This paper considers that sign languages show enough atypical characteristics to deserve at least a preliminary research apart from theoretical linguistics based on verbal languages. According to this assumption, our study focuses on the iconicity of French Sign Language (LSF). We will show that among three coexisting forms of iconicity (imagic, diagrammatic and degenerated iconicity) in LSF even the most imagic of them is organized in macro structures articulated themselves in compositional morphemic elements. Lastly, following a new reading of Saussure on the arbitrary nature of the sign, we will demonstrate that iconicity is not contradictory with the concept of radical arbitrariness.

1. Introduction

Ever since the educational experiment conducted by the Abbé de l'Épée, i.e. as soon as sign languages were institutionalized, a derogatory eye was cast on their iconic characteristics. There were a number of reasons for this, but we will only consider those that are more directly related to the present-day scientific field of the humanities.

One of these reasons stems from Saussure’s formalism, in the name of the arbitrary nature of the sign, and claims that iconic semiotics could not involve a differential organization or a system of values. Subjected to the diktat of reference, they would be unable to meet the minimum conditions to be recognized as full-fledged languages. Another reason, set against the backdrop of post-Saussure structural linguistics (including generative lin-
guistics) considers the double articulation as a necessary condition for an object to be seen as a full-fledged language. A phonological organization in the strict sense would not be compatible with iconic-based functioning. The third reason was already present at the Milan Congress in 1880. It is more related to the area of psychology and was instrumental in banning sign languages from schools: since iconicity makes the word adhere to the thing, it does not allow access to complex and abstract thought content.

So in such a hostile context, Stokoe needed a great deal of courage and daring to go against the tide in 1960 and affirm the authentically linguistic nature of ASL, American Sign Language. His demonstration that the ASL lexicon had a phonological type of compositional structure was a highly effective strategy in that it allowed him to invalidate the two other criticisms at the same time. Fairly quickly, Stokoe’s work became an unquestionable success, the proof being that in the seventies and eighties a large number of students devoted most of their linguistic research to describing American Sign Language in all of the sub-areas of linguistics.

However, in examining the movement to integrate sign languages in the world’s languages, we can see that far from being consensual, the movement was driven by two epistemologically antagonistic positions from its inception.

One is assimilationist and part of formal linguistics – particularly of generative linguistics. It considers that sign languages are weak variations on verbal languages in their formal organization, except for the physical channels they use. According to this viewpoint, sign languages have little to teach us about language that we do not already know. The other position, suspected of “exoticism”, considers that sign languages have sufficiently atypical features, such as their iconicity, their four-dimensional organization, their means of transmission, etc. to deserve separate examination, at least initially. As assimilationist studies advanced, not only did they seem to identify objects farther and farther from what was actually seen in practice, but by totally obliterating highly iconic characteristics they also contributed to giving an impoverished image of sign languages.

In order to refurbish the image of sign languages and reclaim all the complexity of LSF’s iconicity, we will report the results of our research in the first two parts of this article. We will show that among several coexisting forms of iconicity in LSF, even the most imagic of them are organized in macro structures on an initial level, making short work of the equation “iconic” means “unstructured”. Furthermore, it was a genuine surprise to discover that these structures were in turn broken down into compositional
morphemes and that they involved different parts of the body in a multilinear way. Each body part brought its specific contribution to building meaning: the eye gaze, the facial expression and the movements of the body and the face. As for the hand signs, they could be analyzed as an aggregate of different compositional morphemes. At the same time, the idea was justified that another means of representation, related to the mental universe of imagery, was a true language phenomenon, under the condition that it was expressed by visual-body language. The question remained of why, despite the resources and complexity of its structures, sign language iconicity is still considered today as an obstacle to recognizing sign languages as genuine languages. This is the question that will be the subject of the last part of this article, based on a new reading of Saussure on the arbitrary nature of the sign (Bouquet 1997; Geninasca 2003).

2. Units with an illustrative intent: highly iconic structures

A distinction can be made between various categories of iconicity in a sign language such as LSF. The first is one we have termed “highly iconic structures” (Cuxac 2000). This is imagic iconicity, according to the assumption that these structures originate in the mental universe of imagery. We emphasize that these highly iconic structures arise from the deliberate intent to show, illustrate and demonstrate while telling.

The possibility of showing while telling is such a characteristic of sign languages that we felt the need to name the cognitive operations underlying this intent. These cognitive operations have been classified together under the heading of “transfers” (Cuxac 1985, 1996, 2000), since the aim of these sequences, via neural imagery functions (Kosslyn 1980; Paivio 1986; Denis 1989), is to anamorphosize extralinguistic experience resulting from the perceptive/practical universe inside the signing space (the three-dimensional space where sign language messages take shape). These operations are performed in language by structures for which we have kept the term “transfer”, as a reminder that they are the result of the deliberate intent of showing.

Transfers, both as operations and as structures, have been extensively described (in Cuxac 1996, 2000; Sallandre 2003; Sallandre & Cuxac 2002; and in Russo, Giuranna & Pizzuto 2001, with another terminology), so we will limit our discussion to enumerating them without going into detail. Three basic types have been identified: transfer of size and form, transfer of situation, transfer of person.
Figure 1. First transfer of size and form: Ois_Ste 00’12 TF tree trunk. Beginning – middle – end

Figure 2. Second transfer of size and form: (unit 9): Ois_Ste 00’13 TF form of tree trunk. Beginning – end

Figure 3. Third transfer of size and form: Ois_Ste 00’14 TF tree branch (locative TF) Beginning – end
2.1. Transfers of size and/or form (TF)

These structures are used to represent the partial or total size and/or form of places, objects or characters. The eye gaze “establishes” a form (handshape and orientation of the hand(s)) in space (delimited by the hand(s)) then follows along as the form unfolds in space (movement of the hand(s)), qualified at the same time by the facial expression.

The illustrated example\(^2\) shows a construction of spatial reference “the branch on the tree”. In this sequence, the three successive TFs describe the most important spatial reference in the story: the tree and the branch. The signer’s hands draw the outline of a tree and then a branch, but it is her facial expression that indicates the size of the referents. In the first TF (figure 1), the signer’s inflated cheeks show that it is a big tree trunk and in the third TF (figure 3), her puckered lips (and squinting eyes) indicate that the branch is skinny. In the second TF (figure 2), she looks at his tree-locative non-dominant hand while her dominant hand recalls the size of the tree trunk that she introduced in the first TF.

2.2. Transfers of situation (TS)

The signer uses the space in front of him to reproduce iconically the scenes representing the spatial movement of an actant in relation to a stable locative functioning as a point of reference. His eye gaze “establishes” a stable form (handshape of his non-dominant hand) in space (placing of his non-dominant hand), then “positions” a form (handshape of his dominant hand) in relation to his non-dominant hand (mutual placing of both hands) and finally precedes the trajectory of his dominant hand (movement) in relation to the non-dominant hand (relative placing of both hands at the end of the movement). At the same time, by his facial expression he qualifies the action of movement.\(^3\)

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2 All example photographs are excerpted from the LS-COLIN video corpus (Cognitique Project LACO 39, subsidized by the French Ministry of Research and Technology). The corpus presents 13 Deaf adult signers filmed in a variety of discursive styles (narrative, explanatory, argumentative, metalinguistic). It includes a total of 90 discourses digitalized, on a recording lasting over two hours.

3 These TF and TS structures are sometimes considered to be classifiers in the literature (e.g. Emmorey 2003, to mention only one instance).
The illustrated examples show two signers showing the “horse jumping” with a transfer of situation. In these examples (figure 4), the two signers use the same situational transfer (TS) structure to show the horse jumping over the fence. The non-dominant hand represents the stable locative ‘fence’ reference point, while the dominant hand portrays the agent ‘horse’, in an ‘X’ or ‘V’ proform to depict the animal’s forelegs. Their facial expression and eye gaze are those of the agent ‘horse’.

Figure 4. Chev_Ste, Nas : TS the horse jumping

2.3. Transfers of person (TP)

These structures involve the signer’s whole body to reproduce one or more actions carried out or sustained by an actant in the course of the utterance. The actants are usually human or animal but can also be inanimate. The narrator “becomes” the person he/she is talking about, so to speak. The movements of the signer’s body and face, the nature and direction of his/her eye gaze and facial expression represent those of the transferred character. The handshape (proform) and orientation of the narrator’s hands portray the basic form of an action (movement of the hand(s), e.g. grasping, walking, etc.) in space (placing of hand(s)). To characterize these structures LSF uses a sign meaning approximately “role” or “role-playing”.

In these illustrated examples (figure 5), the two signers make the same personal transfer (TP) to show the horse at a halt. All the manual and non-manual parameters represent the agent ‘horse’ at a halt and there is said to be complete incorporation of the narrator-signer in his/her role (and hence the term role shifting or role playing, used by some authors, cf. Engberg-Pedersen 1993; Emmorey 2002). The facial expression expresses either perplexity (left-hand photo) or surprise (right-hand photo).
2.4. Combination of transfers

Lastly, we point out that some of these structures can be combined together (for example a transfer of person and a transfer of situation result in a double transfer). This produces more complexity of structure (semanticization of the body is even more stratified) and of function (these minimal structures are genuine multiple actant roles). For further examples, see Sallandre (2003).

The illustrated examples show the personifications of the apple with double transfers (DT) in a cooking recipe.

In the first picture (figure 6), the signer uses a double transfer: his two hands represent the stable locative ‘jar’. His head, facial expression (expressing passiveness), his eye gaze and the rest of his body represent the apple with a TP (role: patient). A translation in English could be: “The apple is soaking passively in the jar.”
In the second picture (figure 7), the signer is once again using a double transfer, but this one is structured differently. Like the preceding example, his head, facial expression, eye gaze and the rest of his body represent the patient ‘apple’ with a TP. But his dominant hand stands for the agent ‘cook’ cutting up the apple with a knife (his non-dominant hand fulfils no function). His head is also used as the stable locative that the cook is acting on⁴. A translation in English could be: “The apple is getting cut up into pieces by the cook.”

Figure 7. Cuis_Nas-04'21-DT-cut apple

As we have just seen, the transfer operations are themselves made up of internal morphemic elements, based on a very high degree of multilinear and paradigmatic semanticization of his body: paradigms of his gaze, of the expressions on his face, of the movements of his face, and of hand gestures. The hand gestures are in turn made up of morphemic elements⁵ that can not be performed in isolation: paradigms of handshapes, of their orientation in space, and their positioning (on his body or in space), and of the movement(s) they make.

Linguistically speaking, iconicity poses no theoretical problem for these structures, since the intent is deliberate. Wondering why this type of iconicity exists is as irrelevant as asking why a figurative painter will paint naturalistic subjects. The interesting question is how. With these different examples, we hope to have shown that structures and iconicity can go together.

⁴ See also Janzen (this volume) who also mentions a double transfer representing two different actants simultaneously.
⁵ See Cuxac (1996, 2000) on the signified value of these elements.
These forms of imagic iconicity also exist in verbal languages (but probably without the structure). An example of this is someone making sound effects with his/her mouth or reporting a conversation imitating the original voices. Certain gestures accompanying speech in verbal languages are iconic but also highly idiosyncratic (i.e. they are structured only slightly or not at all).

3. Units without illustrative intent: “degenerated” iconicity of frozen signs

The other forms of iconicity in LSF involve non-illustrative intent, when the signer is not attempting to show. He/she uses frozen signs, which for the most part are the product of “economic” evolution based on groupings resulting from highly iconic structures.

3.1. Linguistic economy: a case study

Let us take the example of the sign for FRIDAY as it is performed in the Metz region in the east of France. Since the National Institute for young Deaf people in Metz (Institut National de Jeunes Sourds de Metz) has never developed the tradition of finger spelling, the young boarders could not resort to dactylology to create signs. In this context, how do you name the days of the week and months of the year? One solution would be to base sign creation on significant, regular events occurring on the day or in the month in question. Accordingly, FRIDAY was reportedly built on the sign FISH, the typical Friday meal. This could be an excellent illustration of the difference between iconicity and motivation and a convincing example of the absolute non-relevance of iconicity in explaining the formal organization of frozen signs. However, we must admit that such an example has always bothered us, not because the sign is non-iconic, but rather because of the abrupt, unsubtle way of going cognitively from the sign FISH to FRIDAY. And, when the form of these two signs is compared, it is easy to see that they have nothing in common “phonetically”.

The sign FISH, supposedly the departure point, is performed in Metz the same as all over France with the dominant hand flat on edge and a wavy movement of the wrist in the sagittal axis from back to front, whereas the sign FRIDAY is performed with the elbow raised, the hand is flat and oriented toward the left (for a right-handed signer). The movement is straight
toward the right with a slight bending-extension of the fingers repeated quickly several times.

The strangest thing is the way that Deaf people in the Metz region, whatever their age, “know” that FRIDAY is derived from FISH, given that the overall forms of the two signs are so different. This example is particularly interesting because this very likely is a (partially) false etymology. The model proposed here will help reconstruct the way the sign FRIDAY might have come about. Supposing a regular significant event occurs every Friday at the institute – in this case the meal arriving in the cafeteria on platters where the fish (or pieces of fish) are laid out side by side and seen from a certain height, since the event is best noted when the platter is being carried in and is not yet on the table (i.e. in a high position). The essential information that this is fish is however still missing. The flat handshape is common to the two signs, but since its orientation is no longer the same as FISH, a good way to merge the second sign and the original transfer of form is to preserve the wavy movement that is characteristic of the sign FISH. For the observer, since the elbow is raised, a bending-extension movement of the first finger joints is an economical substitute for the wrist, which is hard to perform in this position.

Including FISH in this transfer of form could have modified the direction of its movement. The direction involved in the movement of FISH actually comes into conflict with deploying several identical and similar forms from left to right. But the straight movement toward the right of the transfer of form may have “won out”, thanks to its homology with the “regularity, recurrence” movement morpheme as demonstrated in the sign REGULARLY and in Paris region sign language in: EVERY MONDAY, EVERY TUESDAY, etc.

By way of a conclusion, we suppose that the creation of the sign FRIDAY at the institute in Metz mobilized three ideas which were translated formally by the aggregation of an isolated morphemic element (the “recurrence” movement) and a morphemic element belonging to an existing frozen sign (the wavy movement of FISH) with a transfer of form. In other words, a creation that is cognitively much more understandable from the grouping of the semantic values “always” “like that” (transfer of form) “fish”. For the other days of the week in the Metz institute, the process is more simply based on an existing frozen sign such as SHOWER (since Thursday was obligatory shower day for the boarders) with the “frequency, repetitiveness” morpheme added on by multiple repetition of the movement which allowed a formal distinction to be made between SHOWER and TUESDAY.
3.2. Stabilization in non-illustrative minimal forms

The example of FRIDAY provides a road map for thinking about how signs emerge and then become stabilized. At different levels and in different stages, the process involves cognitive aptitudes interacting, mobilizing different forces that were already identified in the theoretical framework of functional linguistics (Frei 1929) and updated by the theories of optimality (Mc Carthy & Prince 1997).

Neologisms which have a stable referential application usually call into play the reactivation of the process of iconicizing experience. This gives rise to highly iconic structures. Signs without any stable referential application generally call on a form of motivation by conceptual metaphorization (e.g. ERUDITE = ‘thickness’ ‘in the skull’) which are based on the use of existing morphemic units (the straight “recurrence” movement for FRIDAY, or on frozen signs (such as SHOWER). Several signs may also merge (FISH + a transfer of form) or a sign may merge with a morpheme (SHOWER + “regularity”), with the whole thing in place until it is stabilized under the control of high-level constraints such as avoiding homonymy and maintaining iconicity, which is designed to preserve part of the initial iconic characteristics so that intents can succeed one another economically.

But maintaining morphemic integrity, i.e. when each of the component morphemes keeps its form, can be costly in terms of execution time. So forces of a lower level act antagonistically with the preceding force and “phonetically” smooth out the final form. These constraints are articulatory and perceptive: maximum articulatory ease and maximum perceptive prominence.

Generally speaking, before stabilization is achieved, several forms are in competition. The final “winner” needs to have a sufficiently generic value so that it represents all the members of the category while approximating the prototype most closely (WINDOW, HOUSE, BRIDGE, etc.¹). Once they have stabilized, the meaning of these forms – contrary to highly iconic structures – is not the sum of the meanings of their morphemic parts. For example, BRIDGE is no longer “that long, thin, flat shape opening up in a slightly rounded form”, but simply a “bridge” with all its generic nature and multiple signified values.

¹ In the cases of stabilization around the prototype, the movement parameter undergoes the greatest degree of economical smoothing of its form since it is incorporated in duration.
Likewise, if THINK stems from a morphemic assembly equivalent to “wrack one’s brains”, the process of standardization by formal stabilization distinguishes it semantically from the sum of its parts, exactly as in verbal languages (“to see red” or “to fall on one’s feet” in English, for example). That being the case, these values which have become semantically dormant can always be reactivated. Two phenomena should be emphasized: 1) a smoothing of form that can cause frozen neologisms resulting from highly iconic structures to lose their iconic characteristics and 2) a loss of meaning specific to each iconic morpheme in the overall form whose signified value is other than the sum of the values of each of the morphemes that compose it. These two phenomena have led us to qualify the iconic characteristics of frozen signs as a sort of degenerated or downgraded iconicity (Cuxac 2003).

A parallel that could be seen in verbal languages is the global iconicity of onomatopoeias and the iconicity of certain compositional morphemes, if they can be granted this status. An example in English is /sl/, the idea of slipping.

3.3. Diagrammatic Iconicity in the Use of Space in LSF

The general principle is that LSF frozen signs can be shifted by index finger pointing (anaphoric substitutes) to portions of space previously activated, i.e. that the signer’s eye gaze has made pertinent. In this way, the signing space (the space where messages are created) turns into something similar to a diagram where space, time and actant references can be built. Without going into detail, we can say that activation of a portion of space (by the eye gaze), then pointing (by the index finger) is the indispensable mechanism for space and time constructions (whereas activation by the eye gaze is not absolutely necessary for actant references). Very roughly speaking, this diagrammatic use of space is a volume or a surface for space references, a line for time references and a point for actant references.

3.3.1. Diagrammatic iconicity in constructing a space reference.

In our video corpus of a conference in LSF, the signer refers to a journalist who goes to the United States for a year’s training course. While performing the sign USA, the lecturer’s eye gaze stares at and activates a portion of space located to his left in a high position. In a very fluid sequence, the movement of the sign USA is extended by pointing that marks the place he is looking at. Later, the signs FOR A YEAR, TRAVEL, DO RESEARCH will all
be performed “shifted” into this portion of space, assigning an attached spatial value to this time value or these actions (“for a year in the United States, he travelled, he did research in the United States”).

3.3.2. Diagrammatic iconicity in constructing a time reference.

LSF’s original feature is that it has a double space directionality to indicate time relationships: along the sagittal axis for the expression of time in relation to the zero point of enunciation time, along the horizontal axis when time relationships are independent of enunciation time.

Regarding the zero point of enunciation time, the expression of time in LSF is mainly lexical and exhibits a remarkable formal organization scheme based on the signer’s body. The signer’s body is in fact the referential marker of the zero point of speech time. The signs indicating the present time NOW, TODAY, etc., are located very close to the body or against it, and the movement that characterizes them is as if suspended, up and down and repeated.

The signs indicating the future, such as TOMORROW, LATER, AFTER, along with the temporal-aspectual mark of the near future GOING TO, are all executed with a straight movement toward the front of the signer’s body. Those indicating the past, such as YESTERDAY, IN THE PAST, BEFORE, along with the temporal-aspectual mark “recent past” are on the contrary executed with a movement directed toward the back of the signer’s body.

When the time references are independent of the zero point of enunciation time, the most common case is to state a date, a time, a day, etc. which will function as the time reference point by means of frozen signs (e.g. THE YEAR 1978). Then the signer will reuse this date referentializing it as follows: first the eye gaze activates a portion of space and, in the portion of space that he/she is still looking at, the signer creates a referential boundary mark by means of the non-dominant hand. Generally speaking the configuration of the non-dominant hand is “index finger pointing straight up”, but

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7 The “non-dominant hand” is the left hand of a right-handed signer or the right hand of a left-handed signer. With iconic intent, each of the two hands was often seen to play a different semantic role. In the execution of frozen signs, things are simpler: 1) signs that are formed with only one hand are usually executed by the dominant hand; 2) when signs are formed with two hands, one moving and the other stationary, the movement is executed by the dominant hand. There is a small minority of ambidextrous signers who can change their dominant hand back and forth.
it can also be the “flat hand” upward on edge. This spatialized anaphoric time boundary mark has become the date stated previously, i.e. 1978.

Later on, the signer will use his/her dominant hand, positioning it in space in relation to the non-dominant hand to create a set of time relationships along an utterance “time line” without any reference to the enunciation plane.

This time line is incorporated in the horizontal plane located in front of the signer’s body and therefore cuts perpendicularly across the enunciation time line. And, once a time line has been created, all that is needed is to place the verbal units on it for them to take on the time value associated with the portion of space where they are located.

3.3.3. Diagrammatic iconicity in constructing person references.

The identification of participants’ semantic role is the result of particularly original organization which in most cases is found in formal characteristics of verbs in LSF (and in all the other signed languages studied to date).

In LSF, most verbs with a valence of 2 or more are called orientable or directional: for these verbs, the orientation of the hand-direction of the movement-verbal sign beginning and ending position marks the respective roles of the different actants. For example, the utterance [GIRL point to BOY INFORM] is purely diagrammatic (Peirce 1955) since neither the girl nor the boy is really necessarily in this area of space, but the signer created an abstract schema in the signing space to express the participant roles, thanks to the pointing and the directional verb INFORM going from the “girl” space to the “boy” space. By way of comparison, if the signer had taken the role of the girl and the boy as personal transfers, he would have chosen to sign with an illustrative intent (i.e. by imitating the actions of his/her characters as much as possible, showing that “this is how it happened”). This would then have involved imagic iconicity, and space would not be conceived of as a diagram.

4. Iconicity is not opposed to Arbitrariness

4.1. The arbitrary nature of Saussure’s sign: a clarification

Certainly the arbitrariness of the linguistic sign as Saussure defined it was not the first reason why the iconic features of sign languages were stigma-
tized. The *Cours de Linguistique Générale* was the work that gave rise to a new subject in the field of the humanities, sketching in its contours and in this way put forward its autonomy. As such, it is necessary to notice that, among the founding concepts of linguistics, the arbitrariness of the sign in some way upstaged sign languages and contributed to reinforce their exclusion. And yet, when we see the resources and complexity of the iconic structures of LSF in the two preceding parts of the article, we might wonder why and how a concept like the arbitrariness of the sign managed to reinforce exclusion. As Raffaele Simone asked during the discussion in the closing session of the conference (see also Simone 1995), what if Saussure was mistaken? Maybe, but before we go that far we could wonder if the term of arbitrariness and/or the interpretation, at least, that Saussure’s successors have given to the term were not themselves misleading? In short, we are going to return to Saussure’s thinking and try to determine if it is legitimate to put forward the idea that the arbitrariness of the signifier/signified connection is theoretically incompatible with a base of iconic organization.

As a reminder, the term “arbitrariness” can have two meanings in Saussure’s *Cours de Linguistique Générale*. In the first chapter of the first part called “Nature of the Linguistic Sign”, the formula “the linguistic sign is arbitrary”, the second figure of the tree (which does not come from Saussure himself), the example of “boeuf” (“ox”) and “Ochs” and the discussion of onomatopoeias, are reminiscent of the fairly traditional conventionalist conception of language, bordering on the nomenclature that Saussure claims to denounce, where the sign should not even need to be thought of as a separable unit. “Arbitrariness”, a subset of the term “conventional”, qualifies the property of non-iconicity (or in a more general sense, non-motivation) of the connection between the sign and what it refers to. As such, it is opposed to “motivated”, and more specifically to “iconic”. This passage is all the more disconcerting as it throws the terms of signifier and signified in with this reflection – concepts that were forged later on and open up an entirely different view of language as a system of values.

A few pages later on in fact, in his well-known Chapter IV “Linguistic Value”, Saussure abandons all allusion to the referential function and develops the idea of language as a differential system of signs. He puts these signs forward as two-sided units (signifier and signified), with each one’s identity defined systematically and therefore negatively, inasmuch as one sign is what it is because it is not another sign. The only hint of positiveness is the “anchor point” between signifier values and signified values (what
Lacan calls the “point de caption”), which gives a doubly positive existence to the sign that it creates. On the one hand, it allows the sign to exist (in real life) and on the other, by the very fact that it allows the sign to exist, it gives the sign a potential referential application. This connection between two virtualities whose identity is built negatively and without any predetermined cognitive relationship whatsoever (sounds/meaning) is what Saussure termed arbitrary. The term “arbitrary” especially when the adverb “radically” qualifies it – a detail unfortunately omitted by the authors of the *Cours de Linguistique Générale* – was undoubtedly the best way to get around the paradox of the signifier/signified connection, which is at the same time contingent but necessary.

As for what these two occurrences of arbitrariness mean, one clearly has absolutely nothing to do with the other. In the first case, the iconic or non-iconic (i.e. arbitrary) characteristic of the connection between signs and their referent within the exclusive framework of their referential application qualifies a property that is inherent to them. By contrast, in the second case, putting forward signs as two-sided, arbitrarily-connected units can be envisaged only if prior complete dereferentialization has occurred, allowing a semiological object to be put forward outside of any utilitarian application, like a system closed in on itself. In this sense, the arbitrary nature of the signifier/signified connection is in no way an inherent property, but rather one of the effects of a human aptitude, made possible by the language object’s submersion in a metacognitive construction.

### 4.2. Back to Signed Languages

As already stated, meaningful units in sign languages enter into an iconic relationship with their referents. This is true by definition for transfer structures since the signer deliberately intends to achieve such a resemblance and as such, the iconicity of these structures is in no way questionable. However, it is likewise true to a lesser extent for the standard units which are stabilized forms. This should not have posed any theoretical problems either if post-Saussure linguistics had not proceeded to telescope things without any genuine accompanying demonstration, following the confusion between the two meanings of the term “arbitrariness”. An iconic semiolog-

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8 Just a comment on this subject: without denying the relevance of Saussure's analysis, its weak empirical appropriateness with respect to an acquisitionist problem should be noted.
cal object (i.e. non-arbitrary according to meaning 1) was denied the ability to function as a system of values and differences (i.e. arbitrary according to meaning 2).

At this point of the discussion, we need to distinguish between two questions. The first concerns how the object functions on a metalinguistic level – in other words is the iconic charge of the connection between the signs of a semiological object and their referents such that it precludes the possibility of conceiving of this object as a system of values and differences?

To the extent that everything is possible metalinguistically, the answer is obviously no, as shown by metalinguistic constructions that are completely out of alignment with the pragmatic functioning of the semiological objects they correspond to. To illustrate, we propose three examples: a) the many constructions of cratylian inspirations (Platon 1969; Genette 1976) on non-iconic objects such as verbal languages; b) by contrast, the present-day linguistic studies on the phonology of sign languages which boil down to obliterating all their iconic characteristics (Sandler 1990; Wilbur 1990; Uyeshi 1994); c) and the “hard-line”, pragmatically untenable, semiological analyses of the sixties and seventies, that had no qualms in transforming any and all semiological objects, including the Highway Code, into a system of relative values.

The second question, involving the pragmatic functioning of an object, is at the heart of the matter. It is like asking if, for a semiological object in the context of its pragmatic use, the iconic charge of the connection between the signs and their referents forces these signs to be nothing more than absolute values that are not capable of becoming incorporated into a system of differences. A positive answer supports the idea that the signified values of the minimal units of such an object are insensitive to their (syntagmatic and paradigmatic) environmental context, in the same way as, for example, the conventional units of the Highway Code. To sum up, iconicity would reduce sign languages to being nothing more than nomenclatures.

On the contrary, our research has shown that even the components of highly iconic structures are sensitive to the syntagmatic and paradigmatic context (Cuxac 1996, 2000; Sallandre 2003, 2006; Sallandre & Cuxac 2002; Fusellier-Souza 2004; Pietrandrea & Russo, this volume), for example, the proform “long thin shape-index finger”. When oriented vertically, it corresponds to animated human beings, posts, time boundaries, strips etc., and when in a horizontal orientation context, it loses the capacity to refer to the shape of animated human beings lying down, even though it retains the absolute value of “long thin shape”.

The signified value of orientation also fluctuates: for example, in a vertical downward position, the handshape ‘V’ (an animated human walking) has the signified value of its back/front orientation reversed once it is placed on a horizontal plane.

And lastly, even facial expressions show their sensitivity to the syntagmatic and paradigmatic context. Accordingly, facial expressions of quantity (large/small) which are opposed in highly iconic structures, cancel each other out in the standard context and become added onto adjective predicates, assuming the value of a superlative “very”.

This is undoubtedly one of the most fascinating paradoxes of sign languages: the overall imagic iconicity of highly iconic structures, which at this level functions as referential labelling (absolute value) is the compositional result of an aggregate of commutable minimal morphemic elements that are sensitive to the contextual environment (relative value). As a result, the way we propose treating these elements whose signified value is highly abstract⁹, such as for example “spherical surface”, “spherical volume”, “with lateral protuberances” etc. (for a more exhaustive list of handshapes, see Cuxac 2000) is in line with Arnheim’s hypothesis (1969), regarding both their abstraction and their status of genuine concepts.

5. Conclusion

Contrary to the assimilationist point of view, we believe that (re)including an object that has been excluded from the field of investigation of a discipline is not without epistemological significance and that, in exchange, it necessarily involves readjusting the contours of that discipline. This holds true for sign languages as well as for their iconic features, which, as a result, function as linguistic analysers. Accordingly, we have on several occasions defended the idea that sign languages are cognitive objects that lend themselves particularly well to modelling the language faculty. In fact, sign languages constitute a set of less marked languages (Cuxac 2003): synchronic witnesses of the semiogenesis of language, iconic and non-iconic, temporal and spatial and so similar to each other (Pizzuto & Volterra 2000). They afford an ideal degree of generality as well as a maximum language

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⁹ In every sense of the term, since at the formal level these elements can not be produced and are necessarily “abstract”. It is undoubtedly this compositional dimension that allows a distinction between the highly iconic structures in sign languages and the gestures that illustrate co-verbal body language.
functional span (where representations belonging to the mental universe of imagery (Denis 1989) become genuinely linguistic), so that we wonder about the formal nature of human language. It is in this spirit that we propose an epistemological about-face on research in linguistic typology. Based on the fact that sign languages are cognitive-linguistic models of general interests, the question can then be formulated as: since verbal languages cannot resort to any spatial props or iconisation strategies from the world or from experience, what does the application of these very strong constraints entail in terms of possible configurations for linguistic systems? We would then see patent traces of the operations required by the interplay of these constraints in the formal structures of audio-phonatory languages.

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