5.1 Introduction

When meaningful hand configurations in sign languages started to be investigated, they were compared to classifiers in spoken languages, resulting in the conclusion that they were highly similar to them (Frishberg 1975; McDonald 1982; Supalla 1982; and others). Initially, meaningful hand configurations in sign languages were compared to the classificatory verb stems in spoken languages like Navajo. However, several researchers (Engberg-Pedersen 1993; Zwitserlood 1996; Schembri 2001) have argued convincingly that this comparison is based on a misinterpretation of the Navajo verb stems. The Navajo verbs that have been used in the literature to illustrate their similarity to the sign language classifier predicates consist of two morphemes, analysed as a verb and a classifying morpheme, respectively. However, it has become clear that this analysis is not correct. The Navajo verbs in question consist of a (perfect) aspect marker and a verb stem in which the verb and classificatory element are conflated. Although this verb stem may be
analysed historically as consisting of separate morphemes denoting a verb root and a classifier (Young & Morgan 1987; Cook & Rice 1989), this is not a possible synchronic analysis. In sign language predicates, the element that is considered the classificatory device is clearly analyzable as a separate morpheme, and is separate from the verbal element. For this reason, classificatory verbs in Navajo and constructions with meaningful hand configurations in sign languages cannot be fully compared.

In the last twenty years additional research and comparison has been done on classifiers in both spoken and sign languages. More recent discussions on their status have arisen on the basis of new data, and alternative analyses of meaningful hand configurations and the structures in which they occur. Some researchers (Engberg-Pedersen 1993; Emmorey 2001; Schembri 2001; Slobin et al. 2003) doubt whether these hand configurations are really classifiers and whether the structures in which they appear are really classifier predicates. (This doubt has led to a number of different terms for the same phenomena).

In this chapter I will compare the characteristics of classifier predicates in NGT with those of genuine verbal classifier systems in spoken languages, using recent literature on classificatory devices in spoken languages (Aikhenvald 2000; Grinevald 2000). I will show that the prototypical morphosyntactic and semantic characteristics of verbal classifiers in spoken languages are comparable to the morphosyntactic and semantic characteristics of some of the NGT classifiers, but not all. Therefore, not all of these sign language predicates should be considered examples of the same phenomenon.
I will generalize over the morphosyntactic characteristics of three subtypes of classifier predicates in sign languages. The generalizations are based on my NGT data. In section 5.2, I will discuss the verbs expressing the path motion, the change of orientation, the location and the existence of a referent; in section 5.3, the predicates in which size and shape of referents are outlined (Size and Shape Specifiers or SASSes), and in section 5.4, I will focus on the predicates that express the manner of motion of referents. In section 5.5, I will compare these to the prototypical morphosyntactic characteristics of verbal classifiers in spoken languages. The summary and conclusion can be found in section 5.6.

**5.2 Verbs of motion, location and existence (VELMs)**

In this section, I will focus on the subtype of classifier predicates consisting of verbs that express the path motion of a referent through space and/or the orientation change of a referent, verbs that locate a referent in space, and verbs that express the existence of a referent in space (I will call these VELMs), 1 and I will generalize over the characteristics I have found in the NGT data. 2

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1 VELM is short for ‘verb of motion, location and existence’. The unexpected ordering of the initials is chosen because of the easy pronunciation (easier than VMLE).

2 In contrast to the literature (Supalla 1982, 1986, and others), I distinguish terminology for verbs that express the localization of a referent and verbs that express the existence of a referent, because these diverge somewhat. Verbs that express motion or that indicate the existence of a referent express an event or a stative situation. Verbs expressing the localization of a referent, in contrast, are often not used to describe a stative situation (or an event), but to assign referents to particular loci in signing.
In the sign language literature, it is often claimed that before a classifier is used, its referent must have been introduced in the discourse. If this were not done, the reference of the classifier would be unclear. This holds true for the classifiers that appear on VELMs in NGT, as well. A signer telling a story usually begins with a setting, introducing the entities that will occur in it before relating the events of the story (a common pattern in narratives in all languages). After potential referents are introduced, classifiers can be used to represent them. When a new referent is necessary during the narration of the main events, it is introduced before the signer uses a classifier to represent it. There are some exceptions. A classifier is sometimes used without the previous introduction of the referent, when the reference of the classifier can still be obtained. The linguistic or deictic context may make the reference of a classifier obvious, or the signer may make the referent explicit after using a classifier predicate. 3 Signers tend not to use classifier predicates in isolated sentences out of context. For instance, when asked where he has been, a signer can respond sufficiently as in (1):

space, so that the loci can be used for further reference to the referents (this can be done with a default entity classifier as well as with a more specific entity classifier. In the former case the verb of localization is a pointing sign, in the literature often glossed as INDEX). In that respect, these verbs seem to function like operators that assign overt indices to connect referents with particular loci rather than as verbs. However, since they behave like verbs of motion and existence in other respects, I will not treat them differently in this thesis.

3 In my data, some particularly interesting cases occur. Since some of the tasks required situations to be expressed repeatedly, either by the signer or by the addressee, a signer sometimes did not bother to introduce the referents when starting to retell a story; they were clear from the previous story, not from the immediate context.
Although the verb expresses a motion, no classifier predicate is involved in the structure in (1). The friend has not been localized, nor has an inflected predicate been used, only a verb stating that someone visited someone. Although the signer could have introduced the friend, assigned him a locus in signing space and used a verb of motion with a classifier (for instance a hand) to indicate the trajectory of the referent, in such isolated sentences he tends not to set up referents in signing space and not to express the exact path that was traversed.

Within a VELM a particular hand configuration can be used to represent the referent involved in the event expressed by the verb. Such a hand configuration cannot occur in isolation: it is always used simultaneous with the verb. The hand configuration is thus a bound morpheme. Classifiers represent a referent that is in motion, that is being located or that exists at some location in signing space. This means that classifiers are linked to the Theme argument of the verb (Gruber 1976; Engberg-Pedersen 1993; Meir 2001; Slobin et al. 2003). I will discuss the grammatical status of the elements within the classifier complex in more detail in Chapter 6.

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4 This verb can be inflected for Source and Goal, but this is not obligatory.
5 Actually, the verb is also a bound morpheme, as has been pointed out in the literature (among others Engberg-Pedersen 1993; Meir 2001; Slobin et al. 2003). I will discuss the grammatical status of the elements within the classifier complex in more detail in Chapter 6.
Jackendoff 1987, 1990), that is: the argument whose motion or location is specified. Examples that illustrate this observation are given in (2)-(4). In each example, the hand in the predicate represents a referent that is being localized somewhere in signing space or that follows a trajectory through space (a child in (2), a ball in (3), and a book in (4)).

(2)a.  
\[
\text{child} \quad \text{be-LOC}_{\text{right}} \text{-CL:animate ent} \\
'\text{There's a child, here to the right.}'
\]

b.  
\[
\text{child} \quad \text{LOC}_{\text{right}} \text{-move-LOC}_{\text{left}} \text{-CL:animate ent} \\
'\text{The child went (from here to there).}'
\]

(3)a.  
\[
\text{ball} \quad \text{be-LOC}_{\text{right}} \text{-CL:round ent} \\
'\text{There's a ball, here to the right.}'
\]

b.  
\[
\text{ball} \quad \text{LOC}_{\text{left}} \text{-move.arc-IT-LOC}_{\text{right}} \text{-CL:round ent} \\
'\text{The ball bounced away to the right.}'
\]
(4)a.

<table>
<thead>
<tr>
<th>Table</th>
<th>Book</th>
<th>Be-LocCenter-CL:Flat Ent</th>
</tr>
</thead>
</table>

‘There’s a table, and there’s a book on it.’

b.

<table>
<thead>
<tr>
<th>Table</th>
<th>Book</th>
<th>LocCenter-Move Down-CL:Flat Ent</th>
</tr>
</thead>
</table>

‘There’s a table, and a book fell off it.’

In these examples, the verb’s arguments are overtly expressed. Overt marking of the arguments is, however, not obligatory: they can also be left implicit. Within a discourse, it is often the case that no overt reference to the referents that are involved is made: pro-drop appears to be possible for all arguments, and sign sequences that consist of various predicates often occur in a discourse. This is illustrated in (5), which contains a sequence of five intransitive VELMs without any overt marking of the arguments involved.
Chapter 5

(5) Linguistic context: ‘There’s a green triangle to the right, and a ball, oh, it’s a packman!, to the right. It has a plank in its mouth.’

(6)a.

Classifiers are used to keep track of the referents during a discourse. These generalizations hold not only for verbs that express the motion of an entity through space or its localization in signing space, but also for verbs that express the existence of an entity, as in (6a), where the dots indicate that the signer can express several signs with one hand while holding the classifier predicate configuration on the other. The generalizations also pertain to verbs expressing a change in the orientation of an entity (6b).
We have seen in section 4.4.1 that classifiers also occur on transitive VELMs. Some examples are given in (7) and (8); here, the arguments of the verb are expressed overtly.

(7)a. I flower x-hold-CL:delicate thin ent

‘I’m holding a flower.’

b. child flower x-LOC\_down-move.up-CL:delicate thin ent

‘The child picks up a flower.’


‘John puts a book down.’
Chapter 5

b. The child pushes the table forwards.

In both transitive and intransitive sentences classifier hand configurations represent the Theme argument of the VELM. It may seem somewhat premature to use syntactic terminology for this argument, since there is no overt systematic marking on nouns that shows us what their syntactic role is. Nevertheless, since the preferred constituent order in NGT sentences is SOV/SVO (Coerts 1994; Van Gijn in prep.), I assume that the argument of a transitive VELM that is not in sentence-initial position functions as the object. With respect to intransitive verbs word order cannot be of any help in determining the syntactic role of the argument, since there is only one argument, which can be a subject but also an object. According to Benedicto & Brentari (to appear), one subgroup of classifier predicates (in ASL) is unaccusative, whereas another group of these predicates is unergative. Preliminary results of an investigation on classifier predicates in NGT show that VELMs are probably unaccusative (Zwitserlood in prep.). This means that the argument in a sentence with an intransitive VELM is a deep object, but a surface subject. For this reason. I assume that, in syntactic terms, meaningful hand configurations are connected to the subject of intransitive VELMs and to the object of transitive VELMs.

Thus, there appears to be a systematic marking of the moving referent, that is, the Theme argument (subject or object), on the verb by means of a
classifier: VELMs appear to be obligatorily marked with a classifier. As we have seen in Chapter 4 the set of hand configurations involved is rather small: the inventory of classifiers (so far) holds fifteen entity classifiers and eight handling classifiers.

5.3 Tracing Size and Shape Specifiers

Sign language researchers have proposed different types of classifiers, ranging from two to eight types (see Chapter 1, section 1.3). Supalla (1982; 1986) calls one of these types is called a Size and Shape Specifier or SASS. Recall from section 2.2.3 that he divides this type into two subtypes: static SASSes and tracing SASSes. Examples of these are given in (9) and (10), respectively.

(9) a. ‘small round object’
   b. ‘large round object’
   c. ‘wide flat object’
   ASL (Supalla 1982:27, Fig. 2)

(10) a. ‘pole’ (1-dimensional)
    b. ‘rectangular object’ (2-dimensional)
    c. ‘smooth curved surface’ (3-dimensional)
    ASL (Baker-Shenk & Cokely 1980:310, 315, 317)
These types have been accepted in much subsequent research, although they are often labeled differently. Static SASSes are similar to entity classifiers in that the hand configurations represent noun referents, occur on intransitive VELMs and refer to the Theme argument of VELMs. Tracing SASSes, in contrast, have very different characteristics.

An important characteristic of all ASL SASSes, as described by Supalla (1982, 1986), is their representation of the size and/or shape of the referent. In static SASSes, the shape is represented solely by the hand configuration. In tracing SASSes, the hand follows a trajectory through space that traces the shape of the referent, while the hand configuration contributes in meaning with respect to that shape. The hand configuration provides information about the dimensionality of the entity that is referred to (see also Wallin 1990). For entities that are saliently one- or two-dimensional, such as thin poles or paintings, a hand configuration is usually used that has only an extended index finger or an extended index finger and thumb. A tracing SASS indicating a thin object, such as a thin pole as in (10a), employs a hand configuration with only extended and bent index finger and thumb: \( \text{hand} \). To outline a thick pole, the \( \text{hand} \) configuration, in which all fingers are extended and bent, is used, and the \( \text{hand} \) configuration would be considered less felicitous. Similarly, if, in the sign in (10b), the \( \text{hand} \) were used instead of the \( \text{hand} \), the sign

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6 In the literature, static SASSes are also called object classifiers, class classifiers, whole entity classifiers, semantic classifiers, and descriptive Instrumental classifiers. Tracing SASSes are also known as extent classifiers, surface classifiers and/or perimeter classifiers. To facilitate comparison of the characteristics of these elements, I will use the terms static and tracing SASS in this section. However, in the remainder of this thesis I will use different terms.
Different types of classifier predicates

would indicate a three-dimensional cube entity, such as a box, instead of a two-dimensional square entity.

Another characteristic of tracing SASSes is that they can be made at a particular position in signing space, after which the referent is associated with that locus. This locus can be used for further reference in the following discourse. The characteristics described above for ASL hold for similar signs in NGT as well. My data reveal some additional characteristics of tracing SASSes in NGT. It appears that while static and tracing SASSes are considered classifiers of one general type, they differ on four accounts.

First, despite superficial similarities, static SASSes and tracing SASSes function differently in NGT grammar. NGT signers can locate a referent in signing space with a static SASS or a tracing SASS. When a static SASS (or entity classifier) is used, it is placed at a locus in signing space, as we have seen in previous chapters. This is accomplished by means of a small movement of the hand towards that locus. The movement can be downward, if the referent is on top of something else (including the ground) as in (11), or towards a vertical plane, if the referent is, for example, hanging on a wall. When a tracing SASS is used, an outlining movement takes place at a locus in signing space. Localization with an entity classifiers is illustrated in (11), and localization with a tracing SASS in (12).
(11) Localization with entity classifiers:

a. be- LOC\textsubscript{right}-CL:cyl ent
‘There is a cylindrical entity to the right.’

b. be- LOC\textsubscript{right}-CL:l\&t ent
‘There is a long and thin entity to the right.’

(12) Localization with tracing SASSes:

a. be- LOC\textsubscript{right}-cyl ent
‘There is a cylindrical entity to the right.’

b. be- LOC\textsubscript{right}-round ent
‘There is a flat round entity to the right.’

The first difference between these structures is that the hand configuration itself represents the referent in an entity classifier (by its shape), whereas a tracing SASS needs a movement of the hand to express the (shape of) the referent in addition to a hand configuration. For instance, the sign in (11a) consists of a hand configuration expressing the cylindrical shape of a referent, combined with a small downward movement that indicates the localization of the referent. Similarly, the sign in (12a) indicates a cylindrical referent, and by making the sign at a particular location, the signer localizes that referent. Although in both (11a) and (12a), the referent is cylindrical, in (12a) this shape is indicated
by a combination of the hand configuration and a movement of the hand that traces the outline of a cylindrical entity. Without the movement, the sign in (12a) would not indicate a cylindrical entity, but a flat (small) round entity. Movement is equally crucial in the example in (12b), in which the signer expresses the localization of a referent that has a flat, round shape: this shape is indicated mainly by the outlining movement. Without that movement, the sign would not indicate a round entity, but a long and thin one.

The movement in tracing SASSes, therefore, does not indicate a path motion, but the shape (and/or size) of a referent. The hand configuration in these predicates contributes to the meaning of the whole sign in indicating its dimensionality, but it has a different function from the hand configurations that appear in VELMs, which refer to an argument of the VELM, namely the Theme argument. In tracing SASSes, the hand configuration is not connected to verbal arguments.

A second difference between the SASS types relates to the verb types with which they may appear. In my data, in addition to verbs of location, static SASSes (or: entity classifiers) are also used with verbs of existence and verbs of motion, indicating an orientation change of a referent, or a path motion of a referent, as illustrated in (13).
However, nowhere in the data is a tracing SASS used on a verb of motion. Since non-occurrence does not prove non-existence, I discussed the possibilities of using a tracing SASS to indicate the motion of a referent with my consultants. They all agreed that this was impossible. The only feasible way to combine a tracing SASS and a verb expressing a path motion is to repeat the SASS along the traversed path. It is physically possible to realize such a construction, as can be seen in (14).

This combination, however, has a different interpretation than that of a referent traversing a path. It means that there are several similarly shaped (long and thin) referents positioned at several loci in signing space (for
instance, several pens). Thus, this construction expresses a sequence of verbs of location, not a verb of motion.\(^7\)

A third difference between static SASSes and tracing SASSes is their use. Although both can give information on the shape of the referent, the use of these constructions differs. As shown in Chapter 4, the set of meaningful hand configurations is rather small. As a consequence, the number of shapes that can be represented is very limited. Furthermore, when a signer uses a static SASS, he often represents the shape of the referent globally or focuses on a part of its shape that can be represented easily or that he considers important. In contrast, tracing SASSes can be much more specific about the shape of the referent. For example, a signer confronted with a line drawing of a star-shaped mirror that is hanging on the wall, and asked to describe what he sees in the drawing, can use a verb of location to indicate the location of the entity. It is perfectly possible to trace the outline of the mirror, using the tips of the extended index fingers to indicate that the entity is flat and thin, as in (15).

(15)

\[
\text{be-LOC}_{\text{center}} \text{-flat star-shaped ent}
\]

'There's a flat star-shaped entity (vertical) here at the center.'

\(^7\) This difference has also already been described for ASL by Baker-Shenk & Cokely (1980).
However, representing the star-shape of the entity is not possible by means of a hand configuration alone, even though the hand has five fingers (as the star has five extensions) and these could in principle be extended and spread to indicate the extensions of the star. The picture would not be really accurate, but such a representation would still be a viable option. However, in NGT the hand cannot be used to represent the star, although a flat hand can be used to represent the flatness of the mirror. This is illustrated in (16a,b).

(16)a.  

\[ * \quad \text{be-LOC\textsubscript{center}-CL:star-shaped ent} \]

\[ * \quad \text{‘Flat star-shaped entity (vertical)’} \]

b.  

\[ \text{be-LOC\textsubscript{center}-CL:flat ent} \]

\[ \text{‘Flat entity (vertical)’} \]

Tracing SASSes are therefore much more specific about shape than static SASSes. The conclusion of this is that tracing SASSes, in contrast to classifying noun referents, specify them. Tracing SASSes can indicate an infinite number of specific shapes of referents, while static SASSes classify referents by assigning them to one (or more) particular group(s) of referents that share the same characteristic(s). In contrast to static SASSes or entity classifiers, tracing SASSes form an open class with an infinite number of elements.

A fourth difference between tracing SASSes and static SASSes in NGT is their distribution. Static SASSes (or entity classifiers) are used on verbs of motion, to express the motion of a referent entity, and on verbs
of location or existence, to indicate the localization or existence of a referent in signing space. After a referent is introduced in a discourse, it can be referred to. There are three ways to do this. First, when the signer considers the spatial arrangement or the motion of the referent important, he will use a verb of motion or location, combined with an appropriate classifier. Second, when he considers the particular shape of the referent and its location important, he can combine a verb of location and a tracing SASS. Third, when he considers only the particular shape of the referent important, he will indicate the shape and (optionally) indicate the locations by means of pointing signs. These three possibilities are illustrated with an example in which signers describe the picture in Figure 1 using static SASSes (17a) or tracing SASSes (17b,c).

Figure 1  Situation with three differently shaped mirrors

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8 As already stated in footnote 2, these pointing signs are verbs of location themselves, combined with the default classifier 냣.
There were three mirrors.

Localization of referents with use of an entity classifier:

a. Localization of referents and indication of their shape by tracing SASSes:

... one here, one there and one there.'

b. Localization of referents and indication of their shape by tracing SASSes:

... a flat rectangular one here, a flat round one there and a flat star-shaped one there.'

c. Indication of the shape of referents by tracing SASSes and localization of these referents by pointing signs:

‘Here is a flat and round one, there is flat and triangular one and over there is flat and star-shaped one.’
Different types of classifier predicates

Static SASSes occur on verbs that signal a path motion, a location or the existence of an entity. We see that tracing SASSes can, but need not be, combined with a verb of location. Again, the primary function of a tracing SASS appears to be the specification of the shape of a referent. Tracing SASSes function as modifiers; they give information on the specific size and/or shape of a referent, sometimes combined with a verb of location as in (17b), but not always, as in (18).

(18)

\[
\begin{array}{c}
\text{table} \\
\text{kidney.shape}
\end{array}
\]

\text{‘The table is kidney-shaped.’}

Glück (2001) similarly observes that the function of tracing SASSes (in DGS) differs from that of static SASSes and may be adjectival in nature. Indeed, some constructions (such as the one in (19)) should perhaps be analyzed as adjectival constructions.\(^9\),\(^{10}\)

\(^9\) The structure of (19) is not completely clear. It may consist of two clauses, one of which is a relative clause. The meaning would then be: ‘I bought a table that is kidney-shaped.’ It is not clear to me whether there is a difference between verbs and adjectives in NGT, and whether such a difference is of importance.

\(^{10}\) In NGT many nouns exist that are similar to tracing SASSes, for instance:

\[
\begin{array}{c}
\text{‘table’} \\
\text{‘house’} \\
\text{‘stick’} \\
\text{‘window’}
\end{array}
\]
The differences discussed can be summarized as follows. In contrast to static SASSes, tracing SASSes cannot be used in the expression of the motion of a referent through space or the orientation change of a referent. However, they can be used to locate a referent of a particular shape in signing space. The movement is never used to indicate the path motion of a referent and when a tracing SASS is used to locate a referent it is combined as a whole with a verb of location. In contrast to entity classifiers, tracing SASSes are never used to track reference in a discourse, and they specify, rather than classify, entities. They can modify nouns by specifying their shape. While static SASSes (or entity classifiers) consist of a hand configuration only, tracing SASSes require an outlining movement. This means that tracing SASSes surface as free morphemes. Static SASSes, in contrast, never occur in isolation but are always combined with a VELM. Thus, the latter are bound morphemes.

Some of these nouns may have derived from modifying (adjectival) signs. However, they may also have entered the language as nouns. Some nouns (and modifying signs) have the same form, but the nouns usually have a clear word pattern, where the mouthing consists of the Dutch word for the concept. This mouth pattern, combined with the sign, is sufficient to express the meaning and to distinguish the nouns with similar forms from each other.
Both static and tracing SASSes have probably been the reasons for considering them classifiers in the sign language literature because in both (i) the handshape contributes to the meaning of the sign, (ii) there is an indication of the shape of a referent, and (iii) referents can be located in signing space. However, the differences between the two types are such that tracing SASSes and static SASSes should be analysed as two distinct types of linguistic elements. I will not focus on tracing SASSes in the remainder of this thesis, but will return briefly to their structure in section 8.2.4.

In order to be able to discuss the differences between SASSes in connection with previous accounts, it was important to use the term SASS. However, this term is rather confusing, even if it is specified as static SASS or tracing SASS. To avoid confusion, I will not use the term SASS in the remainder of this thesis. From now on, I will refer to Supalla’s tracing SASSes as contour signs.\textsuperscript{11} Static SASSes have been distinguished in the literature from other classifiers that directly represent entities (especially semantic classifiers) because they i) have an internal morphological structure (Supalla 1982, 1986; and many others), and ii) allow particular combinations with other classifiers that semantic classifiers do not allow.\textsuperscript{12} However, there does not appear to be a distinction between static SASSes and semantic classifiers in NGT. This

\textsuperscript{11} I am grateful to Sotaro Kita of the Max Planck Institut für Psycholinguistik at Nijmegen for this suggestion.

\textsuperscript{12} For instance, Supalla (1982;1986) and Liddell & Johnson (1987) report the impossibility to locate a classifier on a semantic classifier, whereas this is very well possible on a static SASS.
was already described in Zwitserlood (1996), and I have not found any evidence for a distinction since. As described in section 4.3.3, the NGT entity classifiers do not appear to be morphologically complex. Furthermore, I have not found any restrictions on the use of particular classifiers with respect to each other (at least in NGT). Therefore, I will consider all hand configurations that directly represent noun referents and appear on VELMs as entity classifiers.

### 5.4 Verbs of manner of motion

I will now turn to a discussion of the third type of construction that is usually considered in the sign language literature to be part of the system of classifier predicates, namely verbs that express the manner of motion of a referent. In most of these verbs one or two hand configurations occur that represent body parts (Supalla’s Body Part Classifier). Such verbs indicate how a referent moves by referring to the movements of hands and arms, feet and legs, as in the verb in (20a), where the articulators function as ‘human feet classifiers’, and in (20b,c), where they function as ‘human arms classifiers’.

> (20)a. ASL
> 
> (Supalla 1990:138-139, Fig. 6.11-6.13)
NGT has a similar group of verbs, as illustrated in the clauses (21).

(21)a. [Diagram of Donald Duck running]

Donald Duck run

"Donald Duck runs."

b. [Diagram of elephant flying]

elephant fly

"The elephant flies."

c. [Diagram of child walking]

child walk

"The child walks."

In the clauses in (21) the arguments of the verbs are expressed overtly (although this is not always necessary). We can see that these predicates are intransitive, too, just like predicates that express the path motion (or orientation change) of referents. Moreover, in these manner verbs the hands indicate (parts of) the moving referent, as in the path motion verbs (22).
Nevertheless, predicates expressing the manner of motion of a referent differ in several ways from predicates expressing the path motion of an entity. I will explain this by means of the examples in (23) and (24).

(23)a. Donald Duck move.left-CL:animate ent
    ‘Donald Duck goes from the right to the left.’

b. Donald Duck run
    ‘Donald Duck runs.’

(24)a. elephant move.left-CL:flat ent
    ‘The elephant goes from the right to the left.’
The sentences in these examples all indicate the motion of referents, namely running and flying motions. One difference is that the motion predicates in the (b) examples cannot express a path motion from a particular locus and/or to a particular locus in signing space (although an indication can be given by slightly moving the hand or hands in a particular direction; see also Supalla 1986, 1990:144-145). A second difference is that, even though the hand configurations in these verbs are undoubtedly meaningful, representing body parts, and the predicates express the motion of a referent, the hand configurations do not appear to represent arguments of the verb. This becomes clear when we consider (23) and (24). The movement in the verbs in (23a) and (24a) expresses the exact path motion of the entity. The Theme argument of the verb is represented by the hand configurations on the verb: Donald Duck in (23a), represented by the hand, and an elephant (Dumbo, a character in Walt Disney comics who can fly by flapping his ears) in (24a), represented by the hand configuration. This is not the case in the (b)
examples. In (23b) the hand configurations ( الموادی ایجاسیون) represent solid objects, namely fists. Interpreting the movement of the hands as path motions would require interpreting a rotating motion of two fists. Similarly, in (24b) the hand configurations represent flat referents (for instance wings), and the movement would denote up and down motion of these referents. However, this is not what is expressed by the predicates. In these examples, the movement of the hands does not express the path motion of the arguments (Donald Duck and the elephant, respectively) through space. A signer using the expression in (23b) does not intend to express a rotating motion of two referents involved in the expression of Donald Duck running: there is only one referent that moves (namely Donald Duck), not two (fists). Furthermore, the signer does not intend to express a rotating path motion. The hand configurations are also not appropriate for representing Donald Duck as an independently moving referent. The same holds for the example in (24b). The signer does not intend to express up and down motions of two flat-shaped referents, but a motion of one referent: the elephant.

Note that the verbs in (23b) and (24b) could be interpreted as two rotating solid referents and two flat-shaped referents going up and down, respectively. For instance, the hand configurations in the predicate in (25) express the up and down movement of large ears.
Different types of classifier predicates

However, the hands cannot be analysed in this way in (23b) or (24b), since in these clauses the referents (fists and ears) that are in motion are not arguments of the verbs. The signer does not intend to say that the elephant is flapping his ears, but that he is flying. Thus, the hand configurations in these verbs do not represent the referent in motion. There is no relation between the argument and the classifier, and consequently, the hand configurations do not have a referent-tracking function. Obviously, the hand configurations have a meaning and contribute to the meaning of the whole sign, as can be seen in the manner verbs in (26), in which the hands represent hands (a), skate irons (b), and pedals (c), and the movements reference the motions made by the hands in the act of swimming (typical of breast stroke) (26a), the typical motions of the skates in skating (26b) and the typical rotating motion of pedals during the action of riding a bicycle (26c).\(^\text{15}\)

\(^{15}\) Not all verbs that express a manner of motion have a meaningful hand configuration and a meaningful movement. For instance, in the NGT sign for ‘to stroll’, the hand configuration does not represent a body part (or, for that matter, any entity), nor does the movement indicate a swaying motion of a referent.
However, as in contour signs, these hand configurations do not seem to classify referents. Moreover, they appear to have a radically different function in manner verbs than in verbs expressing a path motion. I will discuss this function in detail in section 8.2.4.

5.5 Comparison to verbal classifiers in spoken languages

As discussed in Chapter 1, several different types of classifier systems have been proposed for natural (spoken) languages. The systems are distinguished according to the element hosting the classifier and have their own morphosyntactic and semantic characteristics. Languages can combine various classifier systems. Some languages, notably Amazonian languages, combine classifier systems and a gender system. Recall from section 1.1 that Aikhenvald (2000) mentions the following classifier types:

(i) ‘to stroll’
Different types of classifier predicates

1) numeral classifiers (which occur with quantifiers, determiners and numerals within a DP)
2) noun classifiers (that cooccur with the noun they classify within the DP)
3) verbal classifiers (that appear on verbs and categorize one of its arguments)
4) possessed classifiers (that occur in a possessive construction to characterize the possessed noun)
5) relational classifiers (that also occur in possessive constructions, but indicate the relation between the possessed noun and the possessor)
6) locative classifiers (which occur on locative adpositions)
7) deictic classifiers (that are associated with deictics and articles within a DP).

The sign language ‘classifiers’ discussed in the above sections are all related to predicates; they do not occur systematically with numerals, determiners or quantificational expressions, nor with possessors, genitives, or locatives. Therefore, if we want to compare meaningful hand configurations with classifier systems in spoken languages, this comparison is made best to verbal classifiers.

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16 Meaningful hand configurations in sign languages superficially occur sometimes in the environment of quantificational expressions, have sometimes been analysed as markers of plurality and therefore could perhaps be interpreted as somehow similar to numeral classifiers. However, as argued by Nijhof & Zwitserlood (1999), this use of meaningful hand configurations is no different from that on VELMs: the constructions in which they appear express the loci of individual entities in space; they do not behave as numeral classifiers.
Aikhenvald (2000) distinguishes three forms of classification with verbs:

1) **classificatory noun incorporation**: verbs combine with nouns that have a generic meaning, resulting into a complex verb. Besides as incorporated element, the nouns can also occur in isolation. An illustrative example from Mohawk is (27): the generic noun \[i\]ts (fish) occurs in isolation in (27a), whereas it is incorporated into the verb in (27b) \([i]t[ty]\).

(27)a. Rabahbót yah tha’-te-yo-[a]tahutsóni ne úhka
bullhead not CONTR-DUP-ZSS-want/STAT NE someone
a-ye-hnínu-’ ne ka-[i]ts-u’.
OPT-FSS-buy-PUNC NE NSS-fish-NSF
‘The bullhead doesn’t want anyone to buy fish.’

b. Sha’téku ni-kuti rabahbót wa-ha-[i]tsy-a-hnínu-’
eight PART-ZrSbullhead FACT-MSS-fish-∅-buy-PUNC
ki rake-’níha.
this my-father
‘My father bought eight bullheads (fish).’

Mohawk (Baker 1996:310/321, ex. 58, 79b))

2) Verbal classifiers that are affixed to the verb. In contrast to incorporated classificatory nouns, these cannot occur in isolation. In the following examples from Palikur,\(^{17}\) the verb sukuh (to wash) is

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\(^{17}\) Palikur is a northern Arawak language spoken in Brazil and French Guiana.
combined with several different classifiers, depending on the referent that is being washed.

(28)a. ig ner awayg sukuh-ape-ne
   he that.MASC man wash-CL.concave-CONT.MASC
   barew-yo tumawri
   pretty-DUR-FEM gourd.FEM
   ‘That man is washing a pretty gourd bowl’.

b. eg no tino sukuh-pta-no
   she that.FEM woman wash-CL.irreg-CONT.FEM
   barew-ye epti
   pretty-DUR.MASC chair.MASC
   ‘That woman is washing a pretty chair.’

c. eg sukuh-mine ennetet, in barew-min
   she wash-CL.cylindrical pencil be clean-CL.cylindrical
   ‘She washed the pencil; it is clean.’
   (Derbyshire & Payne 1990:263, ex. 31b,c,f)

3) Suppletive classificatory verbs or classificatory verb stems. These verbs combine the expression of an event (often a motion event) or a state and a referent that is involved in that event. Examples from Navajo illustrate this.\textsuperscript{18}

\textsuperscript{18} Exactly these examples have been used to illustrate the similarity between classifier predicates in spoken and sign languages in the beginning of the investigation of sign
Instead of excluding classificatory verbs from classifier systems, Aikhenvald argues that the three forms can be seen as points on a grammaticalization continuum: verbal classifiers often derive historically from incorporated classificatory nouns (and sometimes from serial verb constructions), and classificatory verbs derive from verbal classifiers. Although the morphological structure of classificatory verbs is different from incorporated classifiers and affixed verbal classifiers, she argues that the three systems share many characteristics. In section 5.1, we have seen that a comparison of the sign language classifiers to classificatory verbs is problematic. In order to make the comparison with meaningful hand configurations (which are clearly separate morphemes)
as clear as possible, I will exclude characteristics of classificatory verbs as much as possible.

Verbal classifiers have the following morphosyntactic and semantic characteristics (Aikhenvald 2000; Grinevald 2000):

1) Verbal classifiers are bound morphemes (occurring with verb stems).
2) They are always linked to an argument of the predicate.
3) This is usually the subject in an intransitive clause and the object in a transitive clause. The argument can also be realized with a full DP (besides the classifier on the verb), but it is not necessary to express the argument overtly.
4) Verbal classifiers are used to maintain reference to the noun within a discourse.
5) The use of a verbal classifier is not obligatory.
6) The use of verbal classifiers is often limited to certain semantic groups of verbs. (Unfortunately, it is not made clear in the literature whether this concerns different kinds of semantic verbs or similar types, and whether there is a reason for the occurrence of classifiers with these particular types of verbs.)
7) Verbal classifiers categorize the referent of the argument in terms of animacy, shape, consistency, size, structure and/or position.
8) The choice of a verbal classifier is variable, that is, some nouns may be associated with more than one classifier. The variation functions to focus on a particular characteristic of the referent argument.
9) Not all nouns are related to a verbal classifier.
10) Verbal classifiers derive historically from lexical items (nouns or verbs).
These characteristics are prototypical and it is therefore expected that a system may not share every characteristic with the prototype. From the discussion in sections 5.3 and 5.4, however, it should be clear that contour signs and manner verbs share almost none of these characteristics. With respect to contour signs, we have seen that, although the hand configuration(s) are meaningful and the whole sign itself indicates shape and/or size of an entity, neither relates to a verb argument. The contour sign forms a free morpheme that is not necessarily bound to a host, although it can be combined with a verb of location. The hand configuration(s) in the sign is always combined with the movement and, being meaningful in itself, thus forms a bound morpheme. However, neither the hand configuration(s) nor the contour sign have a referent-tracking function. The hand configurations in manner verbs also share few characteristics with the prototypical verbal classifier. Although they can be analysed as bound morphemes, too, they occur within a verb, and they give some indication about the shape of an entity, they are not connected to a verbal argument and are not used to maintain reference with a noun throughout a discourse. In regard to obligatoriness, things are not quite clear. On the one hand, the use of a meaningful hand configuration is not obligatory in manner of motion verbs, since there are also manner of motion verbs that do not have a meaningful hand configuration. On the other hand, in those verbs in which a meaningful hand configuration can appear, it must be present.

The characteristics of the hand configurations occurring in VELMs, on the other hand, appear to be strikingly similar to the prototypical
verbal classifier characteristics (compared to the ‘classifiers’ in manner verbs and contour signs). We have seen in section 5.2 that they are bound morphemes, always occurring with a verb, and that they systematically relate to the subject argument of intransitive VELMs and the direct object argument of transitive VELMs. They are used as referent-tracking devices, especially in discourse, and some variation in the choice of a hand configuration is possible to highlight a particular characteristic of a referent. These hand configurations classify referents with respect to characteristics such as animacy and shape, and only occur in a subset of verbs, namely VELMs. The characteristics of these hand configurations diverge from those of prototypical verbal classifiers in that they appear obligatorily on these VELMs. For characteristic 9), I can make only a partial comparison, since my data contain only a subset of noun referents. However, for all of these, one or more hand configurations could be used. It is implausible that the classifiers originate from lexical items. First, in contrast to (a set of) verbal classifiers in spoken languages, none of the NGT classifiers seems to be form related to a particular lexical sign. Secondly, evolution from lexical item to grammatical device is bound to take some amount of time, but (as illustrated in Senghas 1996 and Kegl et al. 1999), classifiers occur shortly after the emergence of a new sign language.

Table 1 (page 178) summarizes the comparisons made above between prototypical characteristics of verbal classifiers (in spoken languages), characteristics of meaningful hand configurations on VELMs and on
verbs expressing the manner of motion, and characteristics of contour signs.\textsuperscript{20}

Table 1  Comparison of characteristics of verbal classifiers in spoken languages and three types of ‘classifiers’ in NGT \textsuperscript{a}

<table>
<thead>
<tr>
<th>Verbal classifier systems</th>
<th>meaningful hand configurations on:</th>
<th>contour signs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VELMs</td>
<td>manner verbs</td>
</tr>
<tr>
<td>1. bound morphemes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>2. linked to arguments of the verb</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>3. S/A or direct object</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>4. referent-tracking function</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>5. optional</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>6. limited to a subset of verbs</td>
<td>yes</td>
<td>no\textsuperscript{21}</td>
</tr>
<tr>
<td>7. assignment semantic</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>8. variation</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>9. classification of a subset of nouns</td>
<td>?</td>
<td>no</td>
</tr>
<tr>
<td>10. lexical origin</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Deviances are shaded.

\textsuperscript{20} A more detailed comparison between the characteristics of NGT classifiers and those of verbal classifiers in four unrelated spoken languages can be found in Zwitserlood (2000).

\textsuperscript{21} This may seem somewhat surprising. In Chapter 8 I will show that the meaningful hand configurations we find in manner verbs and contour signs occur in all kinds of verbs, and, moreover, in nouns.
I conclude that contour signs and meaningful hand configurations in verbs indicating the manner of motion differ from the prototypical verbal classifiers and do not appear to function as verbal classifiers at all. This is in contrast to meaningful hand configurations on VELMs, which display most of the characteristics of prototypical verbal classifiers. I will return to the diverging characteristics of the latter in the next chapter, where I will also compare the characteristics of meaningful hand configurations with the prototypical characteristics of noun class systems. Although the hand configurations in contour signs and manner of motion verbs differ in many respects from verbal classifiers, they obviously contribute to the meaning of the sign. I will come back to this issue in the second part of this thesis.

5.6 Summary

We have seen in this chapter that the group of predicates that have been traditionally considered as classifier predicates in the sign language literature actually consists of three different predicate types: i) predicates indicating the path motion, location or existence of an entity; ii) predicates specifying the size and/or shape of an entity; and iii) predicates indicating the manner of motion of an entity. Not only the meaning, but also the structure of these verbs differ. The verbs have probably all been considered classifier predicates in the literature because the hand configuration is meaningful and the predicate expresses shape (contour signs) or signals motion (manner of motion verbs). I have argued that these groups of predicates should be distinguished from each other on the basis of phonological, morphological and syntactic differences. I claim
that only those verbs that express the motion, location or existence of an
entity should be considered classifier predicates, and I will discuss their
structure in more detail in the next chapter. I do not deny, however, that
contour signs and verbs expressing the manner of motion are
morphologically complex. I will discuss the structure of these signs in
connection with the morphological structure of a large group of signs of
NGT in Chapter 8.