



Paul Jouison

Analysis and Linear Transcription of Sign Language Discourse

Paul Jouison

Moulis-Médoc

Basic Principles

1. Signed discourse should be studied as such and for itself. In the absence of grammar clearly established on the basis of its own internal structure, the reference to iconic characteristics of signs (external iconicity) and the use of words from oral languages which are sometimes associated with them, can, at the most, be used as guides in the task of identifying the constituent units of form. Other guides, just as important, can be used efficiently:

- rhythmic structures of the productions
- harmony of the internal forms of the system (internal iconology)

2. The task of analysis should be associated with the task of reconstruction, the goal of which is to make possible the reproduction of the sequences under study by means of the elements which have been identified.

The two dimensions: opposition (analysis) and production (synthesis), cannot be disassociated in the defining of the constituent units of the different levels of articulation.

3. The use of an informant is limited to discussions about the filmed sequences of exclusively spontaneous signing in natural communication situations. Research on isolable elements (sentences, predicate and nominal phrases, morphemes and phonemes) and their degree of autonomy is carried out prudently and concurrently.

The coherence of the results obtained (that is to say, that which the system gives in reply to our investigations) is the only criterion of their validity. The definition of the lexical and the grammatical categories rests for the moment only on their

formal descriptions. At this stage of research, the comparison of these categories with those of oral languages can be only a rudimentary guide.

In order to be valid for comparative purposes, the constituent units of sign discourse must be defined on the basis of their own internal structure. This requires complete and exhaustive analysis of numerous sequences of spontaneous discourse, an analysis which has not yet been undertaken systematically for French Sign language.

The work undertaken in the last few years permits the beginning of a reconstruction of the articulated sequences of signed discourse.

This reconstruction is obtained by means of a system of transcription of observed regularities and of isolated groups by the task of analysis and synthesis.

A new danger appears. The system of graphic transcription itself necessarily possesses an internal iconology (oppositions and resemblance of graphic symbols among themselves). It may be interesting to use this iconology as an image (a reflexion) of the sign discourse's own internal iconology and to use this as a tool, among other tools, for analysis. However we must always be careful not to assimilate one to the other and not confuse the mental projections of the transcriber with the inherent structures of the discourse. The reflexion of spoken language by written language has well-known limits. It has not been proved that these limits disappear when, as in case of signed discourse, the channel of the reception is the same for the signing and its notation (visual-gestural/visual-graphic).

Here is the transcription of the first 30 seconds of a story, which, depending on ones viewpoint, may be considered either as discourse in sign language or as non-verbal or pantomimic communication. No formal definition of these types of discourse can allow us to make a choice among these alternatives. Only one thing is certain: the people who use this type of signed communication and who are also native signers in F.S.L. agree that this story has **a strong internal coherence**, that the signed form belonging to the vocabulary of Signed French and the non- standard, imitative or mimic forms which the story contains do not depend on distinct and identifiable systems of articulation. One cannot formally identify "loans" from one system to another. This sequence of symbols should be read from left to right and from top to bottom.

The transcription above represents the successive movements which produce the signed forms and whose linear accumulation forms the story.

A certain number of identifiable form-movement elements segment visibly in time and in space within this sequence of movements. The large groups obtained in this way seem to keep a coherence even outside the story from which they are drawn. The actions or sequences of actions which they seem to represent in the story are determined in space and in time, as are the modalities according to which they are produced.

These form-movement elements can be described as "an opening" (<) of the face toward the addressee (who is hidden behind the camera), an opening marked principally by the movement of the eyebrows (m) or "mouth-eyebrows" combinations (n) and the direction of the gaze. These observable entities are underlined and in heavy print in the transcription below. One of them (mʌ) visibly characterizes a hesitation, the speaker raises the eyebrows and the gaze in the manner of someone who is searching for what he has to say.

Other form-movement elements bring into play only the orientation of the gaze and the face. Contrary to the preceding ones, the groups that they separate retain an incomplete nature which leaves the addressee unsatisfied. Part of the meaning can be described but the meaning they are supposed to produce seems incomplete. These form-movement elements determine fictitious places (not linked to the context) which can be described by means of planes and directions relative to the speaker's body (plane or direction perpendicular to the spinal axis of the signer's body (\forall , \forall , ...), direction-angle in a plane: (Θ , $\dot{\Theta}$, $\dot{\Phi}$, ...)).

მ ერვნელ-ნასუნ **ვე** ცუბაფისუნვ-კ **მ** მეგე' თფრქლ 1ყ>ერვეპუს **ვე** ცუბაფისუნვ-კ **ვე** ფშ' სიც' ე-ჯ-დ-ლ-ვ-ე **ვე** სუსე-ა ი-მ-ი-ე-ლ ნ-ი-ე- სუსე-ა-ფასუ **ღვე** 10სერვ-კ ე-ცუცფილ-ლ-ლ-ფასუ **ღვევ**-ცულ- მ<ნე ფშ' ცულ-ც-რ-ე-ლ- 1-ცუცმომ-კ **მ** ნე ფშ' ე-ც-უ-რ-ას-ი-ფ-ც-ც-ც- მ< (ფშ' ე) ც-უ-რ-ას- ფ-ი-ა- ცუცმომ-კ **მ** ნე ც-მ-ხ-ფ- უ-ა-ც- უ-ლ- კ-ლ-ტ-ხ-ფ- უ-ა-ც- უ-ლ- ცუცმომ-კ ფ-ი-ა- მ-ე-ლ- ე-ცუცფილ-ლ-ლ-ფასუ ცულ- ცუცმომ-კ ე-ცუცფილ-ლ-ლ-ფასუ ცულ- ცუცმომ-კ ე-ცუცფილ-ლ-ლ-ფასუ ცულ-

At first view, there do not seem to be any other simple forms which "visibly" segment, by their properties alone, the sequence constituted by the signed story. The following level of analysis brings forward more or less complex forms separated by the only change which makes one form to change into another. The change we are talking about here is that which brings to an end the preceding form in order to use the following one. This change is transcribed by a space between the sequence of symbols.

When we get to this stage of the analysis, we find successive groups of form-movement elements which one can no longer decompose without losing all or part of the meaning. These groups have a formal characteristic: while the sequence in which they are contained is going on, only a part of the form produced is modified; at least a part of the form produced retains its characteristics until the end of what we can prudently begin to call "sign" (lexical units). These parts, identifiable by their "duration", their "hold", will be called *orientation* ($\text{g}\theta$, $\text{q}\phi$, $\text{u}\theta$, ..., $\text{g}\text{v}\theta$, $\text{q}\text{v}\theta$, $\text{u}\theta$, ..., $\text{f}'\text{g}$, ... etc...), *symmetry plane* ('-, ...), *figure* (\sqcap , \sqcup , $>$, $\check{>} \check{\sqcup}$, ...), *number* (\mathfrak{Z} , \mathfrak{Z} , \mathfrak{Z} , \mathfrak{C} , ..., ψ ,

(φ, Ο, Ρ,etc) *localisation* (∂ , ℓ , Ω , ..., \mathfrak{M} , \mathfrak{L} , ..., $\mathfrak{M}\theta$, $\mathfrak{M}\phi$, ..., $\mathfrak{M}\psi$, $\mathfrak{M}\phi$, \mathfrak{D} , Θ , ...etc) and *movement* (α , δ , υ , ..., $\mathfrak{L}\theta$, $\mathfrak{L}\phi$, ..., etc), terms which will be used to qualify and determine the corporal segments and functions in play. These elements are again "simple" form-movement elements of the same type as the spatial form-movement element with which we began the analysis.

We have now arrived at the minimal possible level of analysis based on the rhythmic and formal structure of the signed sequence. Going beyond this leads us to the material description of the units using elements which are no longer specific to the signed sequence, but which belong to the anatomical and functional "physiological" organization of the body.

Construction of a lexicon based on the analysis of the discourse

1. Relation between simultaneity and linearity:(fig.1)

- a) - The minimal units appear in such a manner that their accumulation in time leads to the construction of two types of images:

static images: in the example below it is the case for the choice of the fingers and the arms (GJ) and of the orientation, ($\dot{\varphi}\dot{\psi}\dot{\phi}$) the articulation of which leads to a "positioning" of the hand (A/B); This accumulation is done in a precise order; to invert in time the choice of the fingers and orientation would result in making the first one a "modification" of the form already oriented, therefore a movement, which is not the case in this example. The accumulation is linear, and its result, the static image, exerts spatial constraints (that is to say, of a "simultaneous nature") on the production of the units of which it is constituted.

dynamic images: this is the case of the two movements ($\acute{U}AVVZ__$) which are added to the preceding units in order to form with them two dynamic images. Here we are in presence of two successive "setting in movement" (C et D) of the hand. The movements can be complex. In our example the first one brings into play the fingers ($\acute{U}AV$) and the body (Z), then appear rhythmic constraints; here the movement of fingers and that of the body are "in phase". This agreement is "simultaneous", the movement which brings into play several parts of the body is "one and the same". Each unit is used in fact to

create an image which is peculiar to it and which we shall call "figure"; the choice of the fingers ($\zeta\psi$), the orientation, the movement ($\dot{\alpha}\nu\phi$), ... create respectively "figures" (number, direction, rhythm ..) independently one of the other.

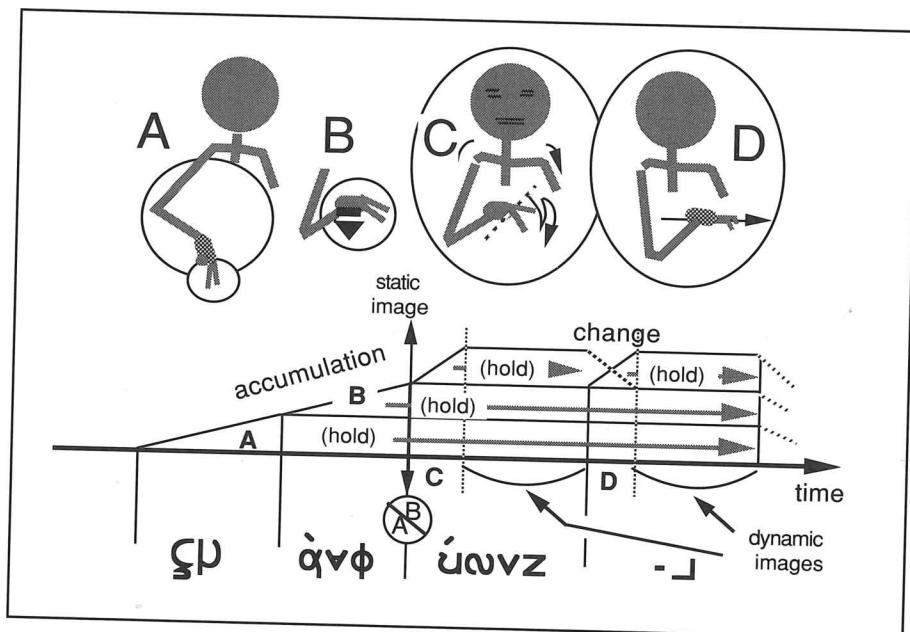


figure 1

2. Basic structure of a minimal unit

this can be examined from 3 points of view:

a - Shaping, that is to say, that which defines it as such (choice of fingers, arms, orientation, movement etc ...). This shaping can be analysed as the setting-in movement of a corporal segment. The distinctive elements here are:

1) - the place of the segment in the functional topology of the body. Thus we shall have:

- central segments (spinal axis),
- intermediate segments (head, arms, ...)
- peripheric segments (mobile elements of the face: eyes, tongue; hands, fingers, ...)

and numbers (of arms, hands, fingers, eyes, ...)

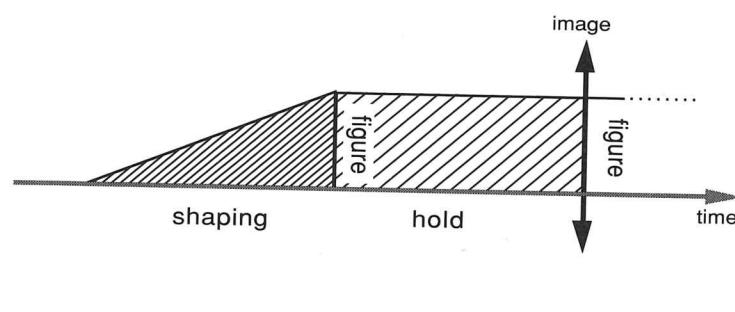
2) - the place of the rotation axis (resulting from the articulation(s) brought into play), in relation to the substance/matter of the segment; here the distinctive elements are:

- interior (the segment moves "within" itself)
- exterior (displacement of the segment)
- internal ("internal curve" of the segment)
- external (the segment is "drawn away" by one of its extremities)

3) - the place of the unit with regard to the image to which it is related; this place is made physically manifest by the "tension" of the movement. The tension intensifies and reaches its maximum at the approach of the image, at the moment when the image becomes "clear". In time, the image has an effect on the shaping which can be compared to that of a optical lens in space. During the hold of the image the tension is "uniform". The end of an image is a "slackening" of the tension which characterizes it.

b- its hold (duration): in the preceding example, the choice of the fingers, the orientation of the hand, are held until the end of the second movement. Inversely, the movement ($\underline{\nu}$) cancels the preceding movement ($\dot{\alpha}\nu\phi$). Each movement has however its own hold, number of rockings, rotations, etc The hold is the fundamental property which permits the accumulation, that is to say, the constitution of image of another "articulation level".

c- its figure: here we are dealing with the aspect within which the unit is inscribed in the icological or rhythmic structure of the image. The figure is the result of constraints which are inherent to the characteristics of each unit and to the structure of the image which it contributes in producing. Through the figure the image exerts an accommodating effect. Through the group of potential and/or effectively produced images of the signed discourse, the figure inscribes the unit in the phonological structure of this latter. The image was the exterior aspect of the productions of the signed discourse. From an interior viewpoint of this latter we shall talk about harmonic configurations of forms (static image/ static harmonic configuration (SHC)) and of movement (dynamic image / dynamic harmonic configurations (DHC)).



3. Some types of forms and their transcription (for a more precise description of the examples, see the lexicon)

The extract of the story presented here does not contain any isolated SHC such as "Εψφ" for example, (*to show the five spread fingers of the hand*).

SHC held and followed immediately by a DHC, ex.: /ξψόνφ/ύννζ/ (*human being walking*). /εζψ/πφάλε/ (*to catch hold of the ...*).

SHC held and followed by two DHC clearly evident; the separation of the two successive movements is marked by a /-/ , ex.: /ξψόφ/ - /χμλάφ/ - /θ/ (*human being crossing a limit, advancing and turning left*).

SHC used as a landmark for the movement of the other hand. The "leap" of the movement of one hand to the other is marked by a /'/, ex.: /πγλε'/ξψ/θάφ/ - /πγλάλν/ (*human being jumping from the end of a dining-board*). The /-/ always links the successive movements of a single segment (here: the second segment), except if the change of movement is explicitly figured (ψ/ψ: "base hand"/"active hand", ψ/α: arm/face, for example).

SHC containing a place on the surface of the body (here: the chin: θ) used as a landmark for the movement of the hand, ex.: /θ'/εψέ/ψς/ ("impossible"). The "passage/transit" of the movement from the chin to the hands is marked by a '/'. Indeed, although the hand goes towards the chin, its movement is pre-determined by the landmark; thus the movement circulates in the opposite direction of the displacement. In the other case we would be dealing with a searching or groping movement.

Two linked SHC containing the body (φ) and a place on the surface of this latter (here the top of the head:θ) used as landmarks respectively for two other SHC and a setting-in movement of the second one, ex.: /φ - θ/ /βψφέ-εψλάγ/ - /θ/ (*to turn off the shower*).

SCH containing a place on the surface of the body visibly identical to that which it materialises (the chest of the signer Θ materialises a "real" chest), ex.: /ρε/φε/ψχόασζ/ (*to be rubbing one's chest*) . This important characteristic trait of the signed form, discernable in the movement, is marked by adjunction of the symbol φ to that of the landmark: φθ . It is expressed by the use of the reflexive pronoun in the translation (/φε/φχόασζ/; *to rub one's (own) chest*).

SHC bringing the gaze into play: θε (deictic: *towards*), associated or not with other mobile segments of the face: ψμλν (μ: the eyebrows in "*to put down (there)* "), etc ... and SCH bringing into play the face and the movement of the head: ψθ> ("*thank you* ") ...

4. "Transcription and translation"

It is not possible for us to give a translation of the sequence presented here; in order to do this we should need to know the whole system of rules which organize the construction of signed discourse, and the corpus analysed are as yet insufficient in number for this. However, in agreement with signers familiar with this type of discourse, we can nevertheless give a description of what it seems to signify:

"We're talking about someone who enters a swimming pool, buys a ticket which he gives in exchange for a clothes - rack, after having thanked the receptionist. He takes off his clothes (pullover, trousers, shoes) which he places on the clothes-rack, and returns this latter to its place. He goes under the shower after having tested with his foot if it was cold. After coming out of the shower he goes through a gate and discovers a huge pool along which people are swimming. He see a diving board. A diver springs forward and enters the water."

This description is obtained by calling on the iconicity of the signed forms, the French words which are sometimes associated with them, and on certain observable regularities, that is to say, principally on aspects "exterior" to the

Эмջнъөлъ - Энъов:

(IL) materialisation by the two index fingers ($\exists \dots - \tilde{\exists} \dots$) of the legs and their movement (... $\dot{n}\theta\lambda$ - ... $\dot{n}\omega\nu$);

$\tilde{\exists}$: figure with two hands, rectangular, and open at the front (parallel index fingers, thumb ends touching each other);

(S): *to walk*.

- Эмջнъөлъ - Энъовн \underline{z} :

agreement (x1) of the movement of the fingers wih the rocking of the body (rhythm of walking); associated with a half-closing of the eyelids and a regular continuous flowing-out of the breath;

(S): *to (be) walk(ing)*.

Сүржарфунв:

(IL) materialisation by the index and second finger (\mathfrak{C}) of the legs and their movement (... $\dot{\omega}\omega\nu$) - the hand with the palm downward ($\dot{\alpha}\nu$), principal axis towards the front (ϕ) -; (S): *human being who walks*.

- Сүржарфунв \underline{z} :

\underline{z} : continuous movement, agreement (x1) of the movement of the fingers wih the rocking of the body (rhythm of walking), associated with a half-closing of the eyelids and a regular continuous flowing-out of the breath; (S): *to (be) walk(ing) (human being)*

- Сүржарфунв(\underline{z}) $\dot{\theta}$:

displacement (rotation) of the body toward the left ($\dot{\theta}$) during and following the preceding movement; (S): *to walk toward the left (human being)..*

- Сүржарфунв(\underline{z})- \underline{L} :

brief displacement, held back (\underline{L}) (halt), of the hand in the direction indicated by the face and the gaze;

(S): *to advance / to arrive (human being)*.

... ' Сүржар-хмл- $\omega\phi$ - $\dot{\theta}$:

(IL) : materialisation, by the index and the second finger ($\mathfrak{C}\mathfrak{U}...$) of the legs and of their orientation (... $\dot{\alpha}\nu$); the hand crosses the plane materialised by the preceding signed form (...) and moves (L) forwards and then leftwards ($\phi - \dot{\theta}$) in the lower horizontal plane (ν); the gaze (m) precedes and accompanies the displacement of the hand;

(S): *humain being who crosses the ... and turn to the left*.

Е $\dot{\psi}$ ллф $\dot{\theta}\mathfrak{e}$:

(IL):gripping ($\dot{\kappa} \dots \underline{L} \dots \mathfrak{Q}$) of two ($E\dot{\psi}$) identical joint objects ($\psi \dots L$), cylindrical (l), of small diameter ($\dot{\theta}$), vertical (ϕ); (S): *to catch hold of the ... **

- Е $\dot{\psi}$ ллф $\dot{\theta}\mathfrak{e}$ - $\underline{A}\underline{L}$:

ascending movement (A) and spreading mouvement (L) of the arms; (S): *to lift the ... **.

- Е $\dot{\psi}$ ллф $\dot{\theta}\mathfrak{e}$ - $\underline{A}\underline{L}$ - $\dot{\varphi}\alpha\nu z$:

continuous rocking of the body (rhythm of walking) associated (Z) with a half-closing of the eyelids and a regular continuous flowing-out of the breath;

(S): and to (be) walk(ing) = *to (be) carry(ing) the ... **.

- Е $\dot{\psi}$ ллф $\dot{\theta}\mathfrak{e}$ - $\underline{A}\underline{L}$ - $\dot{\varphi}\alpha\nu z(\underline{\theta})\dot{\theta}$:

displa-cement (rotation) of the body towards the right ($\dot{\theta}$) during and following the preceding movement;

(S): *to carry the ... * toward the right*.

: porte-manteau*- | -****ingers extended and joined****И $\dot{\psi}$ лл $\dot{\theta}$:**

(IL):holding in front ($\dot{\theta}$) with two hands (ψ) of a thin ($|S$) and wide (L) object;

(S): *to hold the*

- И $\dot{\psi}$ лл $\dot{\theta}$ $\underline{m}\hat{\nu}$:

the movement of eyebrows (m) accompanies that of the arms ($\hat{\nu}...$);

(S): *(to hold) and to put down the*

И $\dot{\psi}$ лл $\dot{\theta}$ лл $\dot{\theta}$:

(IL): the two hands (ψ) materialise two flat (l) objects oriented with back (g) to the frontal plane, symmetrical and aligned with the transversal axis of this plane (θ); an alternating (v), repeated (s) and deadened (\tilde{s}) movement of the hands around the transversal axis (u) of the articulation of the wrist (u);

N.B.: the position of the signed form acts as a landmark (...) for the movement of the following one; (S): *gate*.

И $\dot{\psi}$ лл $\dot{\theta}$ лл $\dot{\theta}$:

(IL):bringing together of the extre-

mities ($\dot{\gamma}$) and then repeated (s) separating ($\mathfrak{d}\mathfrak{p}\mathfrak{l}$) of the two hands ($\mathfrak{l}\psi$)

- schematizing of the movement of swimming -;

(S,SF): *swimming-pool*.

... ' (...) И $\dot{\psi}$ лл $\dot{\theta}$:

(IL):holding of a long (U), flat (l) and thin (S) object, by its ends, and turned upwards ($\dot{\gamma}\theta$);

N.B.: this signed form is effected in relation to the position materialised by the preceding form (...);(S): *to hold the*

- ... ' (...) И $\dot{\psi}$ лл $\dot{\theta}$ - $\hat{\nu}$:

(S): *to put down the*

И $\dot{\psi}$ лл' $\mathfrak{d}\mathfrak{p}\mathfrak{l}$:

(IL): one hand ($\mathfrak{l}\psi$) materialises a horizontal frontal limit ($\dot{\gamma}\theta$) which the other hand crosses ($\hat{\nu}\mathfrak{x}\mathfrak{l}$) by passing over it;

(S): *to enter*.

И $\dot{\psi}$ лл' $\mathfrak{d}\mathfrak{p}\mathfrak{l}\hat{\nu}$:

(IL): one hand ($\mathfrak{l}\psi$), with its back uppermost and principal axis transversal ($\dot{\gamma}\wedge\theta$) materialises a flat object (l); the other hand ($\mathfrak{l}\psi$), with index and second finger extended (\mathfrak{C}), is placed upright above ($\dot{\gamma}\hat{\nu}$), and at the end (ϕ) of the first hand;

(S) : *human being standing at the end of a diving-board*.

- И $\dot{\psi}$ лл' $\mathfrak{d}\mathfrak{p}\mathfrak{l}\hat{\nu}$ - $\mathfrak{d}\mathfrak{p}\mathfrak{l}\hat{\nu}$: (IL): first an upward ($\hat{\nu}$) then a downward (ν) movement of the second hand ($\mathfrak{l}\psi \dots'$) at the same time as it advances (L), "accompanied" by the eyebrows; wrist

(ϕ) forward;

(S) : *human being jumping from the end of a diving-board.*

- $\text{I}\mu\text{g}\text{v}\theta\text{ }\zeta\mu\text{q}\text{-}\phi\text{-m}\text{g}\text{v}\text{\hat{L}}\text{ v}\text{-r}\text{>}\text{v}\text{\tilde{L}}$:

(IL): "closing" ($\text{r}\text{>}$) of the mobile parts of the face (eyes, mouth) and regular breathing; continuing and deadening (\tilde{v}) of the downwards and forwards movement ($\text{v}\text{\tilde{L}}$) above;

(S) : *human being jumping from the end of a diving board and entering the water.*

- ψ -

Movements of the arms

$\psi\text{m}\text{\hat{v}}$:

the eyebrows (m) accompany the movement ($\text{\hat{v}}$) of the arms (ψ); (S): *to put down*.

- $\psi\text{m}\text{\hat{v}\hat{o}\hat{v}}$:

displacement (rotation) of the body towards the left (\hat{o}) during the movement above;

(S): *to put down on the right*.

- $(\phi)\text{U}$ -

Movements of the other parts of the body

$\phi\text{U}\text{s}$:

(ID): repeated movement (S) of the foot (U) toward the front (J);

(S): *to put one's(ϕ) foot forward (twice).*

(ϕ , ϕU) - ∂ - $\ddot{\partial}$ - H - H -
- H - H - H -

Landmarks on the surface of the body

ϕ - $\hat{\partial}$ " $\text{b}\text{u}\text{f}\text{e}$ - $\text{E}\text{C}\text{b}\text{u}\text{q}$ - $\text{b}\hat{v}$ - bus :

(IL): While one hand (J) moves away from the body (ϕ), gripping "with closed fist" ($\hat{\partial}$) around the vertical axis at the top of and to the left of the frontal plane (ϕ) -(SP): *to hold a cord* -, the other hand (J) materialises a radiating source (EC) above the head ($\hat{\partial}$ '... \hat{J}) and in direction (q) of it - (SP): *spray of the shower* -; pulling downwards of the first hand ($\text{b}\hat{v}$) followed by the repeated movement of the other hand (J ... s) around the transversal axis (u) of the articulation of the wrist (u);(S): *(to open) the shower*.

- ϕ - $\hat{\partial}$ " $\text{b}\text{u}\text{f}\text{e}$ - $\text{E}\text{C}\text{b}\text{u}\text{q}$ - $\hat{\partial}$:

closing of the second hand ((ECJ) $\hat{\partial}$); (S): *to turn off the shower*.

- ϕ - ϕ " $\text{b}\text{u}\text{f}\text{e}$ - $\text{E}\text{C}\text{b}\text{u}\text{q}$ - $\text{b}\hat{v}$ - bus :

(IL): same signed form as above, effected no longer around the body (ϕ - $\hat{\partial}$ "...) but on the frontal plane (ϕ - ϕ "...); (S):(i) *open the shower -opposite-*

- ϕ - ϕ " $\text{b}\text{u}\text{f}\text{e}$ - $\text{E}\text{C}\text{b}\text{u}\text{q}$ - ϕ ' us $\phi\text{a}\text{v}\text{z}$:

(IL): the body moves forward (ϕJ) into the landmark position of the signed form = relative movement of the arms and the trunk (ϕ - ϕ " \rightarrow ϕ - $\hat{\partial}$) followed by both the repeated movement of the second hand (J ... s) around the transversal axis (u) of the articulation of the

elbow (U), and also the continuous rocking of the body, associated (Z) with a half-closing of the eyelids and a regular continuous flowing-out of the breath; (S): *to go under the shower and to (be) hav(ing) a shower* .

$\ddot{\partial}\text{E}\text{P}\text{E}\text{a}\text{s}$:

(SF): "impossible" ; contact at right angle (\bar{E}) of the thumb (opposed to the others fingers in the same plane : ϵ) with the chin ($\ddot{\partial}$); repeated (S) wiggling movement (v) of the fingers; (S): *commentary on the result of the action(s) materialised by the preceding signed form(s)*..

$\text{H}'\text{W}\text{x}\text{q}\text{q}\text{a}\text{s}$:

(IL): repeated (S) rubbing (qq) - crossed arms (Wx) - of the outside of the arms (H');

(S): *to rub the outside of the arms*.

$\phi\text{b}'\text{W}\text{x}\text{L}\text{e}$ - $\text{g}\text{r}\text{a}\text{>}\text{A}\text{L}$:

(ID: ϕ): gripping, and then closed fists ($\hat{\partial}$) of both hands (J) on each side (L) of the upper (ventral) part of the pelvis (H) followed by a downward movement of the arms(v); (S): *to take off one's(ϕ) trousers*.

($\phi\text{b}'\text{W}\text{q}\text{L}'\text{E}\text{z}\text{-}\text{z}\text{>}\text{b}$ - $\text{L}\text{v}\text{-}\text{z}$) :

(IL/D: ϕ): to take a coin in the pocket and let it fall : matérialisation by the hand (J) of the trousers pocket near the lateral part of the pelvis (H), gripping finger ($\dot{\epsilon}$) movement ($\text{z}\text{-}\text{z}$) inside (b) the hand/pelvis space (L), drawing-out movement (Lv) and letting-go move-ment (z); (S): *to pay* .

