Simultaneity in French Sign Language Discourse

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1. Introduction

1.1 The problem

Depending on the author and the linguistic trend, simultaneity in signed languages can have a phonological, morphological, syntactic or semantic explanation (Miller 1994; Emmorey 2002; Sandler 1999; Wilbur 2000; Cuxac 2000). In this chapter I propose an analysis that is both morphological and semantic, in terms of semiotic intentionality. Depending on what the signer wants to express and how she wants to do it, she will use a more or less illustrative intent$^1$ and always reserve the possibility of going from one intent to another.

I follow the model proposed by Cuxac (2000) for the analysis of signed languages, in particular for French Sign Language (LSF). The model gives a great deal of importance to iconic phenomena in signed languages. To justify the vast amount of iconicity present in signed languages, in contrast to the phenomena observed in spoken languages, Cuxac proposes a cognitive linguistic explanation: there tends to be less iconicity in frozen signs$^2$ for reasons of linguistic economy (Frishberg 1975), on the contrary, iconicity is fully maintained for Highly Iconic Structures$^3$ (HIS).

To begin this chapter, I present the articulators$^4$ I take into account in LSF, i.e. the parts of the body considered significant for sign formation. There is eye gaze, the two hands, facial expression, mouth movements (mouthing of the spoken word or mouth gestures accompanying HIS) and possibly body posture. In this type of analysis of a signed language, the relative hierarchy between the articulators should
be noted, with the pre-eminence of eye gaze. It is in fact eye gaze that governs interaction, creates space, time and person reference and ultimately helps distinguish whether a given sign is uttered with the intent of showing (i.e. HIS) or not (frozen sign), according to Cuxac (2000) and Sallandre & Cuxac (2002). Taking all body articulators into account means that no particular emphasis is given to the hands.

For the definition of simultaneous constructions, I follow Miller (1994) and discuss his work in the light of Cuxac's model. For Miller (1994:133),

a simultaneous construction is a grouping of signs in which: a) distinct lexical elements are produced independently and simultaneously in autonomous channels, and b) these elements are bound together in some kind of syntactic relationship.

He continues, noting that:

Within simultaneous constructions, two major types can be distinguished. The first involves the fully simultaneous production of distinct signs. The second type involves holding a handshape forming part of one sign while the other hand simultaneously produces different signs.

According to Miller (1994:133), the term ‘construction’ with reference to simultaneous structures in signed language is important, since the different meaningful elements of these structures can be independent, but are always related (never existing at random).

1.2 Iconicity in signed languages

Iconicity is a theoretical notion in both spoken and signed languages. The most common form of iconicity in signed language is imagistic but can be completed by diagrammatic iconicity (Haiman 1985). Imagistic iconicity is a natural resemblance between the sign and the object it refers to in the world (Fischer & Nänny 2001). Diagrammatic iconicity is a type of syntactic iconicity and is present in signed languages in the creation of space, time and person references as well as in the order of signs in the utterance. Most signed language specialists focus on the imagistic iconicity of these languages (for example, Cuxac (1985; 1996; 2000) and

1.3 The data

The examples in this chapter are taken from two corpora. First, I used the database of the LS-COLIN project\(^5\) that includes ninety LSF monologues by thirteen Deaf adult signers in several genres: narratives, explanations (cooking recipes), discussions of current events (The switch from the franc to the euro in 2002; September 11\(^{th}\), 2001), and linguistics. The examples studied here are selected from all these genres except the last one. The two simple narratives produced from an elicitation task using picture sequences, The Horse Story and The Cat Story (Hickmann 2003) have been extensively commented on in language acquisition research and, more recently, recorded in some signed languages.\(^6\) The first story is about a horse that wants to jump over a fence to join a cow on the other side and falls. The second story is about a cat that climbs a tree to devour little birds in their nest. The second video corpus – Temporality\(^7\) – involves one Deaf signer and was created to allow study of some aspects of the LSF temporal system.

1.4 Outline in three parts

In the first part of this chapter, I briefly present Cuxac’s model for LSF and the three main categories of transfers he developed: ‘transfers of form and size’ (showing and describing the form or size of an object, without any process involved); ‘situational transfers’ (showing a situation as if one saw the scene from a distance) and ‘transfers of person’ (with processes and roles). Among transfers of person, ‘double transfers’ will be my core examples of HIS because by definition, these constructions combine two transfers simultaneously. In the second and third parts, I analyze LSF video examples of simultaneous constructions with both illustrative and non-illustrative intents.
2. Cuxac’s model

2.1 Brief presentation of Cuxac’s model of intent

Before dealing with simultaneity, I briefly present Cuxac’s model. Christian Cuxac is currently the most established LSF linguist. He has had a great influence on the research conducted on LSF in France since the end of the 70’s and has published a large number of papers, chapters, and proceedings as well as two books in the field of cognitive grammar, with a functionalist and enunciative approach (Thom 1970; Martinet 1970; Culioli 1990).

For twenty-five years Cuxac has been developing a semiogenetic model whose guiding principle is the iconic nature of signed languages. Cuxac (2000) hypothesizes that there are two ways of signifying in LSF: by showing or not showing, which can be seen in two different intents – illustrative and non-illustrative. A signer can always choose to sign by adopting one strategy or the other, depending on her intent. For example, ‘horse’, signed by using either the frozen LSF sign [HORSE] or a transfer of form (by describing with hands the forms of ears, muzzle and tail).

The primary process of increasing iconicity is divided into two sub-branches, depending on whether or not the iconisation process serves the express aim of representing experience iconically. Cuxac terms this ‘iconic intent’. This iconisation process represents the perceptual world, owing to the strong iconic resemblance between the forms and what they represent. On the one hand, the formation of frozen signs ‘without iconic intent’ permits meaning which is attributed a general value and the iconicity established in discrete signs is preserved, but could become degenerated. On the other hand, iconic intent, characterized by meaning which is given a specific value, allows a range of meaningful choices in the larger iconic structure activated by the transfer operations. These constructions are called ‘Highly Iconic Structures’.

Figure 1 illustrates these two sub-branches resulting from the process of iconisation and suggests a model for an iconic grammar of signed languages.

@@ Insert Figure 1 here
2.2 Highly Iconic Structures and transfer operations

Highly Iconic Structures are not discrete signs but whole structures. In HIS, the signer gives an imagistic reconstitution of experience. The demonstrative dimension can be activated at any moment through showing and imitating (as if one were the person one is speaking about, whatever her actions might be). Transfer operations include the entire range of Highly Iconic Structures. They are mental operations which aim to identify forms and roles of discourse. The three main transfers (Cuxac 1985; Sallandre & Cuxac, 2002) are defined below:

1. ‘Transfers of form and size’ (TF) describe the objects or persons according to their size or form (no process or role involved) and the object is described by means of proforms. Gaze is oriented towards the hands, and facial expression specifies the form.

2. ‘Situational transfers’ (ST) involve the movement of an object or character (the agent, by the dominant hand) relative to a stable locative point of reference (by the non-dominant hand). The situation is shown as if the scene were observed from a distance; the signer keeps her distance relative to what she is conveying. Gaze is oriented towards the dominant hand and facial expression specifies the agent. (See Figure 2)

3. ‘Transfers of person’ (TP) involve a role (agent or patient) and a process; the signer ‘becomes’ the entity she is referring to. There is a phenomenon of incorporation with the signer's entire body playing the role. (See examples in sections 3 and 4).

These transfers are the visible traces of cognitive operations, which consist of transferring the signer’s conceptualization of the real world into the four-dimensional world of signed discourse (the three dimensions of space plus the dimension of time).

2.3 Transfers of person

In transfers of person, as mentioned before, the signer ‘disappears’ and ‘becomes’ a protagonist in the discourse (any entity: human, animal or thing). Her gestures correspond to the gestures made by the character she is referring to and whose place she has taken. As such, the signer can embody a little boy, a horse, a tree and
so on. These types of extremely iconic structures can be divided into different transfers of person arranged along a continuum, starting from a high to a low degree of embodiment: ‘personal transfer’ (PT) is a complete role playing; ‘double transfer’ (DT) combines simultaneously a personal transfer for acting and a situational transfer for locative information or for a second character; and ‘semi personal transfer’ is partial role playing, accompanied by brief frozen signs. There are in fact around twenty different transfers of person (Sallandre 2003) but these three categories are the most common in LSF discourse.

‘Transfers of person’ are the most complex constructions of Highly Iconic Structures, compared with ‘transfers of form and size’, which express no process, and ‘transfers of situation’, which can express only motion and locative processes. This is why I decided to analyze them in previous studies (Sallandre 2001; 2003) and to focus on them in this chapter.

In international signed language literature, transfers of person are often considered as ‘role playing’; they allow different ‘points of view’ to be expressed (Poulin & Miller 1995). Engberg-Pedersen (1995) analyzes some phenomena in Danish Sign Language that can be used to express a specific point of view. She talks about ‘shifts’ and ‘perspectives’, using the term ‘role shifting’, which has been used to describe how signers take on a referent’s identity in certain types of signing. However in this case the term ‘shifts’ refers only to reported speech (direct and indirect discourse) and focuses on the pronominal system. In my description of LSF narratives (Sallandre 2003), I found a sub-group of categories that covers this and called it ‘personal transfers with reported speech’ (PT rs). This means that the signer has assumed the role of a character and that this character is speaking to one or more other characters. To do this, she can use frozen signs, cultural gestures, pointings or even transfers. In other words, the signer can once again draw on the whole range of LSF categories with or without an illustrative intent. In fact, not all categories of transfers of person are reported speech, but the reverse seems to hold true: reported speech can be produced only with transfers. Lastly, the terms ‘blend’ and ‘surrogate’ used by Liddell (1998; 2003) would be very appropriate in dealing with cognitive operations like transfers of person.

2.4 Proforms, transfers and property markers, rather than classifiers
Miller (1994) notes that in the signed language literature, the notion of simultaneity often appears in relation to constructions with classifiers. Since the notion of classifier is close to that of iconicity (at least in terms of motivation), simultaneity should have pride of place in Cuxac’s model. But Cuxac (2000; 2003) doesn’t use the notion of classifier because he thinks that the concept of classifier does not hold sufficiently account of the iconicity of the LSF and is not adapted to its description. Briefly stated, the common characteristic of the different types of classifiers identified in spoken languages is that they differentiate between entities on the basis of semantically defined classes (Craig 1986). These so-called classifiers in signed languages do have a classifying function in that they indicate a relevant property of an entity (Emmorey 2003). As Slobin, Hoiting, Kuntze, Lindert, Weinberg, Pyers, Anthony, Biederman & Thumann (2003) point out however, this property does not mark the entity as belonging to a specific semantic class existing in the language, but rather serves to designate the entity in a specific context. The same object can be designated by using different handshapes, i.e. by selecting different properties of the object to represent it, depending on what the focus is on or what is considered relevant to discourse. Thus Slobin et al. (2003) propose the term ‘property marker’ instead of the widely used term ‘classifier’.

Furthermore, Slobin et al. (2003: 273) emphasize the communicative function of property markers; in their words:

Rather than emphasize classification as the central feature of ‘classifier’ handshapes in polycomponential signs, it seems more useful to treat them as marking a relevant property of a referent. The major function of such a handshape is to evoke a relevant referent in discourse, indexing a particular referent according to properties that are appropriate for the current discourse.

This means that Slobin et al. argue that a property marker does not classify, but serves a function within a polycomponential verb – namely, the function of indicating a referent. In Cuxac’s recent typology, property markers are proforms. Cuxac (2003) uses the term ‘proform’ specifically for the manually configured parameter (handshape) used in HIS. Proforms are both highly iconic handshapes and generic forms (for example: ‘flat’, ‘thick’, ‘vertical’). Thus a proform is included in a transfer (the whole structure) as handshape parameter, together with the other manual
parameters (orientation, movement and location) and non-manual articulators (eye gaze, facial expression, body position).

Then Cuxac (2003) integrates proforms into a comprehensive model of iconicity while limiting them to Highly Iconic Structures, whereas Slobin et al. (2003) deal with entities that have already been mentioned (Cuxac’s frozen signs).

2.5 Cuxac’s discussion of simultaneity

Cuxac discussed simultaneity for the first time in a paper in 1985, but his major contribution is in his seminal book, published in 2000. The 1985 paper is really his first on LSF linguistics: in this paper, he defined the foundations of what later became his model: the importance of iconicity, form and size transfer, situational transfer, personal transfer, etc. At that time, he followed Martinet’s (1970) concept of ‘double articulation’ of language (as did Stokoe (1960)). Later, Cuxac (2000) explicitly deals with simultaneity, identifying two ‘intents’: simultaneity with or without illustrative intent, i.e., in Highly Iconic Structures, as opposed to its presence in frozen signs. I develop these two directions in this chapter and show examples in LSF. This quotation from Cuxac (2000:241) summarizes his view on multilinear inter-frozen signs, that is, with non-illustrative intent:

On traitera ici des cas où les deux mains fournissent ensemble des informations hétérogènes. La plupart de ces relations n’ont en fait rien de simultané, puisqu’il s’agit du maintien d’un signe arrêté dans son mouvement pendant que l’autre main (en général la main dominante) réalise des signes standards. Mais la main arrêtée joue là le rôle d’un indice de permanence thématique ou syntagmatique et le récepteur du message ne peut faire autrement qu’appréhender visuellement cet indice en même temps que les signes standards émis par l’autre main se succèdent, conférant à ceux-ci un indiscutable étiquetage structural simultané.

English: I will discuss here cases where the two hands together provide heterogeneous information. Most of these connections do not in any way involve simultaneity, since one sign has been stopped in its movement and is held stationary, while the other hand (generally the dominant hand) performs frozen signs. However, the holding hand serves to indicate thematic or syntagmatic duration and the person on the receiving end of the message can not help but
perceive this indication visually at the same time as the frozen signs produced by the other hand follow one another. The interlocutor perceives these frozen signs as unquestionably simultaneous in structure. (my translation)

According to Cuxac, many constructions that are often called ‘simultaneous constructions’ are not strictly simultaneous from an articulatory point of view, because the two hands don’t move exactly at the same time; but they are perceived as simultaneous by the interlocutor. Moreover, the crucial point in Cuxac’s discussion is that he emphasizes that these constructions are simultaneous from a semantic point of view and provides different contexts in which simultaneous constructions are likely to appear:

Le principe est général: quand cela est possible, une des deux mains maintient en permanence soit un indice de frontière syntagmatique ou propositionnelle, soit un signe standard noyau, tandis que l’autre main réalise soit les signes standards (il faut pour cela que ceux-ci ne se réalisent qu’au moyen d’une seule main) appartenant au syntagme ou à la proposition, soit les satellites déterminant le signe noyau. (Cuxac 2000:241-242)

English: The principle is a general one: when possible, one of the two hands constantly holds either an indication of syntagmatic or clausal border, or a core frozen sign, while the other hand performs either frozen signs (for this to be true, the frozen signs must be performed by only one hand) belonging to the phrase or clause, or satellites determining the core sign. (my translation)

The clausal border can be indicated in different ways (Cuxac 2000:242):

- The non-dominant hand is a numeral adjective (1, 2, etc. up to 5).
- The non-dominant hand performs the sign meaning there.
- The non-dominant hand is in a highly iconic configuration, i.e. a proform. The non-dominant hand is held stationary, while the dominant hand produces the frozen sign(s) (core sign of the clause).

3. Simultaneity in Highly Iconic Structures (illustrative intent)
Following this theoretical summary, I explore simultaneity in LSF discourse drawing on Cuxac’s two types of intent and offering several LSF examples. Examples are taken from the two corpora described in the introduction and analyzed via simultaneity of articulators. The following examples are all simultaneous constructions of varying type: with wholly illustrative intent (sections 3.1 and 3.2), with wholly non-illustrative intent (sections 4.1 and 4.2) and with the two intents simultaneously articulated (section 4.3). Each video example is briefly presented in the context of discourse. I present a photograph to illustrate the example, along with a table describing the example in detail, on an articulator by articulator basis. A categorization is provided, along with an English language translation that contextualized the example.

3.1 Simple transfers

*Simple transfers* are constructions that do not combine several transfers (section 3.2) nor do they combine the two intents simultaneously (section 4.4). As such, transfers of size and shape, and situational and personal transfers are termed ‘simple’. Two examples are presented in this section (Figures 2 and 3).

The first example (Figure 2) shows a situational transfer of a cat climbing a tree. It is an excerpt from the *Cat Story*, from the LS-COLIN Corpus. In this situational transfer, the two hands convey a different meaning and serve a different grammatical function: a) the dominant hand is the agent of the scene (a cat, with proforms ‘X’ following action of climbing); b) the non-dominant hand is a stable locative place (a tree); c) the eye gaze follows the dominant hand, and d) the facial expression is that of the agent involved in this process.

@@ Insert Figure 2 here

@@ Insert Table 1 here

The second example (Figure 3) shows a personal transfer of pie dough that has previously been rolled-out with a cook’s rolling pin. As shown in Table 2, all the
articulators are used, allowing the signer to embody the dough. Another part of the body that needs to be added here is the torso acting as an articulator. The torso represents part of the ‘dough’ entity and is therefore a meaningful articulator. It is the pertinent use of the torso that creates the meaning ‘rolled out dough’, implying rolled out over its whole surface, its whole ‘being’ and creates a comical effect. It is relatively common for the torso to have semantic value in personal transfers, which are constructions that involve the signer’s whole body. Generally speaking, all the upper parts of the body can become articulators and, as a result, they then take on a morphological and semantic value.

@@ Insert Figure 3 here

@@ Insert Table 2 here

3.2 In combined transfers: double transfers

I would like to point out that certain Highly Iconic Structures can be combined. For example, a double transfer is made up of a personal transfer plus a situational transfer. This results in more complexity from the standpoint of form (semanticization of the body is even more stratified) and of function (these minimal structures are authentic utterances with multiple participant roles).

The first example (Figure 4) shows a complex double transfer in *The Horse Story*. The most striking feature of this example is the number of agents that the signer shows simultaneously. The signer shows not just one agent, as is usually the case in double transfers, but two agents performing different actions in the same setting. The first agent is marked by the set of articulators [eye gaze + facial expression + mouth gestures + body posture] and represents a horse in a personal transfer. The second agent is marked only by the dominant hand and represents the bird (looking at the horse) in a situational transfer. A fence is the scene that the two agents act in relation to, and this (the fence) is expressed by the non-dominant hand in a situational transfer locative. As a result, this structure offers a complete situational transfer (locative + expressed agent), whereas ordinarily in a conventional double transfer the situational transfer is not complete (only one locative), with the agent
expressed by personal transfer. This is why the example is termed a ‘complex double transfer’. This type of example with a very high level of body and semantic division is fairly uncommon in LSF and demonstrates an excellent command of the language on the part of the signer.

In the second example (Figure 5), a description of the recipe for making apple pie, the signer simultaneously embodies the apple and the cook who cuts the apple up. The signer is again using a double transfer, but it is structured differently than in the previous example. His head, facial expression, eye gaze and the rest of his body represent the patient, the ‘apple’, with a personal transfer. His dominant hand acts as the agentive ‘cook’ who is cutting the apple with a knife. His non-dominant hand does not fulfill any function. The particularly interesting feature of this example is the two functions performed by the signer’s head: it is both patient in a personal transfer (conventional function) and the locative of the situational transfer (original function, possible thanks to the similarity of the signer’s oval head and the shape of the apple). His head also functions as the locus that the cook acts on. Accordingly, this can be termed double simultaneity: simultaneity between articulators and simultaneity of the ‘head’ articulator occupying two semantic functions.

3.3 Synthesis
As shown above, transfer structures are made up of internal morphemic elements, based on a very intense multilinear and paradigmatic semanticization of the body: the paradigm includes eye gaze, facial expressions, movements of the face and manual gestures. The manual gestures are in turn composed of morphemic elements\textsuperscript{14} that can not be performed in isolation: paradigms of hand configurations, their orientation in space, their location (on the body or in space), and paradigms of the movement(s) they make.

4. Simultaneity in frozen signs, pointing and mouthing (non-illustrative intent)

4.1 Two simultaneous frozen signs

I would now like to discuss constructions without illustrative intent using two examples (Figures 6 and 7). The first example (Figure 6) shows two simultaneous frozen signs, with the first sign held. The signer, who is at the beginning of explaining his recipe, warns the audience that he really is not a great cook. To do this, he first produces the sign CHEF with his dominant hand. He performs this sign emphatically (smile, negative mouth gesture and raised eyebrows) and pauses for a while after the sign, which allows him to introduce the theme. Then, at the same time as he maintains the location and configuration of the first sign, his non-dominant hand performs the sign NO, which allows him to make a comment on the first sign. This type of construction, also found in LSQ (Miller 1994), allows the signer to comment on a theme economically (without having to repeat the first sign or to say explicitly that he is going to comment on something). This is possible only with one handed signs.

@@ Insert Figure 6 here

@@ Insert Table 5 here

The second example (Figure 7) is an excerpt from the LS-COLIN corpus on the euro. The sequence appears as follows: a) BANKNOTE 'franc' mouthed and held, b)
FRANC 'franc' mouthed, c) SORRY not mouthed. This construction comes within a complex sequence, with the use of two channels (vocal and visual) and in the encoding of identical ('franc'/FRANC) or heterogeneous (FRANC/SORRY) information.

@@ Insert Figure 7 here

@@ Insert Table 6 here

This example illustrates the possibility of using oral components in addition to the body as a linguistic channel, as also discussed by Miller (1994) for LSQ, where first, both channels encode the same lexical information, and then they go on to encode two items of lexical information independently.

In this connection, Emmorey (2002:39) gives a clear definition of the ‘mouth patterns’ which are produced simultaneously with manual signs in several signed languages:

*Mouth gestures* refer to mouth activity that is unrelated to spoken words, whereas *mouthing* refers to the production of a spoken word (or a part of a word), usually without voice, while simultaneously producing a corresponding manual sign or signs.

In LSF, mouth gestures are produced in HIS (for example to describe the size of an object), but mouthing is only observed with frozen signs (never with HIS, except in personal transfers with reported speech). This is an additional argument in favor of the existence of two completely distinct intents in LSF: illustrative (say by showing) and less illustrative (say without showing). With mouthed frozen signs, the signer really produces a double act of saying, without showing: she says with the manual sign (which may have a low, synchronically degraded degree of iconicity) and with the mouthing.

Emmorey (2002:40) notes that “mouthing in European sign languages occurs much more often with nouns than with verbs, possibly because verbs occur with mouth gestures (e.g. facial adverbials).” This is exactly the case in our example where the
two noun signs [BANKNOTE] and [FRANC] are mouthed with ‘franc’, whereas the verb ‘to be sorry’ is not. However, I would like to propose an explanation in terms of the signer’s intent rather than of a verb/noun opposition. Emmorey (2002) also suggests the presence of mouth gestures by ‘echo phonology’ (the mouth articulation parallels the manual movement) and ‘enactment’\(^{15}\) (imitates the real action in a stylized way). The reader is referred to her work for discussion of a proposed phonological explanation for the different levels of articulation possible in signed languages, and includes summary overviews of the work of Sandler (1999) for Israeli Sign Language and Wilbur (2000) for American Sign Language.

4.2 An ‘unfrozen’ sign

For some LSF frozen signs where both hands normally have the same function, signers could choose to separate each hand. The example below (Figure 8) is taken from the Temporality Corpus. This example involves a frozen sign with two hands in two distinct spaces. It shows a spatial construction in LSF where space is conceived of as a diagram. I asked the signer to explain his weekly timetable to us. He began by constructing a ‘grid’ in space, which is based on an upper range with a horizontal arrow (Monday to Friday) and continued from top to bottom with a vertical arrow (morning, noon, evening). I then excerpted a long sequence of 45 seconds close to the end of the performance where the signer realized that he had forgotten to mention an activity that he did every week, teaching LSF (first return to an earlier point), so he had to go back to mention it.

In this sequence, the elements teach, Monday mornings, Friday afternoons, university and museum are spatialized in their frozen form in relation to the grid of the timetable that he constructed at the beginning of the sequence. He began by speaking of Friday then continued with Monday (second return to an earlier point). The ‘unfrozen’ sign [TEACH] can be divided into: a) ‘space: Monday afternoon’ with dominant hand (for university in real life); b) ‘space: Friday morning’ with non-dominant hand (for museum in real life). The signer uses a linguistic strategy, made possible by the simultaneity of his hands.

@@ Insert Figure 8 here
4.3 Simultaneity combining both intents

The last example in this chapter (Figure 9) shows a simultaneous construction with two intents expressed together. The illustrative intent is characterized by a double transfer made up of the non-dominant hand representing the fence in a situational transfer and the grouping of [eye gaze + facial expression + mouth gesture + body posture] representing the horse in a personal transfer. At the same time, the non-illustrative intent is present in the form of the frozen sign LOOK AT performed by the dominant hand. The signer chooses to use a frozen sign while he is in the role of an animal in order to underscore the action that this character is performing, thereby creating a semi double transfer.16

5. Conclusion

In this chapter I have attempted to show how the simultaneity of articulators is exercised in numerous constructions in LSF. Whether the transfer is simple, combined, or simultaneously expressing two intents, or whether two lexical signs are produced together, morphological and semantic simultaneity does exist. The first group of examples demonstrated illustrative intent, which mostly draws on imagistic iconic resources. In contrast, the second group of examples demonstrate non-illustrative intent and uses both imagistic and diagrammatic iconic resources. For example in Figure 8, the signer uses the signing space to refer to an actual space (the schedule on paper, i.e. imagistic iconicity) that he uses in turn to create two distinct sets of references: space (the museum and the university) and time.
(Monday and Friday), (i.e. diagrammatic iconicity). As such, these two types of iconicity merged together allow articulator simultaneity in LSF. More specifically, the small amount of imagistic iconicity characteristic of oral languages possibly explains the small amount of articulator simultaneity usually observed in them. Accordingly, it can be stated that iconicity and structure are compatible, in particular for the analysis of signed languages. In signed languages, signers resort to simultaneity of articulators for reasons of linguistic economy. Lastly, based on these observations of LSF discourse, I suggest referring to the concept of multilinearity of articulators rather than seeing an opposition between simultaneity and sequentiality.

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Figure 1: Overview of Cuxac's (2000) model
Figure 2: Ois Jul 00'27, simultaneity in a situational transfer
Figure 3: Cuis_Nas 03’01, simultaneity in a personal transfer
Figure 4: Chev1_Jul 00’29, simultaneity in a double transfer
Figure 5: Cuis_Nas-04’21, simultaneity in a double transfer
Figure 6: Cuis_Nas 00'09, simultaneity in a compound frozen sign
Figure 7: Euro_Jos 02’28-02’29, BANKNOTE held FRANC/SORRY, simultaneity in a compound frozen sign with mouthing
Figure 8: Simultaneity in a ‘unfrozen’ sign.

(left) Temp_Nas 10’19, pointing gestures in two places
(right) Temp_Nas 10’49, final sign TEACH in two referential spaces
Figure 9: Chev1_Ant 01'08, simultaneity in a semi double transfer
Table 1: Description of Figure 2

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<thead>
<tr>
<th>Discourse</th>
<th>LS-COLIN Corpus, <em>The Cat Story</em>: Ois_Jul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timer</td>
<td>00'27</td>
</tr>
</tbody>
</table>
| Articulators | - *Eye gaze*: towards non-dominant hand (the tree)  
               - *Facial expression & mouth gesture*: of the cat (aggressive)  
               - *Dominant hand*: the cat (‘X’ proform) = ST agent  
               - *Non-dominant hand (and the arm)*: the tree (‘5’ proform) = ST locative  
               - *Body posture*: of the signer (towards the non-dominant hand).  |
<p>| Summary   | Situational Transfer (ST)               |
| LSF category | “The cat climbs the tree aggressively.” |</p>
<table>
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<th>Discourse</th>
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</tbody>
</table>
| Articulators | - *Eye gaze:* of the pie dough (eyebrows: astounded)  
|            | - *Facial expression & mouth gesture:* of the dough (astounded) = *PT agent*  
|            | - *Dominant and non-dominant hand:* of the dough  
|            | - *Body posture:* of the dough |
| Summary : | Personal transfer (PT)     |
| LSF category | “I really am pie dough now!” |

*Table 2: Description of Figure 3*
<table>
<thead>
<tr>
<th>Discourse</th>
<th>LS-COLIN Corpus: Chev1_Jul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timer</td>
<td>00'29</td>
</tr>
<tr>
<td>Articulators</td>
<td>- Eye gaze: of the horse, beyond the fence</td>
</tr>
<tr>
<td></td>
<td>- Facial expression: of the horse (determined)</td>
</tr>
<tr>
<td></td>
<td>- Mouth gesture: of the horse (determined)</td>
</tr>
<tr>
<td></td>
<td>= PT agent</td>
</tr>
<tr>
<td></td>
<td>- Dominant hand: the bird’s head (‘duck beak’ proform) = ST agent</td>
</tr>
<tr>
<td></td>
<td>- Non-dominant hand: the fence held (‘W’ proform)</td>
</tr>
<tr>
<td></td>
<td>= ST locative</td>
</tr>
<tr>
<td></td>
<td>- Body posture: of the horse, beyond the fence</td>
</tr>
<tr>
<td>Summary :</td>
<td>PT + complete ST</td>
</tr>
<tr>
<td>LSF category</td>
<td>= Complex Double Transfer</td>
</tr>
<tr>
<td>Translation in English</td>
<td>“Here is the bird watching the horse getting ready to jump over the fence.”</td>
</tr>
</tbody>
</table>

Table 3: Description of Figure 4
<table>
<thead>
<tr>
<th>Discourse</th>
<th>LS-COLIN Corpus: Cuis_Nas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timer</td>
<td>04'21</td>
</tr>
<tr>
<td>Articulators</td>
<td></td>
</tr>
<tr>
<td>- <strong>Eye gaze</strong>: of the apple (patient)</td>
<td></td>
</tr>
<tr>
<td>- <strong>Facial expression</strong>: of the apple = <strong>PT patient</strong></td>
<td></td>
</tr>
<tr>
<td>- <strong>Mouth gesture</strong>: -</td>
<td></td>
</tr>
<tr>
<td>- <strong>Head</strong>: of the apple = <strong>ST locative</strong></td>
<td></td>
</tr>
<tr>
<td>- <strong>Dominant hand</strong>: of the cook (cutting the apple, with ‘B’ proform) = <strong>ST agent</strong></td>
<td></td>
</tr>
<tr>
<td>- <strong>Non-dominant hand</strong>: (nothing)</td>
<td></td>
</tr>
<tr>
<td>- <strong>Body posture</strong>: of the apple</td>
<td></td>
</tr>
<tr>
<td>Summary:</td>
<td>PT + complete ST</td>
</tr>
<tr>
<td>LSF category</td>
<td>= Complex Double Transfer</td>
</tr>
<tr>
<td>Translation in English</td>
<td>“Ouch! I (the apple) am getting cut up into pieces by the cook.”</td>
</tr>
</tbody>
</table>

*Table 4: Description of Figure 5*
Articulators
- **Eye gaze**: of the signer, towards interlocutor
- **Facial expression**: of the signer (smiling and negative)
- **Mouth gesture**: of the signer (negative)
- **Dominant hand**: holding the frozen sign **CHEF** (‘V’ proform)
- **Non-dominant hand**: frozen sign **NO** (‘index’ proform)
- **Body posture**: of the signer (face on)

Summary:
Two frozen signs, with one held

<table>
<thead>
<tr>
<th>Discourse</th>
<th>LSF category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timer</td>
<td>00'09</td>
</tr>
<tr>
<td>Articulators</td>
<td></td>
</tr>
<tr>
<td>Summary :</td>
<td></td>
</tr>
<tr>
<td>LSF category</td>
<td>Two frozen signs, with one held</td>
</tr>
<tr>
<td>Translation in English</td>
<td>“No, I’m not a chef!”</td>
</tr>
</tbody>
</table>

Table 5: Description of Figure 6
<table>
<thead>
<tr>
<th>Discourse</th>
<th>LS-COLIN Corpus: Euro_Jos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timer</td>
<td>02'28</td>
</tr>
</tbody>
</table>
| Articulators | - Eye gaze: of the signer, towards interlocutor  
           | - Facial expression: of the signer (sad)  
           | - Mouthing: “franc”  
           | - Dominant hand: frozen sign FRANC mouthed (‘F’ proform)  
           | - Non-dominant hand: frozen sign BANKNOTE held (‘C’ proform)  
           | - Body posture: of the signer (face on) |
| Summary: LSF category | Two frozen mouthed signs, with one held  
                          = Compound frozen sign |
| Translation in English | “Some people are sorry that (banknote) francs have disappeared.” |

*Table 6: Description of Figure 7, first picture*
<table>
<thead>
<tr>
<th>Discourse</th>
<th>Temporality Corpus: Temp_Nas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timer</td>
<td>10:49</td>
</tr>
</tbody>
</table>

**Articulators**
- **Eye gaze**: of the signer, toward interlocutor
- **Facial expression**: of the signer (smiling)
- **Mouthing**: ‘courses’ (‘course’ in English)
- **Dominant hand**: “unfrozen” sign TEACH spatialized on the right
- **Non-dominant hand**: "unfrozen" sign TEACH spatialized on the left
- **Body posture**: of the signer (face on)

**Summary:**
**LSF category**
“Unfrozen” sign

**Translation in English**
“I teach LSF on Monday afternoons at the University and Friday mornings at the Museum”.

*Table 7: Description of Figure 8, second picture: the ‘unfrozen’ sign TEACH*
<table>
<thead>
<tr>
<th>Discourse</th>
<th>LS-COLIN Corpus: Chev1_Ant (left-handed signer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timer</td>
<td>01'08</td>
</tr>
<tr>
<td>Articulators</td>
<td></td>
</tr>
<tr>
<td>- Eye gaze: of the horse, to the right</td>
<td></td>
</tr>
<tr>
<td>- Facial expression: of the horse (thoughtful)</td>
<td></td>
</tr>
<tr>
<td>- Mouth gesture: of the horse = PT agent</td>
<td></td>
</tr>
<tr>
<td>- Dominant hand: frozen sign WATCH (to the right), ('V' proform)</td>
<td></td>
</tr>
<tr>
<td>- Non-dominant hand: the fence held ('V' proform) = ST locative</td>
<td></td>
</tr>
<tr>
<td>- Body posture: of the horse (face on)</td>
<td></td>
</tr>
<tr>
<td>Summary:</td>
<td>Double Transfer + frozen sign</td>
</tr>
<tr>
<td>LSF category</td>
<td>= Semi Double Transfer</td>
</tr>
<tr>
<td>Translation in English</td>
<td>“The horse looks thoughtfully at the fence.”</td>
</tr>
</tbody>
</table>

**Table 8: Description of Figure 9**

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1 See explanations of ‘illustrative intent’ in section 2.1.

2 By ‘frozen sign’ (‘signe standard’ in French) I mean a lexicalized and standardized sign that could be found in LSF/French dictionaries, such as the IVT Dictionary (Girod 1997). By convention, LSF semantic units are written in capital letters (frozen signs) and in small font (Highly Iconic Structures).

3 See the definition in section 2.

4 By ‘articulators’, I mean the different parts of the body that enter into constructing meaning in signed languages and by ‘parameters’, the four manual components (handshape, location, orientation and movement) used while constituting a manual sign, for each of the two hands.

5 Cognitique Project, with grant LACO39 from the French Ministry of Research, 2002. This project involved Paris 8 University (Linguistics of LSF group), LIMSI/CNRS Laboratory and IRIT Laboratory (computer sciences and image processing).
LSF (LS-COLIN Corpus and former data), LIBRAS (Brazilian Sign Language), Primary Signed languages (signed languages used by isolated Deaf adults, Fusellier-Souza 2004).

This corpus was set up in 2003 and studied in collaboration with Fusellier-Souza.

Mandel (1977) deals also with iconisation process but for lexical units.

‘Locatif stable’ in French, and ‘buoys’ for Liddell (2003), in most of the cases. For Liddell (2003:223), “buoys are weak hand signs that are held in a stationary configuration as the strong hand continues producing signs.” See also Liddell et al. (this volume) and Vogt-Svendsen & Bergman (this volume) for further discussion of buoys.

In fact, this is a second level of ‘telling’ in dialogues, so it is normal to find all the language categories that are available for the first level of ‘telling’.

For a further discussion of classifiers and illustrated examples of proforms, see Sallandre (2006) (section 1).

‘Proform’ is a term which was used by several signed language authors before Cuxac and with a different meaning: first by Friedman (1975) to refer to pointing signs and pronouns in American Sign Language, then by Engberg-Pedersen (1993) for Danish Sign Language and Sutton-Spence & Woll (1999) for British Sign Language.

This is a special case of iconicity that can be considered as isomorphy (similarity of shape) applied to signed language.

For the signified value of these elements, see Cuxac (1996; 2000).

Transfers of person, in my framework.

It should be noted that the actions alone (often verbs of perception: see, hear, perceive) are signed with frozen signs in personal transfers, thereby producing semi personal transfers or semi double transfers.

Available on: http://umr7023.free.fr/Downloads/Sallandre_these_tabmat.html