. When he utters 'you' he moves his hands towards his addressee (B). However, with his hands he also metaphorically represents the continent of Africa. The speaker moves his hands towards the addressee because he would like to emphasize that she was the one who, in a previous conversation, mentioned the horrible living conditions for people in Africa were AIDS triumphs because there is a taboo to use condoms enforced by the Catholics. The speaker confronts her

with her earlier statements by representing the continent of Africa with his hands and shifting it toward her. In this case the gesture is a combination of a point and a metaphoric gesture type.

Thus, from this section it became clear that creating contrast or indicating topic-shift is another general reason for language users to point. Using points for this purpose results in simultaneously performable solutions that are not easily found for the linguistic context itself. Again the reason for using points can be traced back to the inherent features of personal pronouns of having the possibility to code contrast and shift between referents.

5.2.4 Accessibility
Pronouns generally refer to highly accessible referents. If the referent for whatever reason is less accessible the use of a pronoun alone is not sufficient to find the correct referent. A language user might then expand his reference; for instance by using a full nominal expression *or* by using a point. An example is (49):

(49) Sand[er # jij was de # initiatiefnemer]
Sander   # you were the # initiator
'Sand[er, you were the initiator]'

Figure 34 Accessibility **DWDD040408 00:46:45**

The host (A) and his guest (B) are sitting at a table and are talking about B's movie preferences. When B stops speaking the host turns to another guest (C, not in the picture) who has a minor role in the discussion. The guest has been introduced before, but it has been a while and he is not sitting at the table but in the audience. In terms of accessibility both linguistically and physically the accessibility of guest C is very low. This is indicated by (49) in which the speaker mentions the name of the guest and points at him.

Since C is not prominently present in the discourse and (49) alone would not have been sufficient for addressees to find the intended referent accurately the point helps the addressees to find the referent of the speaker. Thus, another reason for speakers to point is to compensate for the low accessibility of the referent. This is not a case of ambiguity since the speaker uses the name of the referent and no other person in the discourse is named 'Sander'. The point just

makes the reference track easier to do. However, this point does results from the same feature of personal pronouns as ambiguity does: the low semantic value of pronouns can lead to lack of clarity.

5.3 First and second person vs. third person

As became clear in chapter 3, most languages of the world give greater prominence to the speaker and the addressee(s) than to other participants involved in the conversation. The reason for this special status of speaker and addressee is that those speech participants are necessarily always involved in a discourse while third persons are not. Since gesture and speech are interconnected, the distinction between local pronouns on the one hand and third person pronouns on the other hand should also be visible in speakers' use of pointing.

The first part of evidence for this hypothesis can be seen in the case of indirect reference. In this type of reference a clear split between persons can be seen. With indirect reference, as is discussed in section 5.1 of this chapter, the speaker points at a TV screen or photo which on its own represents another referent that is absent. In the data annotated for this thesis indirect reference occurred 17 times. When these occurrences are split up according to personal pronouns table 5 is the result:

Indirect reference	
First person	2
Second person	4
Third person	11
	17

Table 5 Person in indirect reference

As can be seen in table 5 a speaker could use indirect reference to refer to first or second person. This is the case when the speaker is looking at a picture that displays himself or the addressee and he points at it when using a pronoun ('I' or 'you'). However, the greater part of the indirect reference points coincide with third person pronouns. This is not surprising. Instead, it follows logically from the distinction between first and second person pronouns and third person pronouns concerning the presence of their referent in the discourse. Because the referents of first and second person pronouns are present in the conversation it makes more sense for the speaker to point at the actual person or entity who is sitting, standing or laying near him than to point at a picture of that person or entity. However, the referents of third person pronouns can be, but do not have to be present. When a third person is not present but a picture of him is available a speaker can refer to him by pointing at the picture. Thus, the presence of pictures eases the reference to absent third persons. It is clear that within indirect reference there is a distinction between first and second person on the one hand and third person on the other.

In section 5.1 it became clear that there is a quantitative difference between deictic (64) and anaphoric (9) reference (leaving indirect reference out of it) with personal pronouns that coincides with points. Within these types of reference there are, just as with indirect reference, differences between first, second and third person pronouns. When we look at anaphoric reference there are 9 occurrences of pronouns coinciding with points. Of those 9 occurrences none concern first or second person and 9 concern third person pronouns. In spite of the small data corpus it might be clear that pointing and anaphoric reference prefer third persons. Thus, concerning anaphoric reference, speakers only point at third persons and never at first and second person since these are necessarily present in the local discourse and therefore do not need to be localized in the gesture space with a full nominal expression first.

Anaphoric Reference	
First person	0
Second person	0
Third person	9
	9

Table 6 Anaphoric reference

When we consider deictic reference with pronouns coinciding with points we see that it is reserved mainly for first and second person pronouns as can be seen in table 7. Of the sixty-four occurrences of deictic reference 29 cases concern first person, 28 cases concern second person and only seven cases concern third person pronouns. Thus, deictic reference also shows that first and second person differ from third person; they always have to be present in the local context and are the most important even when a third person is physically present.

Deictic reference	
First person	29
Second person	28
Third person	7
	64

Table 7 Deictic reference

Within the group of deictic reference concerning pronoun-point combinations another distinction can be found: the difference between the interactive function of first and second person pronouns and the descriptive function of third person pronouns which has been discussed in section 3.2. Making a descriptive comment about a person who is in face-to-face interaction with the speaker is odd and therefore the speaker's intention is interactional. When we look at the points that coincide with personal pronouns in the local context a similar split can be made. It seems that the points that coincide with second person pronouns have an inviting function while the points that

coincide with third person pronouns have a presenting function (cf. Foolen & De Hoop, 2007). To illustrate this, sentences (23) and (24) of chapter 3 are repeated as sentence (50) and (51) below:

(50)[He] might try to put the key into this lock

(51)[You] might try to put the key into this lock

When a speaker utters (50) to his addressee while the third person about who the speaker is talking stands beside him, it is perfectly possible for the speaker to move his hand to the side (most likely an open hand supine) to present the third person to his addressee. When a speaker utters (55), it is imaginable that he uses a point to go with the pronoun 'you' (most likely an extended index finger). The speaker invites his addressee to do or say something; an interactional interpretation. The interpretation of points as being inviting or presenting coincides with the tendency of second person pronouns to be used 'interactive' and the tendency of third person pronouns to be used 'descriptive'. With an inviting point the speaker likes to put his addressee in motion and the addressee will or will not react to this. The point and the pronoun require an interaction between the speaker and the addressee. With a presenting point the speaker refers to a third person while talking to his addressee. Therefore, there is no interaction between the speaker and the third person. The point and the pronoun lead to a description *of* the third person *for* the addressee.

Many examples of the inviting and presenting function of points can be found in the data used for this thesis. Example (52) illustrates referring to a third person and (53) illustrates referring to a second person:

(52) [hij heeft heel veel k]offie voor z'n fans

       he has very much coffee for his fans

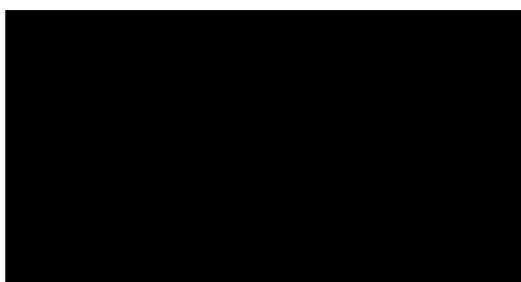'[He has lots of c]offee for his fans'

Figure 35 Presenting third person VF261207 00:5126

In (52) the host (B) and his two guests (A&C) are talking about how they want to be buried. A suggest that C places a coffee machine by his grave because he always offers his fans a cup of coffee. (C) laughs about the suggestion and the host seems to be a bit confused whereupon A

utters (52) to clarify his previous suggestion. A looks at the host while saying this and points at C with an open hand. This way, A describes a characteristic of C and presents the person of C with a point to the addressee.

In example (53) the speaker is inviting his new addressee to start speaking. The speaker (A) and his addressee (B) are talking about how B started to make thrillers. When B has finished his story, A turns to another addressee (C) who is not sitting at the table but in the audience. A utters (35) and points at C (even after A has uttered (53) to make sure that it is C who starts speaking and not one of the other speech participants. The point thus indicates that it is C's turn to speak, which he does. Thus, this point is inviting and leads to interaction.

(53) Willem # [jij bent # jij hebt er   een jij hebt een film   gemaakt he?   ]
     Willem # you are # you have there one you have a   movie made   right
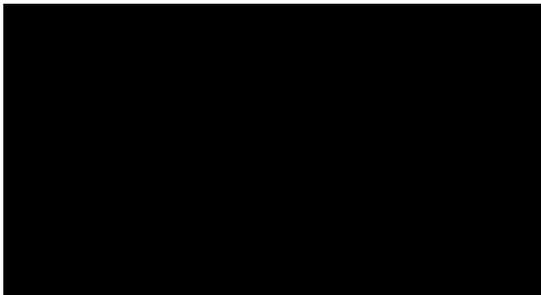   'Willem, [you are, you have one, you have made a movie, right?'   ]

Figure 36 Inviting second person DWDD040408 00:43:25

Example (52) and (53) illustrate that the interactive-descriptive difference between second and third person pronouns is also put through in pointing. By pointing at a third person in the discourse the speaker presents this person to his addressee. By pointing at the addressee the speaker suggests that the addressee should start speaking or should perform a task. Speech participants treat and interpret reference differently depending on the person to which the pronoun refers to.

This chapter showed that personal pronouns and pointing gestures actually *do* coincide with each other, contrary to the claims made in the literature. In the last chapter of this thesis, chapter 6, I will summarize the situations in which pronoun-point combinations occur and link these to the features and functions of personal pronouns discussed in chapter 3.

6. Discussion and conclusion

When a speaker points, he extends a particular body part (for instance, his arm, his leg or in some cultures even his lip(s) (Enfield, 2001)) to refer to an entity in the local context or to refer to an entity in the gesture space that has been localized before. The contribution of the speaker's point to the meaning of the utterance of which it is part is only realized through an interaction between the meaning of the point and the meaning of the associated words in the discourse (Kendon, 2004).

In this thesis a pilot-study was conducted to find out whether personal pronouns and pointing gestures in fact co-occur, contrary to the claims made in the literature, and what a possible co-occurrence tells us about the nature of personal pronouns. In chapter 1 I presented the four research questions central to this pilot-study on personal pronouns in Dutch. Each of these questions will be answered in this chapter.

With question one the claim that pronouns and gestures do not coincide was doubted.

> 1. Do personal pronouns and gestures coincide at all?

In the 200 minutes of video material used for the pilot-study I analyzed about 1700 personal pronouns. Of these 1700 pronouns 90 coincided with pointing gestures. This is an amount of occurrences that cannot be neglected. The points are co-expressive with the personal pronouns and transfer information when the meaning of the pronoun should be made more explicit. But what kind of information of personal pronouns has to be made explicit? This is the topic of question 2.

> 2. What functions and features of personal pronouns might trigger gestural expression to coincide with them?

As we saw in chapter 3 personal pronouns have one umbrella function, namely **reference**. They can refer to entities in the linguistic context (anaphoric reference) or to entities that are present in the actual context in which the speech participants are situated (deictic reference). Since deictic reference concerns present entities, pointing at these entities is easier then pointing at absent entities.

Furthermore, personal pronouns have a **low semantic content** (Bhat, 2004). Pronouns contain as little information about the referent as possible to be able to shift freely between referents. In the normal course of events the referent of a personal pronoun is easily found. However, there are instances in which the low semantic content can lead to ambiguity or vagueness when the addressee tries to interpret the pronoun (for instance when multiple addressees are present or when the accessibility of the referent is low).

However, even though personal pronouns contain as little information about a referent as possible that does not mean that they do not express *any* meaning. For instance, pronouns may be used to create **contrast** in order to set two referents apart. Another function of pronouns is shifting of personal pronouns between referents to indicate a **topic-shift**. This way, personal pronouns regulate the discourse-structure. Another very important feature of pronouns is expressing **number**. As was discussed in chapter 3 the paradigms of personal pronouns concerning number differ between languages. A smaller paradigm for number could lead to pointing for instance in cases where number has to be made explicit.

Since most languages give greater prominence to the speaker and the addressee opposed to third persons in the discourse, we also might expect distinctions between the use of **local pronouns** versus third person pronouns and the functions they represent: inviting and describing.

These functions and features of pronouns cannot always be interpreted from their surface forms. When it is important to for a pronoun to make its meaning explicit, a speaker has certain tactics to choose from. The speaker either elaborates the reference to reference with a full nominal expression *or* accompanies the current reference (with a pronoun) by a pointing gesture. The speaker might use pointing because a point clarifies the information of the personal pronoun without transforming the linguistic form of the sentence. Moreover, the speaker could perform the point and pronoun simultaneously since they occur in different modalities: pronouncing a pronoun and pointing at the intended referent at the same time.

Obviously, speakers sometimes choose for pronoun-point combinations given the 90 occurrences I have found in the corpus. Question 3 is concerned with the reasons for the 90 pronouns to co-occur with pointing gestures.

> 3.   When do personal pronouns and gestures coincide? Are there general situations?

In chapter 5 I have discussed several examples of personal pronouns that coincide with points. From these examples and the other occurrences in the corpus general situations in which pronouns and points coincide can be abstracted. Points with pronouns are more likely to coincide in situations where:

a)   the referent is present in the local context (5.1);

b)   multiple referents are possible candidates for the pronoun to refer to (5.*2.1)*;

c)   the difference between inclusive and exclusive meanings is important (5.2.2);

d)   contrast between referents has to be emphasized (5.2.3);

e)   topic-shift within the discourse has to be indicated explicitly (5.2.3);

f)   the referent's accessibility is low, given the linguistic or extra-linguistic context (5.2.4);

g)   the referent is presented or invited explicitly (5.3).

These situations do not exclude each other. As was mentioned in chapter 3 referring is an umbrella function of pronouns and within this function pronouns might express more information like contrast or number. And these functions can be combined as well; it is perfectly possible for a pronoun to express contrast as well as indicating a topic-shift.

The general situations given above are closely linked to the functions and features of personal pronouns. Each of the situations can be explained by the nature of pronouns. The following list of functions and features correlates with the list of situations given above.

a) Reference;
b) Low semantic content;
c) Number;
d) Contrast;
e) Topic-shift;
f) Low semantic content;
g) Local pronouns.

It should be noted that generalization *a* is more like a condition than like a pure situation. A speaker is more likely to use a pronoun-point combination with deictic reference than with anaphoric reference as has been discussed in chapter 5. In the case of deictic reference the entity to which the speaker refers to is present in the discourse and the speaker has something physical to point at. It is therefore also no surprise that speakers point at speakers and addressees more frequently than they do at third persons when using the corresponding pronouns. However, the distinction between local pronouns and third person pronouns is not only a matter of being present or not. The use of one of the two types of pronouns also results in a different interpretation as was mentioned before. The use of a first or second person pronoun leads to an invitation while the use of a third person pronoun leads to a description. This distinction of interpretations can be enforced by the use of points.

We now know that personal pronouns and pointing gestures *do* coincide. We also know that there are features and functions of personal pronouns that can trigger gestural expression and that these predictions are born out in the analysis of the 90 occurrence of pronoun-point combinations. But:

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4. What does that tells us about the nature of personal pronouns?

The occurrences of pronoun-point combinations eliminate the possibility that personal pronouns simply represent old information and nothing else. Since they can be accompanied by a pointing gesture which is co-expressive with the meaning that is expressed by the word it coincides with

personal pronouns apparently contain more information than their surface form shows. They express topic-shift, contrast, number, invitation and presentation. These functions indicate that pronouns have a serious job to do: they structure the discourse and add new information to the meaning of the discourse as well, which might change the interpretation made by an addressee.

This pilot-study has proved that personal pronouns and pointing gestures *do* coincide and that the situation of personal pronouns and their value to the entire discourse is much more complicated than might seem at first sight. That does not mean that the topic is closed now. On the contrary, it is just a start. In future research it would be worthwhile to consider the different hand shapes for pointing. If Kendon is right, the different hand shapes will co-occur with the different meanings the speaker would like to express with his points.

Another very interesting topic of research could be the distinction made by Haviland (2000) between narrated space, local space and interactional space. These different spaces refer to different levels on which the discourse functions. In narrated space the speaker constructs his own space apart from the actual space he is situated in. In local space the speaker *does* relate his points to the actual space and in interactional space the speaker and the addressee construct a space together. These different spaces play an important role in sign language but might also be important in spoken language.

The comparison with sign language is another topic for research. In sign language personal pronouns are represented by indexes, pointing gestures. Thus, pointing gestures are part of the grammar. This would lead to a much more systematic use of pointing, but also to a more frequent use of anaphoric reference. Another prediction would be that the semantic value of pronouns in sign language would be less low than it is in spoken language since a part of possible ambiguity is taken away by an actual point at the intended referent.

However, for now, this thesis has proved that points and pronouns *do* co-occur, indicating that personal pronouns are not merely 'old' information but that there are underlying reasons for pronouns to behave as 'new' information.

The French writer and actor Molière once said:
"Language is given to man to hide his thoughts"

Unaware of it, David McNeill provided a solution to this problem:
"Gestures are like thoughts themselves"

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