5 Classifiers

Summary   5.1 Predicate classifiers. – 5.2 Size-and-Shape Specifiers (SASS).

Sign language classifiers are morphological categories which denote both animate and inanimate entities by depicting one or more salient properties by means of dedicated handshapes. Specifically, entities are classified considering their visual-geometric characteristics, the abstract semantic category, their handling or manipulation. Classifiers belong to the non-core lexicon of sign languages in that their form is visually motivated considering the external properties of referents, and they can display modifications in configuration which correspond to changes in meaning [LEXICON 1.2.1]. Despite being iconic, classifiers are semantically underspecified since they denote entities considering one specific property. In so doing, they represent classes of referents and the same handshape can refer to different entities which are, however, sharing some properties.

Classifiers in LIS can appear in nominal domains following the nominal sign for the referent and functioning as proforms. The overt realisation of the lexical sign for the referent seems to be optional in spontaneous sign discourse in LIS. Being pronominal elements, they can be used as morphological devices with all types of nouns, allowing i) to trace back to the referent within the discourse [PRAGMATICS 2.2.2]; ii) to locate invariable nouns [LEXICON 3.1] within the signing space in order to realise agreement. As introduced in [MORPHOLO-

GY 4.1], body-anchored nouns and nouns displaying complex movement cannot be modified to carry numeral inflection or to convey agreement. Therefore, they are followed by a classifier which can be displaced in space to realise agreement or be inflected for number. In example (a) below, we see that the reduplication of the classifier for BOOK conveys both information of number and location by being reduplicated within the signing space; in (b), instead, the entity classifier functions as a pronoun for the sign SHOE and it is employed to realise agreement with the modifiers, which are articulated in the same locus dedicated to the classifier.

a. TABLE BOOK CL(unspread 5): 'book_be_located'++
'There are several books on the table.'

b. dom: SHOE SASS(curved open 5): 'pointed_toe'$_a$ AREA$_a$ COLOUR PINK
   n-dom: SHOE CL(unspread 5): 'shoe'$_a$
'A pink shoe with pointed toe.'

LIS classifiers combine with verbal roots of motion, handling or location resulting in constructions called *predicate classifiers*, which indicate how the referent (denoted by the handshape) moves through space, how and where it is located, and/or how it is handled. In LIS, as in other sign languages, we detect three main categories of predicate classifiers: entity classifiers [MORPHOLOGY 5.1.1], bodypart classifiers [MORPHOLOGY 5.1.2], handle classifiers [MORPHOLOGY 5.1.3]. Size-and-Shape Specifiers (SASS) [MORPHOLOGY 5.2] constitute a distinct category since they include classifiers occurring in nominal domains conveying information about the external properties of the referent, such as its size and shape, thus functioning as adjectives.

We explore the handshapes detected in LIS for each semantic category of classifiers in the following sections.

5.1 Predicate classifiers

Predicate classifiers are morphologically complex constructions resulting from the combination of a classifier handshape with a movement reproducing the path-movement, the handling or position of the referent. Specifically, the handshape that identifies the referent by denoting salient characteristics constitutes the lexical root, whereas the movement feature associated to the classifier to convey the location, movement or handling of the entity constitutes the verbal root. Movement can be towards several directions of the signing space and

following different paths, thus reflecting the movement of the entity in the real word. In LIS, we identify four kinds of root: i) action/movement root (the movement of the handshape corresponds to the movement of the referent), ii) manner root (the movement associated to the classifier describes how the entity moves), iii) contact root (the movement defines the position and the spatial relation of the entity with respect to other referents), and iv) stative/descriptive root (the movement of the hand(s) is necessary to convey the shape and place of the referent).

The nature of the predicate depends on the classifier selected: entity classifiers realise unaccusative predicates; bodypart classifiers form unergative predicates; handle classifiers results in transitive constructions [SYNTAX 2.1.1.5].

The following sections provide the inventory of the handshapes belonging to the different categories of classifiers attested in LIS. It is important to notice that all the handshapes belong to the phonological inventory of LIS [PHONOLOGY 1.1]. Moreover, handshapes can modify the quantity of selected fingers, be reduplicated or be articulated as two-handed signs in order to encode plurality and size of referents.

5.1.1 Entity classifiers

Entity classifiers are handshapes denoting animate or inanimate referents considering their shape as a whole, or the semantic category to which they belong. They occur with verbs expressing the motion of the referent or its localisation in space. They may be used in intransitive unaccusative predicates encoding the theme subject [SYNTAX 2.1.1.5]. Movement for localisation consists in a short movement towards the plane in which the classifier is positioned in order to convey the position of the entity in space. The plane can be horizontal (for instance, a table) or vertical (for instance, a wall). On the other hand, when the predicate conveys the movement of the entity, this movement associated to the handshape can be of different kinds (straight, circle, zigzag), on different planes and towards different directions. The LIS handshapes belonging to this category are listed in the following table and described below.

Table 1 List of handshapes that can appear in entity classifiers in LIS

G	4	5	unspread 5	unspread V

flat closed 5	F	curved closed 5	spread curved open 5	unspread curved open 5

curved open L	flat closed L	flat open 3	L	Y

curved open V	3	flat open L	V

Handshape G denotes long and thin entities: humans, animals (snakes), objects (pens, pencils, poles, knives, toothbrushes, branches, trees) or vehicles (rockets). It can convey how the entity moves in space, or its position.

a. CL(G): 'person_move'
'Person coming in.'

b. CL(G): 'rocket_take_off'
'The rocket is taking off.'

Handshape 4 is used to indicate that four people are walking, or it can be used to convey plurality and location of long and thin entities in general. To convey plurality, it can be articulated as a two-handed sign. In (a) it denotes people waiting in line, whereas in (b) it conveys the position of pillars forming a colonnade. Notice that the classifier predicates are preceded by the lexical signs for the referents, here PERSON in (a) and PILLAR in (b).

a. PERSON++   CL(4): 'people_in_line'
'People standing in line.'

b. PILLAR   CL(4): 'pillars_located_as_colonnade'
'The pillars form a colonnade.'

Handshape 5 can be employed to refer to a crowd or to many people moving all together, like in a parade. As we can see in the example below, it configures as a two-handed sign and the distance between the two hands defines the size of the crowd.
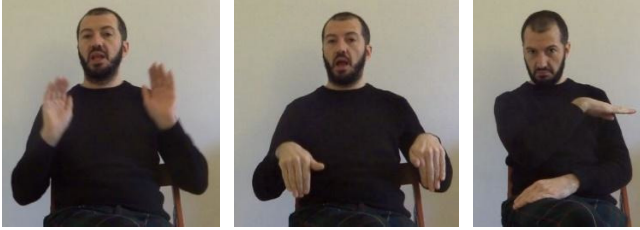

CL(5): 'crowd_be_located'
'Crowd.'

Unspread 5 (either with adducted or crossed thumb) classifies flat and wide entities: vehicles (4-wheels vehicles, trains), objects (books, tables, paintings, beds, sofa, doors, carpets), and surfaces. It can convey both the movement (a) or location (b) of the referent.
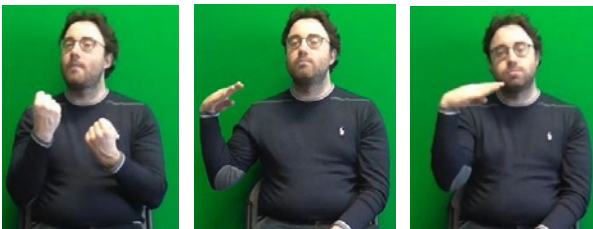
a. CAR   CL(unspread 5): 'car_move'
'The car is moving.'

b. SOFA   CL(unspread 5): 'sofa_be_located'
'The sofa is there.'

Unspread V can be used for flat entities, narrower than the ones denoted by the handshape above (for instance, stickers). It is mainly used to convey the position of the entity with respect to something else. In the example below, the signer conveys the position of the sticker on the cover of the book: unspread 5 indicates the book, unspread V refers to the sticker.

dom: NAME   CL(unspread V): 'sticker_be_located'
n-dom: CL(unspread 5): 'book'
'The noun (sticker) on the book.'

Flat closed 5 is a generic classifier for positioning animate referents, objects of big dimensions (statues, trees, columns) as in (a), or objects with a roundish shape (for instance, the classifier for LIGHTBULB in (b)) within the signing space or with respect to other referents.

a. SCULPTURE   CL(flat closed 5): 'sculpture_be_located'
'The sculpture is located there.'

b. dom: CL(spread curved open 5): 'lamp'
   n-dom: CL(flat closed 5): 'lightbulb_be_located'
'The lightbulb is inside the lamp.'

Handshapes F and curved closed 5 are employed for thin and round-ish objects (poles, table-legs), or small two-dimensional and spherical objects (little stones, buttons, watches, coins). In the example below, handshape F denotes coins piled up.
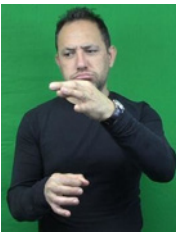
CL(F): 'coins_piled_up'
'A pile of coins'

Spread curved open 5 is used for three-dimensional rounded or spherical entities, such as fruits and vegetables, big animals, or vehicles (balloons). It can also denote very big entities such as houses, churches or even villages.

HOUSE   CL(spread curved open 5): 'house_be_located'
'The house is located there.'

Unspread curved open 5 refers to three-dimensional cylindrical and curved entities (pipes, rolled-up carpets, binoculars), or small containers (glasses, cups, bottles). In the example below, the two hands denote two different objects conveying their reciprocal positions by employing two different handshape classifiers.

dom: PLATE   CUP   CL(unspread curved open 5):
                                         'cup'
n-dom: PLATE   CL(curved open L): 'plate'
'The big cup is on a small plate.'

Curved open L is employed for roundish two-dimensional objects (plates, frames, clock-faces, but also small cups).
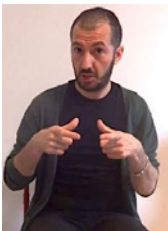
CL(curved open L): 'plate'

Flat open L or flat open 3 can denote narrow two-dimensional square/ rectangular objects such as stickers or stripes. In the example below, the classifier is used to describe the position of the stripes of the carpet.

dom: CL(flat open L): 'stripes_be_located'
n-dom: CL(unspread 5): 'carpet'
'The stripes on the carpet.'

Handshape L is a classifier for square two-dimensional objects (paintings, mirrors).

Handshape Y is the classifier for phone handsets and airplanes. Associated to a verb of motion, it conveys the journey and the path of the airplane.

Curved open V can be used for chairs or sleighs. If reduplicated or articulated with both hands, it conveys plurality.
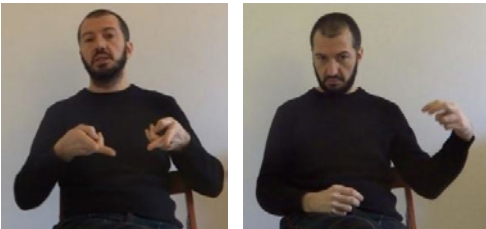
CHAIR   CL(curved open V): 'chair_be_located'
'The chair is positioned there.'

Handshape 3 denotes two-wheels vehicles (bikes, motor-cycles). It can convey their position (a), or their path-movement (b). Notice that in (a) sideward movement conveys both location and plurality.
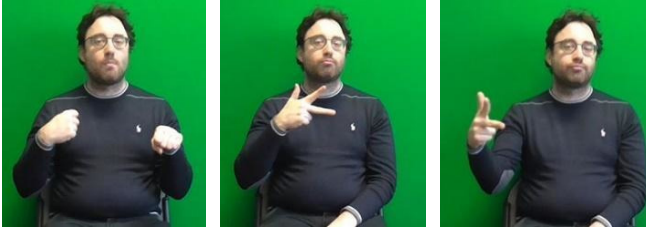
a. MOTORCYCLE   CL(3): 'vehicle_parked'
'The motorcycles are parked there.'

b. MOTORCYCLE   CL(3): 'vehicle_move'
'The motorcycle is going.'

Flat closed L, flat open L, curved open L, or unspread curved open 5 can also be employed to convey information about changes in length, height or volume of some entities. The handshape selected expresses a decrease or an increase, being more or less open, or displaying more or less fingers selected. For instance, they can denote a cigarette becoming shorter, a liquid that diminishes in a glass, a pile of book or papers which is reducing.

CIGARETTE CL(flat open L): 'cigarette_reduce'
'The cigarette becomes shorter while smoking.'

Handshape V can denote objects such as scissors or chopsticks for Oriental food. In (a), this handshape is used to convey plurality and location by being reduplicated within the signing space; in (b) it denotes the chopsticks used to eat.

a. CL(V): 'scissors_be_located'++
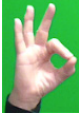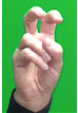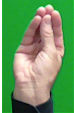'There are many scissors here.'
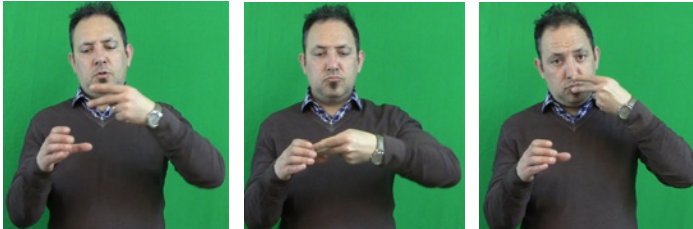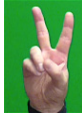
b. dom: CHOPSTICK   CL(V): 'eat_with_chopsticks'
   n-dom: CL(unspread curved open 5): 'box'
'Eating Chinese food with chopsticks.'

5.1.2 Bodypart classifiers

In LIS, entities can be denoted considering only one part, for instance a part of the body. As entity classifiers, bodypart classifiers can express the motion and location of the referent. However, they form unergative predicates. The present section provides a list of handshapes functioning as bodypart classifiers in LIS, which are collected in the table below.

Table 2 List of handshapes that can appear in bodypart classifiers in LIS

unspread 5	closed 5	F	unspread curved open 5	V
G	curved open V	3	flat closed 5	

Unspread 5 denotes human's feet.

THREAD CL(unspread 5): 'feet_walk'
'A person walking on a rope.'

Closed 5 refers to the head of human referents (a), or it can denote animals of big dimensions (elephants, rhinoceros) by referring to their paws (b). In such instances, it is articulated with both hands moving alternatively and oriented downward.

a. dom: KEY FALL IX$_1$ TABLE IX$_1$ TAKE IX CL(closed 5): 'head_slam'$_a$
   n-dom: TABLE CL(unspread 5): 'table' $_a$

'I slammed the head against the table while picking up the keys which were fallen.'

b. ELEPHANT CL(closed 5): 'elephant_walk'
'An elephant is walking.'

F usually denotes eyes of human referents.

NOISE IX$_1$ CL(F): 'eyes_look_at'
'I heard a noise and I looked in that direction.'

Unspread curved open 5 can be employed as classifier for the mouth to convey, for instance, surprise or astonishment, as in the example below.

CL(unspread curved open 5): 'astonished'
'I am astonished.'

Handshape V, oriented downward, is usually employed to denote humans by referring to their legs. It can be used to describe a person walking, the two fingers move alternatively as legs do. It can incorporate a peculiar movement (zig-zag, straight, circle) to convey the way

and the direction of the walking, as in (a). It can also be employed to denote a person lying in bed, as in (b).


a. CHILD   CL(V): 'child_walk'
'The child is walking.'

b. dom: CL(V): 'person_lie'
   n-dom: CL(unspread 5): 'bed'
'A person lying in bed.'

In the same vein, handshape G can denote a person walking by referring to the legs. It can be used when the signer wants to emphasize the way in which the person walks. It is articulated with both hands moving alternatively and oriented downward. The movement reflects the steps while walking.
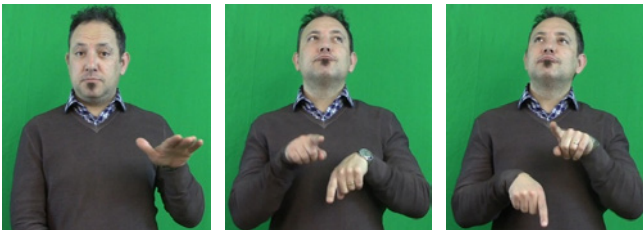
CHILD   CL(G): 'leg_walk'
'The child is walking.'

Curved open V denotes a sitting or kneeling person while referring to the bent legs, or it denotes small animals in general. In the example below, the two hands refer to two different human referents who are sitting at a table: the dominant hand (left hand) indicates a man sitting at one side of the table, whereas the non-dominant hand (right hand) designates a child sitting at the opposite side. The classifier referring to the child is further marked by diminutive non-manuals consisting of squinted eyes and tongue protrusion [MORPHOLOGY 2.2.1].

		sq
		tp
dom: MAN	CHILD	CL(curved open V): 'man_sit'
		---------------------
n-dom:		CL(curved open V):
		'child_sit'$_a$

'The man and the child are sitting (at the table).'

Handshape 3 is usually employed to denote chickens, ducks or frogs, referring to their paws. It is articulated with both hands moving alternatively and oriented downward.

CHICKEN CL(3): 'chicken_walk'
'A chicken is walking.'

Flat closed 5 is usually employed to convey the walking of animals of small dimensions (dogs, cats, foxes) referring to their paws. It is articulated with both hands moving alternatively and oriented downward.
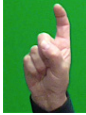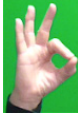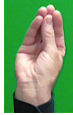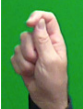
DOG CL(flat closed 5): 'dog_walk'
'A dog is walking.'

5.1.3 Handle classifiers

Handle (also called handling) classifiers denote entities by referring to the part or the way in which they are handled. They combine with verbs referring to the holding or to the manipulated motion of referents. Since handling and holding imply the presence of an agent manipulating an object, they form transitive predicates. Handshapes denoting objects used as instruments belong to this category as well. The present table provides a list of handshapes functioning as handle classifiers in LIS, which will be described below.

Table 3 List of handshapes that can appear in handle classifiers in LIS

G	curved open G	curved open V	F	flat closed 5

flat open 5	unspread curved open 5	closed 5	closed G	L

unspread 5	curved closed 5

The G handshape can denote instruments such as knives, screwdrivers or toothbrushes.

CL(G): 'brush_teeth'
'Brushing teeth.'

Curved open G and curved open V are used to indicate that an object is hung somewhere. The example refers to a painting hanging to a nail on the wall.

PAINTING   CL(curved open G):
                                         'hang_ painting_with_nail'

'Hanging a painting.'

Handshape F indicates the handling of thin and light entities (pens, pencils, flowers, papers, thin books).

BOOK   CL(F): 'take_thin_book'
'Taking a thin book (from the bookshelf).'

Flat closed 5 is used to convey the holding of flat and light objects such as sheets, as in the example below.

SHEET   CL(flat closed 5): 'hold_sheet'
'(The child is) holding the sheet.'

Flat open 5, more or less open, and unspread curved open 5 are used for three-dimensional thick objects (big books, bricks, boxes, pipes, cups).

BOOK   CL(F): 'take_thick_book'
'Taking a thick book (from the bookshelf).'

Closed 5 mainly denotes the handling of bags and suitcases (this is also an example of lexicalised classifier defining the lexical sign for SUITCASE or BAG, see [LEXICON 1.3.1].

CL(closed 5): 'hold_suitcase'
'Picking up a (heavy) suitcase.'

Closed G can be used to refer to small objects used as instruments such as keys, toothbrushes, wooden spoons or small paint brushes. Furthermore, it can denote doors being opened (a), paintings being hung up (b), or the holding of a newspaper (c).
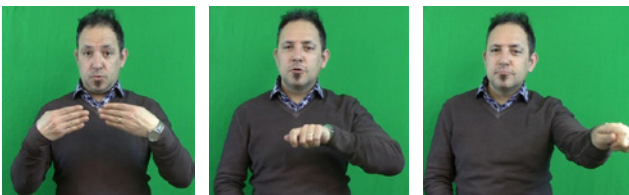
a. DOOR   CL(closed G): 'handle_door'
'Opening the door.'
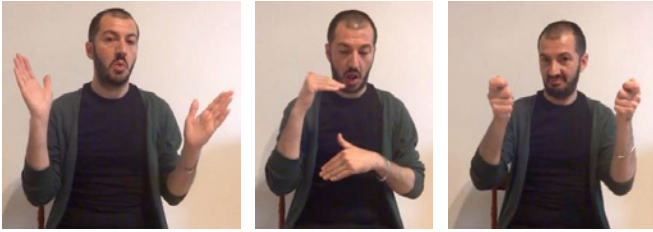
b. PAINTING   CL(closed G): 'hang_
                                                 painting'

'Hanging a painting.'

c. dom: READ
   n-dom: CL(closed G): 'hold_newspaper'
'Reading the newspaper.'

Unspread 5 can be used to refer to paint-brushes used as instruments.
    L can be employed as handling classifier for two-dimensional thin
and light objects such as mirrors, as in the example below.
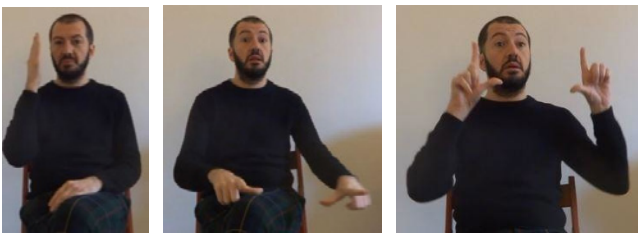
MIRROR   CL(L): 'pick_up_square_mirror'
'Picking up the square mirror.'

Curved closed 5 can be used as handle classifier for three dimen-
sional cylindrical objects such as pipes or table legs. In the exam-
ple below, the signer is holding the central pedestal of a small table.

CL(curved closed 5): 'hold_pedestal'
'Holding the pedestal.'

5.2 Size-and-Shape Specifiers (SASS)

The present section concerns a different category of classifiers detected in LIS, namely size and shape specifiers (SASS). Crucially, SASS are distinct from the other categories of classifiers analysed so far in that: i) they do not classify referents, rather they specify information about their size and shape; ii) the movement they display does not describe the path movement of the entity but rather its size and shape; iii) they are not used to trace back reference in a discourse. For these reasons, they appear in nominal domains, functioning as adjectives, either attributive or predicative (see [LEXICON 3.4] and [SYNTAX 4.5] for details).

However, SASS do share some properties with the other categories of classifiers: i) they can display changes of phonological parameters which correspond to changes in meaning; ii) they are polymorphemic, thus their meaning is compositional; iii) they are visually motivated, and their meaning depends on the discourse context. As a consequence, they belong to the LIS non-core lexicon [LEXICON 1.2].

SASS in LIS can be grouped either phonologically, if we consider their phonological structure, or semantically, if we consider the meaning they convey.

Phonologically, they can be grouped into 'static' and 'tracing'. Static SASS describe the shape and size of the entity without displaying movement, as in (a), while tracing SASS display movement to outline the shape and size of the entity, as in (b).

a. SASS(curved open L): 'round' (about a table)
'Round table'

<div style="text-align:center">sc</div>

b. SASS(curved open F): 'round_thin'   SASS(curved open 5):

<div style="text-align:center">pc   sc</div>

'round_large SASS(curved open F): 'round_thin' (about a vase)

'Vase with a thin bottom and neck and rounded body'

Tracing SASS can either describe the three-dimensional shape of the referent as in (b) above, or just its perimeter, as we can see in the following example.

SASS(G): 'heart_shaped' (about a pillow)
'Heart-shaped pillow'

If we take into account their semantic function, SASS can be grouped into: SASS for shape, SASS for thickness, and SASS for size. Nevertheless, these features are often combined and conveyed simultaneously in just one sign, as we can see in the example below.

<div style="text-align:center">tl</div>

SASS(unspread curved open 5): 'thick_rectangular' (about a cuckoo clock)
'Rectangular and thick cuckoo clock'

In the example above, the SASS conveys different information simultaneously, which are encoded in the different morphemes combined (for this reason they are polymorphemic signs): i) the handshape is selected considering that it is a rectangular and quite thick object, thus conveying shape and thickness of the cuckoo clock, ii) the distance between the fingertips and the thumb tip specifies thickness, whereas iii) the distance between hands and the movement downward define the size (if the object was bigger or smaller, movement and distance would be accordingly). However, these features often

overlap and the same parameter, for instance handshape, conveys different information at the same time.

SASS can be one- or two-handed signs, depending on the entity they are describing, and they can display morphological modifications to convey different degree of size and shape. Even though they are visually motivated and highly iconic, the handshapes selected to create SASS all belong to the phonological inventory of LIS. The fact that they are not created on the spot and that they are consistently used among signers support their linguistic rather than gestural nature.

It is important to notice that SASS could be confused with other classifiers denoting referents considering their shape. However, SASS display different syntactic functions. Compare the two examples below (in (a) the sign for the agent WOMAN is not illustrated).

a. MIRROR   CL(L): 'pick_up_square_mirror'
'(The woman) picks up the square mirror.'
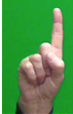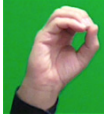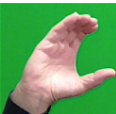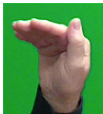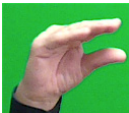
b. SASS(L): 'square' (about a table)
'Square table'

As we can see from the examples above, in both cases the handshape 'L' is selected because the objects in question are square. However, the two examples differ in the kind of root the classifier 'L' selects: in (a), it combines with a movement to convey the meaning '(to) pick up the square mirror', thus realising a predicate classifier. On the other hand, in (b) it encodes a descriptive root and describes the shape of the table, thus functioning as an adjective or a non-verbal predicate [SYNTAX 2.1.4]. Therefore, it is the syntactic context in which the sign

appears that helps disambiguating between SASS and other kinds of classifiers.

Despite some handshapes are present in other categories of classifiers, those selected for SASS constitute a specific subset. Here we provide a table of the handshapes involved followed by a list of examples. It is important to bear in mind that, being highly iconic elements employed to specify information of size and shape of referents, they constitute an open class. It follows that the list of handshapes could be enriched over time.

Table 4 List of handshapes that can appear in SASS in LIS

G	L	Curved open L	Curved closed 5	F

Curved open F	Unspread curved open 5	Spread curved open 5	Unspread 5	Flat open 4

Flat open 5

As introduced above, all the handshapes can appear in one- or two-handed signs, and all but flat open 4 can be associated to movement to specify shape. Indeed, flat open 4 could be considered the SASS defining size par excellence in that it is employed as a two-handed sign to convey the size of every kind of object. The only modification it can display consists in augmenting or reducing the distance between hands. We will come back to this later in this section. The G handshape is employed as a two-handed SASS to trace the perimeter of every kind of entity, both two-dimensional or three-dimensional, as in (a) below. Furthermore, it can be used to convey the shape of rectangular and thin two-dimensional objects, as in (b). Notice that in example (a) size is specified through the enlarged articulation of the SASS and the occurrence of the non-manual markers typical of augmentative features, namely teeth biting the lower lip (tl) (see [MORPHOLOGY 2.2.1] for details).

————————————————— tl
a. CARPET SASS(G): 'square_big'
'Square and big carpet'
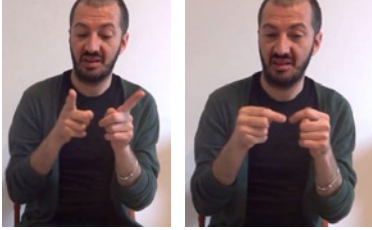
b. SASS(G): 'rectangular' (about a sticker)
'Rectangular sticker'

The L handshape, as introduced above, is used in two-handed static SASS to convey the meaning 'rectangular' or 'square' referring to two-dimensional thin objects, such as mirrors, tables, frames, carpets, as in (a) below. Adding movement, it can be employed to trace the perimeter of an object like a pillow, as in (b) below. Again, the distance between hands and specific non-manual markers can further specify size. In (a), we see the non-manuals conveying the meaning 'normal size', i.e. lips protrusion (lp).

————————————————— lp
a. SASS(L): 'rectangular' (about a carpet)
'Rectangular not very big carpet'

b. SASS(L): 'rectangular' (about a pillow)
'Rectangular pillow'

Curved open L is selected to convey the meanings 'round/oval' of objects which are not thick, such as clock-faces, tables, hats, plates. In example (a), we see that it is employed to describe the round shape of the table, and it is marked by the typical non-manual markers for diminutive features [MORPHOLOGY 2.2.1], thus conveying the meaning 'small round table'. This handshape can encode movement to define the shape of objects like vases, thus conveying the meanings 'cylindrical/rounded and thin'. If marked by the non-manual markers for diminutive or augmentative, it also specifies features of size, as shown in (b) below.


```
                          sq
                          tp
```
a. SASS(curved open L): 'round' (about a table)
'Round and small table'

```
                                    tl
```
a. SASS(curved open L): 'rounded' (about a vase)
'Rounded and big vase'

By augmenting the flexion of the base joint, curved open L can be used for rectangular and narrow two-dimensional objects, such as stickers or stripes (a). When occurring as a one-handed sign, it can function as a SASS for size: in (b), it defines the size of a small cup. The handshape can be more or less open to convey different sizes, vertically or horizontally oriented. Notice that, in both instances, the SASS is marked by the typical non-manual markers for diminutive [MORPHOLOGY 2.2.1].
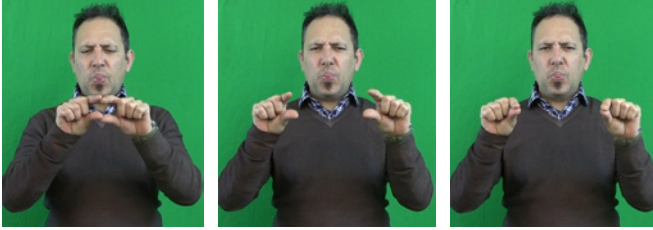
```
                              sq
                              tp
```
a. SASS(curved open L): 'rectangular' (about a sticker)
'Small rectangular sticker'


```
                              sq
                              tp
```
b. SASS(curved open L): 'small' (about a cup)
'Small cup'

Handshapes F, curved open F and curved closed 5 displaying move-
ment are used to convey the shape of three-dimensional cylindrical,
long, and thin objects like poles, stems of floor lamps, legs of tables
or chairs, pipes. In the example below, thinness of the stem is con-
veyed by blowing out air.

```
                              blow
```
SASS(F): 'cylindrical_thin_long' (about a lamp-stem)
'Long and thin lamp-stem'

Handshape F can also be employed without movement to describe
the shape of small two-dimensional round objects like clock-faces of
watches, buttons or coins.
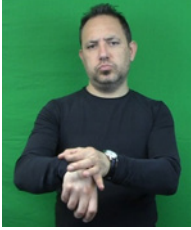
SASS(F): 'round' (about a clock-face)
'Small round clock-face'

Unspread curved open 5 is employed for three-dimensional cylindrical/cone-shaped/round objects, bigger than those mentioned above (big cups, top hats, heavy vases, gutters). It can either display movement to trace the shape of the entity (a) or not (b). It can also be employed to define the size of objects with roundish shape, as in (c). As usual, specific non-manual markers can occur to convey diminutive or augmentative features.

a. SASS(unspread curved open 5): 'cone_shaped' (about a lamp-cover)
'Cone-shaped lamp cover'

                                                                   tl
                                                      _____
b. SASS(unspread curved open 5): 'round' (about a cup)
'Big round cup'

$$\overline{\qquad\qquad\qquad\qquad\text{sq}\qquad}$$

c. SASS(unspread curved open 5): 'little' (about a shoe)
'Little shoe'

Spread curved open 5 is used to describe three-dimensional entities which are round/spherical, big, and wide. It can encode movement to trace shape, as in the example below. The rounded shape is further conveyed through puffed cheeks (pc) simultaneously articulated with the manual sign.

$$\overline{\qquad\qquad\qquad\qquad\text{pc}\qquad}$$

SASS(spread curved open 5): 'rounded' (about a lamp cover)
'Rounded lamp cover'

Unspread 5 (either with the thumb extended or not) is employed to describe the shape of rectangular/square and thick objects such as books (a), boxes, cuckoo clocks. When it functions as SASS for size, it is a two-handed sign articulated on the horizontal or vertical plane with the palms of the hands facing each other, and the fingertips oriented toward the same direction. Moreover, it displays a short movement toward the plane of articulation as to define the segment of space corresponding to the size of the entity (b). In both cases, it can be marked by the dedicated non-manual markers for augmentative or diminutive features.

$$\overline{\qquad\qquad\qquad\qquad\text{fe}\qquad}$$
$$\overline{\qquad\qquad\qquad\qquad\text{tl}\qquad}$$

a. SASS(unspread 5): 'rectangular' (about a book)
'Big rectangular book'

<u>   tl</u>
b. SASS(unspread 5): 'big' (about a carpet)
'Big carpet'

Flat open 4, as mentioned at the beginning of this section, can be considered the SASS for size par excellence. Indeed, it is used to specify the size of entities, both animate and inanimate, no matter what their shape is. It is a two-handed sign articulated on the vertical plane, as in (a), or on the horizontal plane, as in (b), depending on the entity considered. The palm of the non-dominant hand can either face the palm of the dominant hand or not, and it can be articulated as unspread 5 for ease of articulation. In both instances, the fingertips of the two hands are oriented towards opposite directions.

<u>   tl</u>
a. SASS(flat open 4): 'big' (about a vase)
'Big vase'
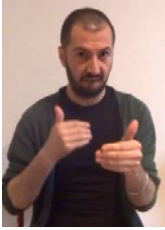
$$\overline{\hspace{3cm}}^{\text{tl}}$$
b. SASS(flat open 4): 'big' (about a shoe)
'Big shoe'

Size is encoded through the distance between the hands, together with the non-manual markers for diminutive or augmentative features. In the three examples below, we see three SASS referring to three vases of different size: big (a), normal (b), and little (c).

$$\overline{\hspace{3cm}}^{\text{tl}}$$
a. SASS(flat open 4): 'big' (about a vase)
'Big vase'

$$\overline{\hspace{3cm}}^{\text{lp}}$$
b. SASS(flat open 4): 'normal' (about a vase)
'Normal-size vase'

$$\overline{\hspace{3cm}\text{tp}}$$
c. SASS(flat open 4): 'little' (about a vase)
'Little vase'

Some handshapes are employed as SASS defining thickness.

F can be employed with very thin objects. In the example below, it describes a very thin book. Notice that the signer blows out air to further specify that the object is thin and light.

$$\overline{\hspace{2.5cm}\text{blow}}$$
SASS(F): 'thin' (about a book)
'Thin book'

Flat open 5 is used for not very thick objects like books, tables, stool tops. In the example below, we see that it can incorporate tracing movement to describe the shape of the referent.

SASS(flat open 5): 'thick_round' (about a table)　　　　
'Not thick and round table'

Unspread curved open 5 is used to define thickness of three-dimensional objects such as big books, bricks. By modifying the distance between the thumb and fingers tips, namely by changing the flexion of the base joints, it encodes different degrees of thickness. As we can see in the examples below, it can occur with the non-manual markers for augmentative features (a), or be articulated as a two-handed SASS (b) in order to specify the big size of the entity.

	fe
	tl

a. SASS(unspread curved open 5): 'thick' (about a book)
'Very thick book'

	fe
	tl

b. SASS(unspread curved open 5): 'thick' (about a book)
'Very thick book'

Unspread 5 is used as a SASS defining thickness for three-dimensional very big objects such as boxes, as illustrated below. The distance between the hands can be modified in order to convey different degrees of thickness.

SASS(unspread 5): 'thick' (about a box)
'Very thick box'

This section has provided an overview of the most common SASS detected in LIS to describe the size and shape of entities. However, it is important to keep in mind that this list could be incomplete, for two main reasons: first, being visually motivated signs, the form and function of SASS can change considering the entity involved; second, their use is strictly connected to the perception of the signer, therefore there is variability in their occurrence. What is interesting, though, is that the configurations they select all belong to the phonological inventory of LIS, thus they are not invented or created on the spot. Moreover, despite being highly iconic, SASS do not necessarily convey the absolute size of the entity in a 1:1 scale, rather they depict it proportionally. Their linguistic nature is further confirmed by the fact that they can occur among other adjectives in attributive constructions, or function as predicative adjectives (see [SYNTAX 4.5] for further information).

The list of SASS is also meant to help in discriminating SASS from lexical signs. As we show in [LEXICON 1.3.1], many signs in LIS are derived from classifiers that have lost their function of classifiers and have become lexical signs. This lexicalisation process can also involve SASS, which can lose their adjectival function to become nouns, as in the examples provided below.

a. BOX

b. dom: <u>   tp </u> <u>   tl </u> <u>   tp </u> <u>   tl </u> <u>   tp </u>
        STRIPE STRIPE STRIPE STRIPE STRIPE

  n-dom: STRIPE

'Alternating thick and thin stripes'

Therefore, it is possible that also other SASS will undergo the same process and become lexical signs over time.

Information on Data and Consultants

The descriptions in this section are based on the references below. For information on data and consultants see the references. The video clips and images exemplifying the linguistic data have been produced by LIS native signers involved in the SIGN HUB Project.

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Elena Fornasiero

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