Classifiers in SLs

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Sign languages in the world

Gentle introduction to sign language linguistics

Why sign languages are cool (well, in our opinion):

- **simultaneity**
- **iconicity**
- **use of space**

Simultaneity

Firstly, non-manuals:

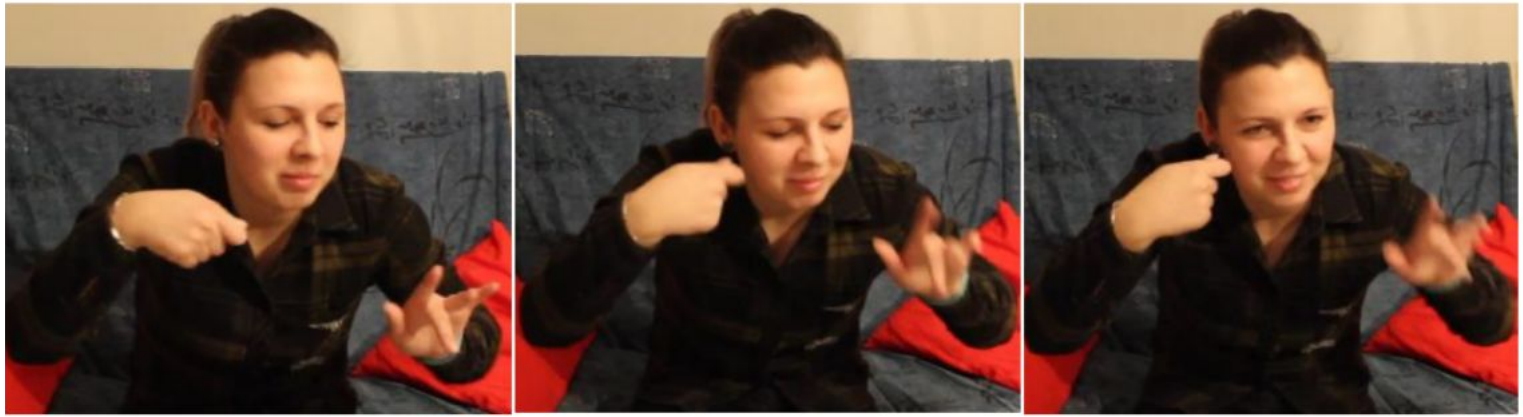
Suprasegmental marking of questions and negation is common, e.g. in JSL:

--eyebrow raise
---nod
ASK-2sg OKAY
‘Is it okay if I ask you (a question)?’ (Morgan 2000 cited by Zeshan 2002)

In prosody: eyebrows appear to be prosodic contours in SLs, but we don’t really know yet

Simultaneity

In morphosyntax:



h1: EAT

h2: SCROLL

(Dushkina 2019)

Simultaneity

In syntax:

e.g. when one counts with the passive hand and shows what he/she counts with the active hand (example from IPSL)

active : PUNJAB SINDH PESHAWAR BALOCHISTAN
passive: ONE----------TWO----------THREE----------FOUR
‘There are four (provinces): the Punjab, Sindh, the Peshawar (region) and Balochistan.’

(Zeshan 2000)

Iconicity

Iconicity patterns + iconicity based on metaphor

About percentage of iconic lexicon

Relation to classifiers (later on)

‘car’ , RSL handling

‘chair’, RSL object

‘mountain’, RSL tracing

‘house’, RSL contour

What else can be iconic

Metaphor-based iconicity:

Body part association

‘lion’ in DGS

Iconic location

‘sun’ in TID

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About verb types:

- plain verbs
- agreeing verbs

(Lillo-Martin & Meier 2011)

directionality

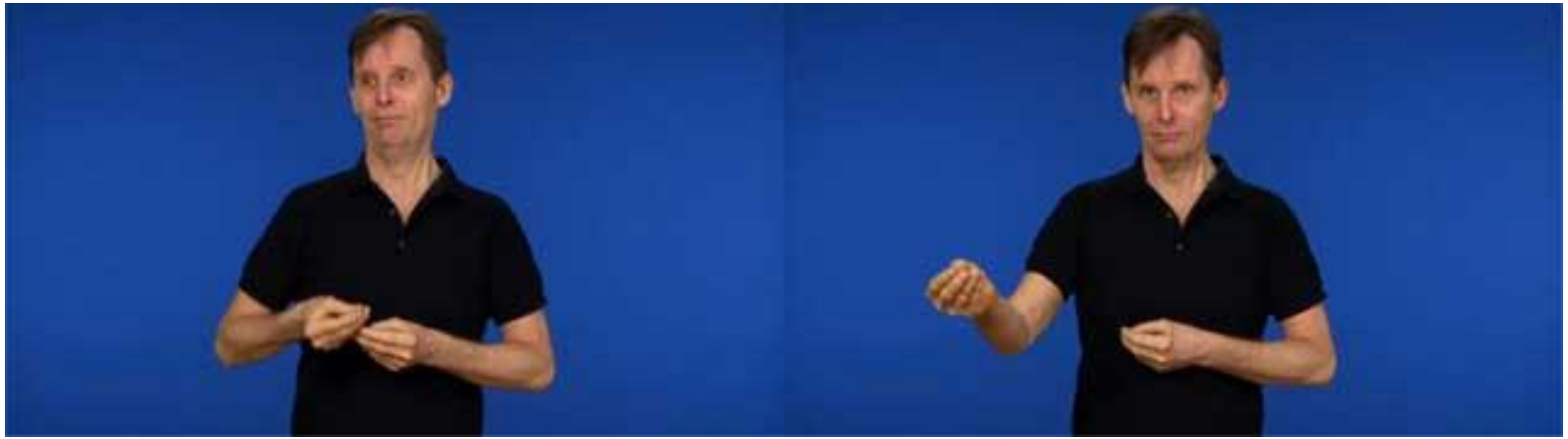
Directionality in plain verbs

POINT$_1$LOVE PERSON$_2$ (‘I love you’)

(Börstell 2019)

Directionality in agreeing verbs

$_{1}$GIVE$_{3}$ (‘I give him/her’) -- SSL



(Börstell 2019)

More on agreeing verbs

The locations in classifier predicates and locatives do not identify subjects and objects, while the locations in agreement verbs do. --- because subjects and/or objects are already on the classifier verbs, implemented

Example of agreement system (ASL):

- subject-object verbs
- backward verbs (object occurs first)
- reciprocal subject-object verbs
- object-only verbs
- plain verbs

Not only agreeing verbs

SLs make use of spatial verbs that agree with locative arguments (e.g. PUT-DOWN, WALK-TO)]

Maybe they’re even more crucial that agreeing verbs:

In most agreement verbs, the movement or orientation is from the subject towards the object locus. But with some verbs (INVITE, TAKE) we observe backwards agreement.

Meir (2002): movement from Source → Goal

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Actually, …

There are ***two*** types of **verbs modification**:

- directionality
- **classifiers**

The term itself

Debatable

- function(s) is not clear
- totally different thing from ‘classifiers’ in spoken languages → the term is not descriptive
- classifiers are hard for acquisition for Deaf children (probably because they are partially gestural?)

So what are classifiers?

Definition

Classifiers are generally considered to be ***morphemes with a non-specific meaning, which are expressed by particular configurations of the manual articulator (or: hands) and which represent entities by denoting salient characteristics***. Classifiers are dedicated to schematic and structural representation of objects moving/located with respect to each other in space

The term itself (again)

- verbs of motion and location (Supalla 1982, 1986)
- classifier predicates (Schick 1990)
- polymorphemic verbs (Engberg-Pedersen 1993)
- polysynthetic verbs (Wallin 1994)
- complex predicates (Schembri 2003)
- classifier expressions (Talmy 2003)

“Classifier constructions” or simply “classifiers” is used as a relatively neutral term

Example

show something from RSL

Categories of languages with respect to classifiers

(Allan 1977) for all languages, where sign languages are **predicate classifier** type

- Numeral classifier languages
- Concordial classifier languages
- Predicate classifier languages
- Intra-locative classifier languages

Categories of SL classifiers (Supalla (1982, 1986))

- Semantic classifiers
- Size and Shape Specifiers (SASSes):
  - static SASSes
  - tracing SASSes
- Instrumental classifiers:
  - instrumental hand classifiers
  - tool classifiers
- Bodypart classifiers
- Body classifier

Whole Entity classifiers and Handling classifiers

Supalla terms reconsidered:

WECL

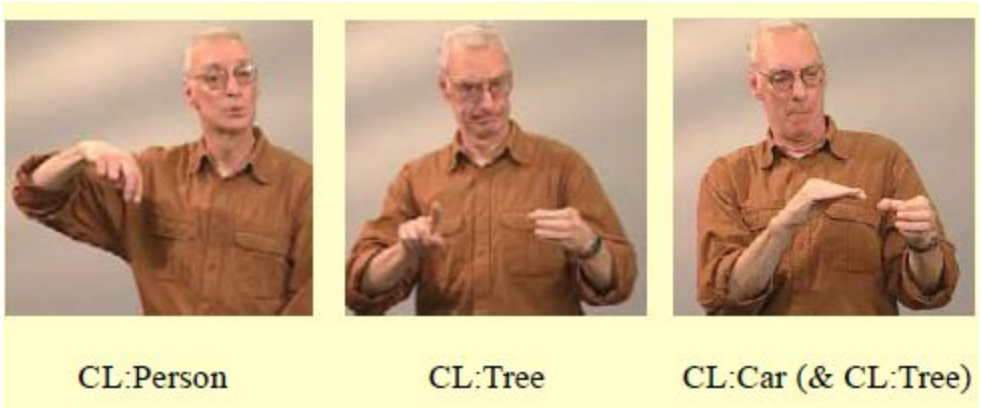
- semantic
- SASSes (~tracing~ → out of the picture)
- tools
- ~body~ → out of the picture
- some bodypart

HCL

- instrumental
- some bodypart

Two types of entity classifiers

- (true) ENTITY classifiers: classify non-agentive subjects; refer directly to an entity, the handshape is the entity
- BODYPART classifiers: classify agentive subjects; refer to part of an entity]



Classifiers inventories

Classifier inventories (meaning, handshapes used) differ from language to language

(Thought: would be cool to compare how well do these inventories coincide with inventories of handshapes derived from dictionary-like data. That actually we can do and probably will do this year...)

Features or issues with SL classifiers

- their form and interpretation largely depend on context --- all types
- they violate some well-formedness and nativisation constraints(Johnston & Schembri, 2007 cited by Kyuseva 2017) --- mostly WECL
- they resemble hearing people’s gesticulation (Kendon, 2004 cited by Kyuseva 2017) --- mostly WECL, HCL sometimes too

Classifier verbs

Issues:

- problems with defining what it is → terminology problems (spatial-locative predicates, polymorphemic predicates/verbs, productive signs, highly iconic structures)
- generally more investigated than classifiers on other parts of speech (unfair)
- lack of research on separate types of classifiers (however, see a dissertation on SASSes in RSL by Maria Kuyseva)

Classifier verbs

Classic example (Figure Vs. Ground) (Emmorey 2002 cited by Zwitserlood 2012)

[ASL]

LH: HOUSE } BICYCLE BE-WECL:vehicle

RH: HOUSE } BE-WECL:bulky object----------

'A bicycle is near the house.'

Classifier verbs and morphology

Morphological complexity:

- classifier verb formation is a very productive process
- how many affixes?

PERSON1 - WALK TO - PERSON2 (ASL) (Supalla's analysis)

Liddell (2003): although **the articulator** and **movement** may be **morphemes** in classifier verbs, the formation process is not very productive.

Other features like locations and manner of motion could also be morphemic (debatable)

Classifier verbs and referents

Anaphoric relation between the classifier and its referent

referent:

- usually introduced before classifier verb
- can be later left unexpressed

Another open question: what happens with the NP and VP modifiers here from a syntactic point of view? E.g. a real story how we died a little when we were trying to find a basic order of noun modifiers:

UGLY SPIDER-CRAWLS (RSL)
‘An ugly spider crawls (there).’

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Classifier = agreement marker ?

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Classifier verbs and transitivity

verb transitivity ~ type of classifier:

Whole Entity classifiers occur with intransitive verbs, whereas Handling classifiers are used with transitive verbs

this is productive:

(Benedicto and Brentari 2004): the classifier that is attached to the verb is also responsible for its (in)transitivity: **a Handling Classifier turns a (basically intransitive) verb into a transitive verb.**

Classifiers as agreement markers

+ they appear to be in anaphoric relationship with the referent of an event
+ and, well, usually appear on verbs
- (being restricted to motion and location verbs)
- usually is not always
- classifiers are not obligatory
- variability in the choice of classifier

For: (e.g., Benedicto/Brentari 2004; Chang/Su/Tai 2005; Cuxac 2003; Glück/Pfau 1998, 1999; Zwitserlood 2003, 2008), Börstell

Classifiers as agreement markers

Arguments against → are (partially) wrong

- Corbett (2006) → can be non-obligatory
- other verbs already have a phonological slot for ‘classifier’ filled, that is why it is restricted (discussion on phonological restrictions of plain verbs)
- verb’s valence/transitivity (debatable)

Phonological representation of classifiers

Not a full phonological structure: handshape (+ orientation) instead of usual 5 phonological components.

phonological readjustment → classifiers as bound morphemes

Getting back to our issues:

- violation of well-formedness constraints -- probably because phonological theories omitted classifiers from the analysis??

Second class starts about here...

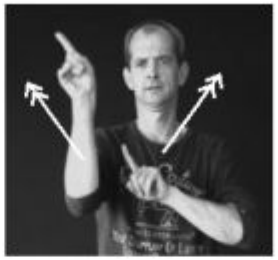
Classifiers in signs other than classifier verbs

Not only do classifier verbs contain meaningful manual articulators.

[NGT]

a. 
‘to knit’

b. 
‘handicap’

c. 
‘fireworks’

d. 
‘temperature’

e. 
‘key’

f. 
‘to fish’

g. 
‘to brush teeth’

h. 
‘curtains’

‘Frozen’ signs

Signs in which the manual articulator (and other parameters) are meaningful, but which are not classifier verbs, are called `frozen' signs. Most researchers adhere to the view that these signs originate from classifier verbs that have been formed according to productive sign formation processes, and that have undergone a process of lexicalization.

They obey particular phonological constrictions that can be violated by classifier verbs, and they can undergo various morphological processes that are not applicable to classifier verbs, such as affixation of aspectual markers

‘Frozen’ signs?

In some studies it is implied that sign language users are aware of the meaningfulness of parts of such signs, such as the handshape

Comparison with spoken languages

Four categories of classifiers in spoken languages

- ***Noun classifiers*** are free morphemes that occur within a noun phrase The noun classifiers' semantics are often based on animacy and physical properties of the referent. These classifiers function as determiners but can also be used pronominally.
- ***Numeral classifiers*** are free or bound morphemes that are obligatory in numeral and quantified noun phrases. The semantics of these classifiers includes animacy, social status, directionality, and physical and functional properties. Every noun with a countable referent has a classifier. Their main function is to individuate nouns in a quantificational environment.

Four categories of classifiers in spoken languages

- ***Genitive (or: possessive or relational) classifiers*** are bound morphemes that occur in noun phrases with possessive constructions. They generally refer to the semantic class of the possessed nouns. Not all nouns are categorized by a classifier; nouns that are classified often belong to a particular semantic group. The semantics concerns physical and functional properties, nature, and sometimes animacy.
- ***Verbal classifiers*** are bound morphemes that are affixed to verbs and are linked to verb arguments in terms of their inherent properties. The semantics of these classifiers is usually based on physical and functional properties, nature, directionality/orientation, quanta, and sometimes animacy. Usually only a subset of verbs in a language takes a classifier. Not all nouns are classified, but a noun can have more than one classifier.

Classifiers in SL and verb classifier constructions

Classifier constructions in SLS bear certain significant similarities to verbal classifier constructions in spoken languages.

Classificatory verb stems categorize a noun argument in terms of physical properties such as shape, size, and other qualities. Typically, the semantics of the verbs involve handling, motion, existence, or location.

As the sign language classifier constructions also involve these notions, it is not surprising that parallels have been drawn

Classifiers in SL and verb classifier constructions

...sha’te´:ku niku´ :ti rabahbo´ t wahu-tsy-ahnı´:nu ki rake’nı´ha [Mohawk < Iroquoian]
eight of them bullhead he-fish-bought this my father
‘...my father bought eight bullheads.’

gugu ga- bo:- mangan [Gunwinggu < Macro-Gunwinyguan, Australia]
water it- cl:liquid- fall
`Water is falling.'

Classifiers in SL and verb classifier constructions

a. tl'ool n- aal'onh [Koyukon < Athabaskan]
rope cl:round.thing- be.there
`A rope is there.'

b. tlool n- aan- s- 'onh
rope cl:round.thing- pref- 1sg- arrive.carrying
`I arrived carrying a rope.'

Origins of verb classifier constructions (by Mithun 1984)

Noun Incorporation:

a. t-in-c’ak-Ø-ah ce’. [Yucatec Mayan]
COMP-I-chop-it-PERF tree
‘I chopped a tree.’

b. c’ak-ce’ -n-ah-en.
chop-tree – ANTIPASS-PERF-I (ABS)
‘I wood-chopped’ ~ ‘I chopped wood.’

Mithun argues that incorporated nouns like these may evolve diachronically into true classifiers, as they lose the independence and specificity of the nouns from which they originate.

Origins of verb classifier constructions

On this view, as the function of NI comes to denote some unitary and common activity that Mithun describes as ‘‘institutionalized,’’ the independence of the noun is diminished, both syntactically, and semantically.

Syntax: valency and case assignment changes

Semantics: incorporated nouns often become more generic in meaning

Origins of verb classifier constructions

Classifiers indicating entities may coexist synchronically in the same language with classifiers indicating qualities.

Munduruku (Tupian) classifiers:

- ‘road’
- ‘name’
- ‘village’
- ‘kin’
- ‘round objects’
- ‘long, rigid objects’
- ‘long, flexible objects’
- ‘liquids’

Origins of verb classifier constructions

Cf. sign languages:

- ‘upright human’
- ‘legs’
- ‘small animal’
- ‘small, round object’
- ‘flat object’
- ‘long, thin, object’

Origins of verb classifier constructions

A ‘frozen’ sign FALL in ASLis unanalyzed. Hand orientation and movement path are constant, and the sign may be used in sentences in which the theme is animate or inanimate, limbed or blobby, round, etc.

FALL (ASL)

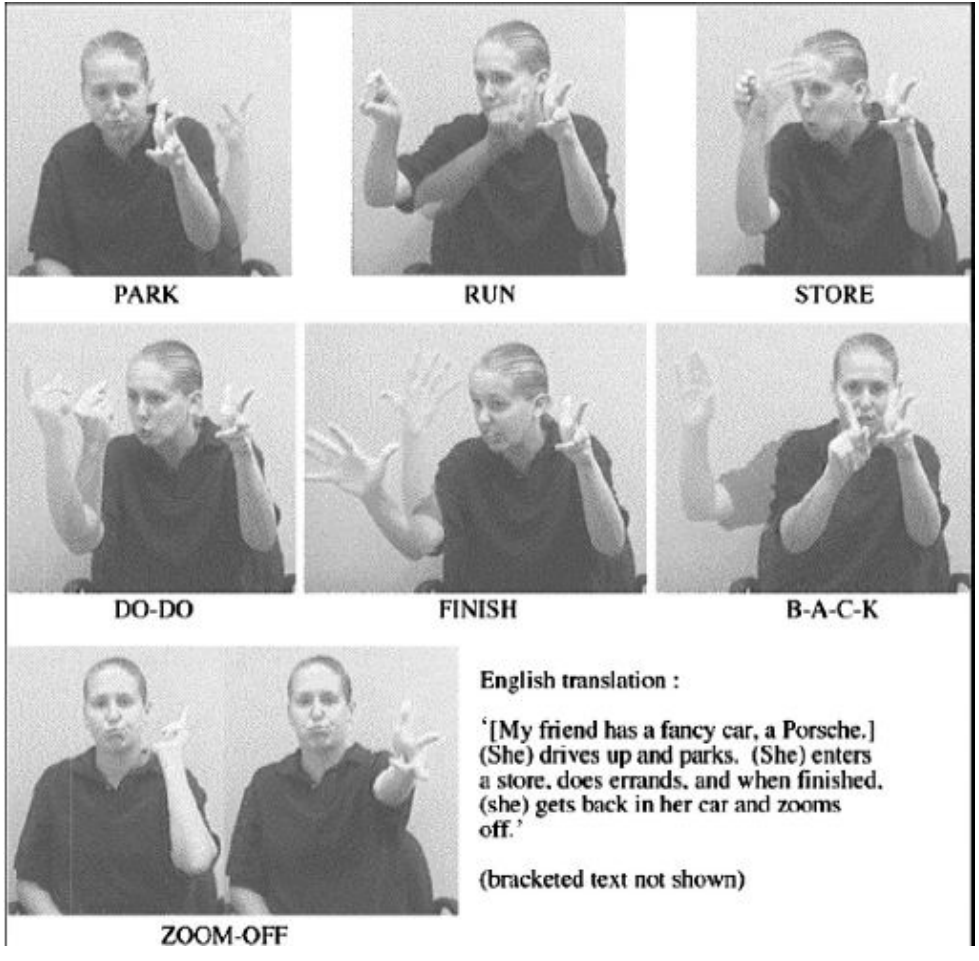
Backgrounding

Nouns may be incorporated after they become old information in the discourse.

a. kanke eltok kocillo? Na’ ni-’-neki amanci [Huahtl Nahuatl]
where is knife I I-it-want now
‘Where is the knife? I want it now.’

b. ya’ ki-kocillo-tete’ki panci
he (he)it-knife-cut bread
‘He cut the bread with it (the knife).’

Backgrounding



Contra

Classificatory verb stems are different from sign language classifier constructions, because there are no noun classifiers in the classificatory verb stem constructions.

Instead, the verb stems themselves are suppletive, inherently making the classification. The verbal stem of classificatory verbs is a portmanteau that cumulates the motion and its subject or object in a single unanalyzable unit.

By contrast, in the classifier constructions of sign languages, the motion unit, the location unit, and the nominal element are distinct formatives. The nominal element, represented by the handshape, is what classifies.

The acquisition of classifiers in SLs

Production studies

- Older children use more classifier verbs than younger children
- Children seem to represent complex path movements sequentially rather than simultaneously, unlike adults
- Young children often use a general classifier instead of a more specific one or a classifier that is easier to articulate than the target classifier
- Young children rarely use complex classifier constructions, i.e. constructions in which each hand represents a different entity

Comprehension studies

- For BSL, Morgan et al. (2008) conclude that verbs containing path movements are better and earlier understood than those containing localizations, and that both movements and localizations are not yet mastered at five years of age.
- Martin and Sera (2006) report that comprehension of locative relations between referents (both static and dynamic) is still not fully acquired by children learning ASL at nine years of age

Thank you!