The Prepositions "par" and "à travers" and the Categorization of Spatial Entities in French

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HAL Id: halshs-00272883
https://shs.hal.science/halshs-00272883

Submitted on 3 Feb 2017

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1. Introduction[1]

Several studies on the expression of space have shown that language carves spatial entities into different categories. In French, most of these categories have been pinpointed by semantic and syntactic analyses of different markers of static linguistic space, like the prepositions *à* ('at')*, dans* ('in')*, sur* ('on'). What about the dynamic spatial morphemes? Can they help us to identify any other spatial properties of entities and to refine the existing linguistic ontology of spatial entities? It is this question we will try to answer by analyzing two spatial morphemes with extremely dynamic semantics: the prepositions *par* ('by') and *à travers* ('through')*.* The first two examples reflect some differences in the applicability of *par* and *à travers* to nouns denoting entities like a "motorway" and an "armchair". Thus, the preposition *par* can occur with the noun *autoroute* ('motorway'), as in (1a), but not with the noun *fauteuil* ('armchair'), as in (1b):

    (1) a. *Les   troupes américaines   ont   atteint*

the   forces   American   AUX-PRES   reach-PP

Bagdad   par   l'autoroute.

Baghdad by   the motorway

'The American forces reached Baghdad by the motorway.'

b. **La   balle   a   atteint Max   par*

the   bullet AUX-PRES   hit-PP Max   by

le   fauteuil.

the   armchair

'The bullet hit Max by the armchair.'

If we try to replace the preposition *par* with the preposition *à travers*, we get the opposite:

(2) a. **Les   troupes américaines   ont   atteint*

the   forces   American   AUX-PRES   reach-PP

Bagdad   à travers   l'autoroute.

Baghdad through   the motorway

'The American forces reached Baghdad through the motorway.'

b. *La   balle   a   atteint Max   à travers*

the   bullet AUX-PRES   hit-PP Max   through

le   fauteuil.

the   armchair

'The bullet hit Max through the armchair.'

As we can see, unlike *par*, the preposition *à travers* can appear with the noun *fauteuil* ('armchair'; cf. (2b)) but not with the noun *autoroute* ('motorway'; cf. (2a)).

In this paper, we want to demonstrate that the spatial prepositions *par* and *à travers*, like many other markers of linguistic space, are sensitive to the differences amongst various kinds of spatial entities. The fact that some nouns denoting spatial entities cannot be combined with *par* or with *à travers* means that the semantics of these prepositions involves certain constraints on the nature of locating entities which suggests that language undeniably distinguishes different kinds of spatial entities. Briefly, our aim is to explore how the dynamic spatial prepositions *par* and *à travers* can contribute to the categorization of spatial entities in French.[2] We will use the term "figure" to mark the moving entity and the term "ground" to mark the reference entity from the well-known terminology of Talmy (2000).

The paper is in three parts. First, we will define the framework we adopt here by summarizing the existing categorization of spatial entities in French (§ 2). Next, we will examine how the prepositions *par* and *à travers* interact with nouns denoting different kinds of spatial entities (§§ 3-4). Finally, we will try to refine the existing "static" categorization of spatial entities on the basis of the results from this study.

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2. The existing "static" ontology of spatial entities in French

It is worth recalling the main classes of spatial entities which have been revealed by various linguistic tests in Borillo (1988, 1999), Aurnague (1991, 1996, 1998, 2004), Vieu (1991, 1997), and Vandeloise (1988) (see also Aurnague, Vieu, & Borillo, 1997). This "static" linguistic ontology of spatial entities will be the framework we adopt here.

According to this existing classification, five basic categories of spatial entities can be distinguished in French: "space portions", "locations", "objects", "mixed entities" and "substances".

We may consider immaterial entities which, because of their nature, are not autonomous as **space portions**. In order to exist, space portions must be associated with some other material entities and they can be highlighted via different types of spatial expressions. For example, we can refer to space portions by nouns such as *hole, split, crack* but also by complex expressions such as *the interior of the glass*, *the space between a chair and a bed* which confirm the dependence of space portions on material entities.

Entities that constitute the category of **locations** have two main properties: they are motionless in a given framework and possess an associated space portion defined with respect to the material part of that entity. That this associated space portion exists is very important because it enables the localization of another entity within this location. As a result, locations are both material and immaterial entities.

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Due to their stability, the position of many locations is generally considered well known by communication participants. This is notably the case of geographical locations identified by proper nouns (e.g., *London, Paris, Canada*), whose position is well specified in the framework of the Earth. These kinds of locations can therefore play the role of the ground in the relationships expressed by the preposition *à* ('at') in its "specified uses" (e.g., *Pierre est à Paris* ('Peter is in Paris'); cf. Vandeloise, 1988). In this use of the preposition *à,* the position of the ground must be well specified, i.e. precisely defined, because the locating entity must be able to fulfill the function of localization. Since the indefinite article marks no specification of ground, the preposition *à* cannot occur with a NP containing *un, une* or *des* (e.g., **Pierre est à une maison* ('Peter is at a house')). Thus, locations marked by proper nouns such as *Paris*, *London*, *France* can be considered ideal specified locations because they occupy fixed and well-known positions in the framework of the Earth and can localize other entities within them.

Geographical locations are not the only entities which are categorized as locations. Thus, the notion of location can also be applied to some parts of a whole-entity denoted by so-called Internal Localization Nouns (ILNs) such as *intérieur* ('inside'), *avant* ('front'), *côté* ('side'), *coin* ('corner'), and so on. According to the behavior of the Internal Localization Nouns, the entities which they denote fulfill both constraints involved in the notion of (specified) location: their position is stable and well-known within the

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framework of the whole entity and they introduce space portions. For more details about the properties of these kinds of nouns and entities, see (Aurnague, 1991, 1996, 1998, 2004; Borillo, 1988, 1999) as well as Aurnague, Champagne, Vieu et al.'s paper in this volume.

The category of **objects** includes entities which violate either both or only one of the two main constraints underlying the notion of location. Generally speaking, these entities have no fixed position. This absence of "fixity" essentially affects entities which can be moved (e.g., table, chair, bed) or which can move (e.g., car). However some of this class' entities can be motionless (e.g., wall, tree) yet they behave in language(s) as objects because of their difficulty in associating a space portion. In addition, Aurnague (1998) showed that, unlike locations, objects are often well-structured entities: their parts are well-delimited zones with particular functional roles in the whole entity (e.g., handle/knife).

Entities such as buildings and houses constitute an intermediate ontological category called **mixed entities**. In fact, according to their linguistic behavior, these entities can sometimes be considered locations, and at other times objects. On the one hand, like locations, buildings and houses are motionless entities with associated space portions in which other entities can be localized. On the other hand, mixed entities might be compared with objects because it is possible to distinguish different functional parts in their internal structure and because they appear in constructions such as (3) and (4):

(3) *Il construit/ peint une maison.*

he make-PRES paint-PRES a house

'He is building/is painting a house.'

(4) *Il construit/ peint une chaise.*

he make-PRES paint-PRES a chair

'He is making/is painting a chair.'

Finally, the category of **substances**, which includes mass material entities such as water, snow, crowd, foliage, and so on. Aurnague, Vieu, & Borillo (1997: 87) distinguish "generic substances" such as *the water, the sand,* etc., and "quantities of substance" such as *this water, this sand, the alcohol content of this wine,* etc. All these entities are conceptualized as homogeneous and uncountable (for more details see the analysis of masses and aggregates in Vandeloise's paper in this volume).

It is important to stress that this basic ontology of spatial entities is not based on objective distinctions in reality, but rather reflects the way spatial entities are classified by French speakers. More precisely, this classification is the result of a complex interaction between language and nonlinguistic recognition of similarities and differences between spatial entities. The study of spatial morphemes allows us to point out the main ontological distinctions between spatial entities.

People's ability to take different points of view in describing space is another essential factor involved in the linguistic categorization of spatial entities. Therefore, language allows us to have many different points of

view of the same entity or scene about which we are talking (cf. Tversky, Taylor, & Mainwaring, 1997; Tversky, 1996; Vieu, 1997). This means that the same entity, a forest for example, can be classified as an object or as a location according to whether someone recognizes it as a collection of trees or as a place where trees grow (see Vandeloise's paper in this volume). We can infer from this that our representation of entities is not established once and for all, but depends on several factors involved in spatial descriptions. A change in perspective or granularity is one of these factors.

To sum up, five basic categories of spatial entities emerge from linguistic analyses of static space: space portions, locations, objects, mixed entities and substances. We will continue by observing how the prepositions *par* and *à travers* interact with nouns denoting these five different classes of entities. This analysis shows that placing an entity in some of the five categories not only depends on its ontological features but also on the way the entity is used in a given spatial description. The interaction of *par* and *à travers* with nouns denoting spatial entities shows that, when classifying an entity, there are two major factors that must be taken into account. These factors are the semantics of other linguistic elements that appear in a spatial description, such as prepositions or verbs; and pragmatic inferences, such as world knowledge and discourse context.

Before discussing the validity and accuracy of the existing "static" ontology for "dynamic" space through the analysis of the prepositions *par* and *à travers*, let us make it clear that this study is based on attested linguistic

material. In fact, for each of the two markers at issue, we have analyzed more than 600 examples where *par* and *à travers* express the motion of a figure with respect to a ground. All these utterances have been extracted from several French writers' works published between 1950 and 2000 and integrated in the database Frantext. Although attested linguistic material formed the basis of this study, we also very often resort to introspection in order to identify more precisely to which properties of spatial entities *par* and *à travers* are sensitive in expressing motion.

3. *Par* and the categorization of spatial entities

We will now tackle the issue of which spatial entity categories are able to act as ground in "path" situations which can be expressed by *par*. It is worth remembering that, as Stosic (1999, 2001) showed, the French preposition *par* can express four types of spatial relations: 1) "Path" (e.g., *Il est passé par le jardin* ('He came through/by the garden')), 2) "Imprecise Localization" (e.g., *On rôde par la ville depuis des heures* ('We have been wandering about the town for hours'), 3) "Area of Impingement" (e.g., *Elle l'a saisi par le bras* 'She grabbed hold of him by the arm')), 4) "Inchoative Process" (e.g., *Les crayons s'usent par le bas* 'Pencils wear out from the bottom'). In this paper, we will focus on "path" situations because they are

the most important and the most representative for the semantics of *par* (cf. Stosic, 2002: ch. II).

When the preposition *par* describes path situations, it enables the location of a moving entity —the figure—, during a median phase of motion, as in (5):

(5)	*Nous*	*montâmes (…)*		*par*	*une*	*route*
	we	climb-P.HIS		by	a	road
	interdite		*aux*	*touristes*. (Thorez)		
	forbidden		to.ART	tourists		

‘We climbed via a road forbidden to tourists.’

In order to play a role of ground, a localizing entity must possess some ontological properties, that is it must fulfill certain conditions imposed by the semantics of *par*. We will consider subsequently the five categories distinguished in the studies on static linguistic space. We will investigate both whether this categorization is pertinent for "dynamic" space and what properties an entity must possess to play the role of ground.

3.1. Par *and NP denoting space portions*

The linguistic material has shown that entities categorized as space portions very often appear as the ground in path situations which *par* can describe, as seen in (6) and (7).

(6)	*L'*	*air*	*froid*	*entrait*	*par*	*le*	*trou*	*de*
	the	air	cold	enter-IMP	by	the	hole	of

	la	*serrure.*
	the	lock

'Cold air was coming in through the keyhole.'

(7)	*Le chat*	*est*	*entré*	*par*	*la*	*fenêtre.* (Djian)
	the cat	AUX-PRES	enter-PP	by	the	window

'The cat came in through the window.'

We called apertures this particular kind of immaterial entity which represents holes penetrating right through a material entity (cf. Stosic, 1999, 2001; Aurnague, 2000; Aurnague & Stosic, 2002). Like any other space portion, apertures are not autonomous entities but depend on some other material entities with which they are associated. Two kinds of apertures can be distinguished: "contingent" ones such as holes, cracks, splits, wounds and "functional" ones such as doors, windows, dormers, and so on. Examples (8) and (9) show that *par* can be combined very well with nouns referring to both contingent and functional apertures.

(8)	*Ils*	*entrent*	*dans*	*le*	*hangar*	*par*
	they	enter-PRES	in	the	shed	by
	une	*ouverture*	*sans*		*porte.* (Thérame)	
	a	aperture	without		door	

'They enter the shed through an aperture without a door.'

(9)	*Il*	*rentre*	*quelques*	*minutes*	*plus*
	he	come back-PRES	few	minutes	more
	tard	*par*	*une*	*autre*	*porte.* (Caradec)

> late   by   a   other   door
>
> 'A few minutes later, he comes back through another door.'

What is important, for the relationship *par* expresses here, is the fact that apertures —because of their immateriality— can be traversed by the figure. Moreover, all apertures have the capacity of making a connection between two distinct parts of a whole-entity and more generally between entities or regions near them. Very often, these related entities correspond to the interior and the exterior of the material whole-entity with which a given aperture is associated, as in (10).

(10) *Il   s'est   échappé   de*

       he   him-self AUX-PRES escape-PP   of

       la   maison   par   la   fenêtre.

       the   house   by   the   window

       'He escaped from the house through the window.'

This connection property of the ground entity seems to be crucial for the semantics of *par*. Consequently, entities called apertures seem to behave as real communication zones because they make shifts in location possible from one entity/region to another.

What is important for us is that amongst the nouns which can be combined with *par* expressing path situations, many denote entities we can classify as space portions. Accordingly, for this kind of spatial entity, we do not need to introduce any new category. Rather, we think that the preposition *par*

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allows us to distinguish the sub-category of apertures within the existing category of space portions.

3.2. Par *and NP denoting locations*

The nouns referring to entities categorized as locations are easily introduced by *par* describing path situations. On the one hand, the existence of a space portion associated with the material part of entities called locations makes the localization of moving entities during the median phase of motion possible. On the other hand, the locations —due to their immobility— are capable of connecting other entities. Hence, nouns denoting geographical locations can always be combined with *par*, as shown in (11) and (12):

(11) *Un   chien   est   passé   par   notre jardin.*

a   dog   AUX-PRES   pass-PP   by   our   garden

'A dog went through our garden.'

(12) *Quelques jours   plus   tard, il   regagnait*

few   days   more   late   he   regain-IMP

l'Italie   par   la   vallée du   Brenner. (Yourcenar)

the Italy   by   the   valley of.ART Brenner

'A few days later, he returned to Italy via the Brenner valley.'

We can distinguish path situations expressed by *par* where geographical locations playing the role of ground are really crossed, as in (11) and (12),

and path situations, as in (13) and (14), where the ground entity is conceptualized as a simple landmark.

(13) *Nous   devions   transiter   par Bruxelles*. (Thorez)

we   must-IMP transit-INF   by   Brussels

'We had to transit by way of Brussels.'

(14) *Marie   était   passée   successivement*

Marie   AUX-IMP   pass-PP   successively

par Kiev, par Budapest et   par Vienne. (Ormesson)

by Kiev   by Budapest   and   by Vienna

'Marie had successively passed through Kiev, Budapest and Vienna.'

There is no reason to introduce any new ontological category nor any new sub-category of locations here, as this landmark-reading does not result from differences in the nature of entities. Rather, it comes from a change in perspective: in the path situation expressed in (13) and (14), the role of the ground entity is not really to locate the figure, but to identify, in a general way, the itinerary followed by the figure.

However, for many reasons, the analysis of the preposition *par* makes it possible to distinguish between the sub-category of "roads" and other entities within the class of locations.[3] First, the linguistic data has shown that, in describing path situations, *par* very frequently occurs with such nouns as *rue* ('street')*, route* ('road')*, chemin* ('path')*, autoroute*

('motorway')*, passage* ('passage')*,* and so on. Examples (15) and (16) illustrate some of these situations.

(15) *Ils   sont   venus   à   pied   par*

they   AUX-PRES   come-PP   on   foot   by

le   sentier. (Le Clezio 1)

the   footpath

'They came on foot via the footpath.'

(16) *Il   est   repassé   par   la(le)*

he   AUX-PRES   pass.again-PP   by   the

même   rue/route/boulevard/chemin/pont/allée.

same   street/road/boulevard/way/bridge/alley

'He went back via the same street/ road/ boulevard/ way/ bridge/ alley.'

Second, roads differ from other geographical locations by their shape and, more importantly, by their function. Thus, the intrinsic function of roads is to make the passage of other entities easier, on the one hand, and to facilitate communication between entities/regions in space, on the other hand. Once again, nouns denoting entities capable of establishing a connection between other spatial entities seem to be ideal Objects for the preposition *par*.

As we have seen in section 2, part-entities identified by Internal Localization Nouns (ILNs) can be considered a sub-category of locations.

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Consequently, when ILNs interact with *par*, they behave as nouns denoting locations, as seen in (17) and (18):

(17) *Le*   *contenu*   *tourbillonne* *comme*   *l'eau*

the   content   whirl-PRES   like   the water

d'un   *réservoir*   *qui*   *se*   *vide*

of a   reservoir   who   its self   empty.out-PRES

par   *le*   *fond*. (Gracq 2)

by   the   bottom

'The contents whirl like water in a reservoir emptying out through the bottom.'

(18) *Je*   *passe*   *par*   *l'autre*   *côté*   *de*

I   pass-PRES by   the other   side   of

la   *rue.*

the   road

'I pass by the other side of the road.'

For more details about the combination of *par* with Internal Localization Nouns, see (Aurnague, 2000; Aurnague & Stosic, 2002).

3.3. Par *and NP denoting objects*

Next, in expressing path situations, *par* can be combined with a number of nouns denoting movable entities which are considered to be objects in the existing ontology. Examples (19) and (20) illustrate this possibility:

(19) *Le*   *liquide afflue*   *par*   *le*   *tuyau.*

the   liquid flow.out-PRES   by   the   pipe

'The liquid flows out through the pipe.'

(20) *L'eau*   *est*   *évacuée*   *par*   *un*   *canal*

the water AUX-PRES   drain.off-PP   by   a   canal

latéral.

lateral

'The water is drained off by the side groove.'

However, *par* is not systematically combined with all nouns denoting

objects, only with those nouns which identify objects with an associated

space portion and which allow motion through them (e.g., *tuyau* ('pipe')).

This means that not all entities categorized as objects are apprehended in the

same way regarding the existence or non-existence of a space portion

defined with respect to the material part of the entity. The preposition *par* is

a good test for establishing this distinction. Thus, purely material objects

cannot act as the ground in the path situations described by *par*, as seen in

(21).

(21) *Le   *lustre*   *est*   *tombé*   *sur*

the   chandelier   AUX-PRES   fall.down-PP on

le   *sol*   *par*   *la*   *table*.

the   ground   by   the   table

'The chandelier fell down by the table.'

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Furthermore, that a space portion exists is not sufficient for using the preposition *par* with nouns denoting entities classified as objects. Accordingly, example (22) shows that some objects with an associated space portion such as a cup or a glass cannot be selected as the ground in path situations expressed by *par*.

(22)	*L'eau*	*coule*		*par*	*la*	*tasse.*
	the water	flow-PRES		by	the	cup

'Water flows through the cup.'

The space portions these objects define —that is, their interiors— are used for containing other entities (e.g., wine in a glass). On the contrary, what is special about the objects *par* selects as ground is that the primary function of their space portion is not to contain but to make movement from one side to the other possible.

(23)	*Comme*	*si*	*le*	*monde*	*à*	*tout*	*coup*	*tentait*
	as	if	the	world	at	all	cost	try-IMP
	de	*s'*	*évacuer*		*littérairement*	*tout*		*entier*
	PREP	its self	run.out-INF		literally	all		whole
	par	*un*	*conduit*		*trop*	*étroit*. (Gracq 2)		
	by	a	pipe		very	narrow		

'As if literally the whole world was trying at any cost to run out through a very narrow pipe.'

We called "pipes" all those objects which introduce space portions and which allow other entities to move through them during the median phase of

motion. Unlike containing entities classified as objects (opposition to vertical and horizontal motion), pipes oppose lateral but not frontal motion of the figure. In addition, when entities called pipes play the role of ground in path situations described by *par*, their function consists in bringing other entities into relation with one another. Compared to roads which also have this connection function, pipes are not intrinsically motionless (they do not necessarily occupy fixed positions in a given framework). Given the mobility of pipes, the connections they establish between entities in space are generally not lasting but temporary. Note that if the relation pipes establish becomes stable, these entities move closer or shift to the category of locations.

The analysis of the preposition *par* allows us to distinguish firstly between purely material objects and objects with associated space portions. Secondly we highlighted the sub-category of pipes among those objects which define space portions. Only nouns denoting objects which we called pipes appear with *par*.

3.4. Par *and NP denoting mixed entities*

The preposition *par* can also be combined with nouns which denote mixed entities. Generally speaking, in path situations which *par* can express, mixed entities are used for identifying the itinerary followed by the figure. If the

19

ground corresponds to some part of a mixed entity, it is really crossed, as in (24) to (25):

(24) *Le*   *Kommandeur*   *lui*   *fit*   *traverser*

the   Kommandeur   he-DAT   make-P.HIST   cross-INF

la   *chapelle*   *par*   *laquelle*   *on*

the   chapel   by   which   someone

accédait   *à*   *la*   *terrasse*. (Tournier)

access-IMP   to   the   terrace

'The Kommandeur made him cross the chapel by which you gain access to the terrace.'

(25) *Il va*   *traverser*   *le*   *bâtiment*   *par*

he AUX-PRES   cross-INF   the   building   by

la cave   *et*   *ressortira*   *de*   *l'autre*   *côté,*

the cellar   and   go.out-FUT   on   the other   side

ni   *vu*   *ni*   *connu*. (Charef)

nor   seen   nor   recognized

'He will cross the building by the cellar and will come out on the other side, unnoticed.'

If the ground corresponds to a building, that is to a whole mixed entity, it is generally conceptualized as a simple landmark:

(26) *Nous sommes*   *passés*   *par*   *le*   *bâtiment*   *central.*

we   AUX-PRES   pass-PP   by   the   building   central

'We went through the central building.'

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In fact, what is important for the semantics of *par* is that the ground entity is considered by the links it establishes between other adjacent entities and not whether the ground is really crossed or not.

3.5. Par *and NP denoting substances*

Finally, entities categorized as substances (e.g., sand, water, fog, butter) cannot appear as a ground in path situations which *par* can describe:

(27) **Ils   sont   arrivés   par   la   brume.*

they   AUX-PRES   arrived-PP   by   the   fog

'They arrived by the fog.'

(28) **Le   poisson   monte   par   l'eau.*

the   fish   go.up-PRES   by   the water

'The fish swims up by the water.'

These entities do not fulfill any of the conditions which the preposition *par* imposes on entities selected as ground: first, these are often purely material entities without space portions, second, the non-stability of their position makes it difficult to take them as the ground in the path situations described by *par*. Note that because of their non-stability, substances are similar to the category of objects discussed above (see §§ 2 and 3.3). Therefore, the behavior of *par* with regard to nouns denoting substances and objects seems to confirm the "rapprochement" between the kinds of spatial entities observed in (Vieu, 1991).

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The observation of the properties of spatial entities to which the preposition *par* is sensitive showed that this marker may only be combined with nouns that denote spatial entities with associated space portions. The function of these is to enable the movement of the figure with respect to the ground. Another very important property of ground entities selected by *par* is their stability which allows them to establish a connection between some other entities involved in the motion event. Hence, the preposition *par* causes us to conceptualize the ground as an entity relating (directly or indirectly) the initial and final positions on the trajectory.

With regard to the existing ontology, the analysis of *par* does not pinpoint any new category of spatial entities. However, we have been able to introduce several different sub-categories within the existing ontological categories of spatial entities.

4. *A travers* and the categorization of spatial entities

We will now examine the behavior of *à travers* in relation to nouns denoting different kinds of spatial entities. We will take into account not only the five basic categories characteristic of static space, but also the sub-categories of apertures, roads and pipes which we have just pinpointed through the analysis of *par*. We will consider here only those spatial uses of *à travers*

where this marker enables the location of the figure with respect to the ground during the median phase of motion, as seen in (29).

<table>
<tr><td>(29)</td><td>*J'aime*</td><td>*marcher*</td><td>*à travers*</td><td>*la*</td><td>*ville,*</td></tr>
<tr><td></td><td>I like-PRES</td><td>walk-INF</td><td>through</td><td>the</td><td>city</td></tr>
<tr><td></td><td>*le*</td><td>*soir...* (Camus)</td><td></td><td></td><td></td></tr>
<tr><td></td><td>the</td><td>evening</td><td></td><td></td><td></td></tr>
</table>

'I like to walk through the town, in the evening...'

4.1. A travers *and NP denoting space portions*

Entities categorized as space portions can play the role of the ground in situations expressed by *à travers*, as shown in (30) and (31).

<table>
<tr><td>(30)</td><td>*Un*</td><td>*rai*</td><td>*de*</td><td>*soleil*</td><td>*filtrait*</td><td>*à travers*</td></tr>
<tr><td></td><td>a</td><td>ray</td><td>of</td><td>sun</td><td>filter-IMP</td><td>through</td></tr>
<tr><td></td><td>*les*</td><td>*fentes*</td><td>*du*</td><td>*volet.* (Sagan)</td><td></td><td></td></tr>
<tr><td></td><td>the</td><td>slits</td><td>of</td><td>shutter</td><td></td><td></td></tr>
</table>

'A ray of sunshine filtered through the slits of the shutter.'

<table>
<tr><td>(31)</td><td>*Cette*</td><td>*eau*</td><td>*est*</td><td>*obligée*</td><td>*de cheminer*</td><td>*à travers*</td></tr>
<tr><td></td><td>this</td><td>water</td><td>is</td><td>forced</td><td>to travel</td><td>through</td></tr>
</table>

les interstices subcapillaires du gel. (Cleret de Langavant)

the interstices sub capillary of.ART frost

'This water has to travel through the sub capillary interstices of

the frost.'

Stosic, D. (2007), « The Prepositions *par* and *à travers* and the Categorization of Spatial Entities in French ». *In* M. Aurnague, M. Hickmann & L. Vieu (Eds),*The categorization of spatial entities in language and cognition* , Amsterdam / Philadelphia : John Benjamins, p. 71-91.

Although nouns identifying space portions do appear with *à travers*, these entities are not considered in terms of their ability to make communication easier between other entities, nor to relate entities in space. In sentences (30) and (31), the association of *à travers* with nouns denoting apertures seems to stress the existential dependency of these immaterial entities on their material frame. The function of this material frame consists in canalizing the movement of the figure.

It is important to stress that in situations such as that illustrated in (32):

(32) *La*   *lumière*   *pénétrait*   *à travers*

the   sunshine   penetrate-IMP   through

la   *porte/fenêtre.*

the   door/window

'Sunshine was streaming through the door/window.'

we tend to imagine that the door and the window are closed and that the figure's movement is through the material part of the ground. This is not, however, the only possibility for reading this kind of spatial description as there are many cases where the ground obviously corresponds to apertures and where the movement of the figure is carved out through the immaterial part of the ground:

(33) *Un*   *souffle d'air* *frais* *passa*   *à travers*

a   breath of air fresh pass-P.HIST through

la   *fenêtre*   *ouverte.*

the   window   open

'A breath of fresh air came through the open window.'

(34) *Celui*   *qui*   *regarde*   *du*   *dehors à travers*

this.one   who   look-PRES   from   outside through

une   *fenêtre*   *ouverte,*   *ne voit*   *jamais*

a   window   open   not see-PRES never

autant   *de*   *choses* *que*   *celui*   *qui*

as much   of   things than   this one   who

regarde   *une*   *fenêtre*   *fermée*. (Baudelaire)

look-PRES   a   window   closed

'Looking through an open window from outside one never sees as much as when one looks at a closed window.'

In the configurations described in (33) and (34), the figure passes between/within the limits of the apertures. The existence of lateral material elements between which the figure passes seems to be one of the most important spatial constraints which the preposition *à travers* introduces on the configurations it describes. The role of these lateral limits is to control the figure's movements to the left and to the right. We proposed in (Stosic, 2002) the notion of "guidance" in order to define the semantics of the preposition *à travers* in its spatial uses. The semantic concept of guidance results from the combination of two very general notions: "force dynamics" (cf. Talmy, 2000) and "lateral orientation" (cf. Vandeloise, 1986). Thus, in spatial configurations expressed by *à travers*, the ground entity essentially constrains the figure's lateral movements whereas its frontal movements are

Stosic, D. (2007), « The Prepositions *par* and *à travers* and the Categorization of Spatial Entities in French ». *In* M. Aurnague, M. Hickmann & L. Vieu (Eds),*The categorization of spatial entities in language and cognition* , Amsterdam / Philadelphia : John Benjamins, p. 71-91.

generally possible. The interaction between two opposite forces ("agonist" vs. "antagonist"; cf. Talmy, 2000) is situated on the lateral and not on the frontal axis, so that the ground entity controls, by its lateral limits or by its internal structure, the movement of the figure to the left and to the right. Therefore, due to this lateral opposition, the ground entity seems to canalize, that is to guide the motion of the figure, whereas its frontal movements are generally possible (for more details about the concept of guidance, see Stosic, 2002: ch. IV).

4.2. A travers *and NP denoting locations*

The linguistic material has shown that nouns denoting locations frequently occur with the preposition *à travers*. Some of these situations are represented by the sentences in (35) to (37):

(35) *On*   *raconte*   *qu'elle*   *a*   *fui*

people   say-PRES   that she   AUX-PRES   flee-PP

à pied   *à travers*   *l'Europe*. (Joffo)

on foot   through   the Europe

'People say that she fled on foot throughout Europe.'

(36) *Le car*   *chemine*   *à travers*   *une*   *vallée*.

the coach wend-PRES   through   a   valley

'The coach wends through the valley.'

(37) *Je*   *marche*   *à travers*   *le*   *parc*   *vers*

I	walk-PRES	through		the	park	towards
les	*urnes*	*de*	*pierre*. (Gracq 1)			
the	urns	of	stone			

'I am walking through the park towards the stone urns.'

In all these examples, the movement of the figure is supposed to be constrained by the internal structure of the locations at issue and/or by the elements or entities which these locations contain.

However, not all location nouns can be combined with *à travers*. Thus, generally speaking, entities categorized as roads do not appear as the ground in situations described by *à travers*, as seen in (38).

(38)	**Il*	*est*	*parti*	*à travers*	*cette*
	he	AUX-PRES	go.off-PP	through	this
	route/autoroute.				
	road/motorway				

'He left through this road/motorway.'

We have seen that an important property of those entities we call roads depends on their ability to provide a connection between other entities in space. This functional aspect of roads seems to be incompatible with the semantics of *à travers*. However, certain other aspects of roads such as their narrowness or their sinuosity can be taken into consideration in spatial descriptions and thus make it possible to combine the preposition *à travers* with some nouns denoting roads, as in the following example:

(39)	*Le*	*regard*	*muet*	*de*	*ces fenêtres*	*le*	*gênait*

the look	dump	of	these windows	him	disturb-IMP
à la fois	*et*	*l'attirait :*		*il*	*zigzaguait de*
both	and	him attract-IMP		he	zigzag-IMP from
l'une à l'autre		*à travers*	*la*	*rue*	*vide*. (Gracq 3)
the one to the other		through	the	street	empty

'He was both disturbed and attracted by the silent look of these windows: he zigzagged from one to the other through the empty street.'

Due to their narrowness and/or sinuosity, entities like streets, footpaths, alleys and so on, are able to control the movement of the figure to the left and to the right, which enables them to play, in certain cases, the role of the ground in path situations described by *à travers*.

It thus appears that, even if locations selected as the ground in relations expressed by *à travers* can be crossed, they are not considered to relate other entities in space, as is the case with ground entities selected by *par,* but to be capable of controlling lateral movements of the figure during the median phase of motion. The fact that the preposition *à travers* focuses rather on the movement of the figure within the ground and not on its capacity of making a connection, is also confirmed by the analysis of the combination of *à travers* with verbs. Thus, if we take a closer look at the verbs with which the preposition *à travers* occurs in describing path relations, we can see that, unlike *par*, *à travers* is most often combined with verbs such as *marcher* ('walk'), *courir* ('run'), *se promener* ('go for a

walk'), and so on. According to (Vet, 1980: 68), from an aspectual point of view, these motion verbs always appear in sentences which refer to non-transitional situations. What is special about these kinds of situations is that the realization of the process that they involve does not lead to a transition from one state or position to another. This means that in path relations expressed by the preposition *à travers*, the movement of the figure is generally conceptualized as limited to the ground entity. If the movement of the figure extends beyond the limits of the ground this is due to the semantics of the verb and not to the semantics of the preposition *à travers* (for more details see Stosic, 2002: ch. V).

4.3. A travers *and NP denoting objects*

The combination of *à travers* with nouns denoting entities classified as objects seems not to be related either to the existence of a space portion nor to their connection property. As we can see in (40) to (42), every entity considered as an object can fulfill the role of the ground in situations described by *à travers*.

(40) *Le*   *jour*   *filtre*   *à travers*   *les*   *rideaux*

the   day   filter-PRES   through   the   curtains

de   *soie*. (Sabatier)

of   silk

'The daylight filters through the silk curtains.'

Stosic, D. (2007), « The Prepositions *par* and *à travers* and the Categorization of Spatial Entities in French ». *In* M. Aurnague, M. Hickmann & L. Vieu (Eds),*The categorization of spatial entities in language and cognition* , Amsterdam / Philadelphia : John Benjamins, p. 71-91.

(41) *J'ai*   *vraiment*   *senti*   *l'eau*

I AUX-PRES   really   feel-PP   the water

chaude et salée   *passer direct*   *à travers*   *l'estomac*. (Pouy)

hot and salty   pass-INF directly through   the stomach

'I really felt the hot, salty water going directly through my stomach.'

(42) *L'eau*   *monte*   *à travers le*   *tuyau*   *transparent*.

the water   go.up-PRES   through   the tube   transparent

'The water rises through the transparent tube.'

Thus, we find purely material (without space portion) objects as the ground, as in (40), as well as objects with an associated space portion corresponding either to interiors or to pipes, as seen respectively in (41) and (42). Furthermore, in many cases, the preposition *à travers* expresses the motion of the figure through a plurality of objects, as shown in (43).

(43) *Il (...)*   *se*   *mit*   *à*   *courir (...)*   *à travers*

he   him self put   to   run   through

les   *rochers*. (Le Clezio 2)

the   rocks

'He started to run through the rocks.'

In all these situations, the ground entity constrains certain of the figure's movements.

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4.4. A travers *and NP denoting mixed entities.*

The preposition *à travers*, in its spatial uses, can also be combined with nouns denoting mixed entities, as seen in (44) and (45).

> (44) *Je suis   descendue   pieds nus   à travers*
>
> I   AUX-PRES go.down   feet   bare   through
>
> *la   maison   endormie*. (Beauvoir)
>
> the   house   sleepy
>
> 'I went down barefoot through the sleepy house.'

> (45) *Monique pérégrine   à travers*
>
> Monique walk.up.and.down-PRES   through
>
> *l'appartement*. (Bazin)
>
> the flat
>
> 'Monique is walking backwards and forwards in the flat.'

Mixed entities playing the role of the ground in relations expressed by *à travers* are really crossed, unlike mixed entities selected as the ground by *par* whose function is, mainly, to identify an itinerary. Once again, the preposition *à travers* selects those nouns denoting entities (here mixed entities) which, because of their internal structure (parts) and/or the elements they contain, are capable of constraining certain movements of the figure during the median phase of motion.

Stosic, D. (2007), « The Prepositions *par* and *à travers* and the Categorization of Spatial Entities in French ». *In* M. Aurnague, M. Hickmann & L. Vieu (Eds), *The categorization of spatial entities in language and cognition* , Amsterdam / Philadelphia : John Benjamins, p. 71-91.

4.5. A travers *and NP denoting substances*

Finally, nouns referring to entities categorized as substances easily appear as the ground in scenes described by *à travers*. Examples (46) and (47) illustrate the motion of the figure with respect to entities belonging to the category of substances.

(46) *Les*   *passants*   *se*   *hâtaient*   *à travers*

the   passers-by   them selves   hurry-IMP   through

la   *brume*. (Beauvoir)

the   haze

'Passers-by were hurrying through the haze.'

(47) *Quelqu'un*   *venait (...)*   *à travers*   *cette*   *grêle*

somebody   come-IMP   through   this   hail

redoutable. (Genevoix)

fierce

'Somebody was coming through this fierce hail.'

Even if substances are conceptualized as purely material entities, this cannot keep certain entities from moving through them. Unlike *par*, the preposition *à travers* is able to locate the figure with respect to a purely material ground during the median phase of motion.

The analysis of the behavior of *à travers* in relation to nouns denoting different kinds of spatial entities showed that situations represented by *à*

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travers have somewhat different properties than do scenes specified by *par*. Thus, the first fundamental difference is that not only entities defining space portions can be associated with *à travers*. Unlike *par*, the preposition *à travers* is not sensitive to this constraint and can introduce nouns denoting purely material entities like substances (e.g., *à travers l'eau* ('water')/ *la fumée* ('smoke')) or objects without space portions (e.g., *à travers le mur* ('wall')). The second very important difference is that the capacity of making a connection, characteristic of the ground entity selected by *par*, does not play any role in the case of *à travers*. The preposition *à travers* focuses, rather, on the movement within the ground and, more precisely, on the interactions between the figure and the ground during the median phase of motion. Entities acting as the ground in path configurations described by *à travers* must be able to constrain certain (essentially lateral) movements of the figure. These properties of the preposition *à travers* are grasped via the notion of guidance.

5. Conclusion

In this paper, we have defined more precisely the contribution of the prepositions *par* and *à travers* to the categorization of spatial entities in language and cognition. In this way, we extend the existing "static" ontology of spatial entities and argue for its validity and accuracy for

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"dynamic" space. This analysis shows that the classification of spatial entities is not only based on their ontological properties, but also on the semantics of the given prepositions and other lexical items present in spatial descriptions. Other factors like nonlinguistic knowledge, discourse context and granularity also play an important role in categorizing spatial entities, as shown in sections 3 and 4.

Thus, without disputing this existing "static" ontology, the analysis of the dynamic spatial relations expressed by the prepositions *par* and *à travers* revealed several other interesting distinctions between spatial entities in language. For example, both prepositions *par* and *à travers* allow us to define the new sub-category of roads —within the category of locations— because of the functional aspects of these entities. However, in analyzing *par* we pinpointed the sub-category of roads in a positive way, while the analysis of *à travers* did so in a negative way.

We also pointed out the sub-category of pipes within the category of objects. What is interesting about this distinction is that, if both *par* and *à travers* are capable of occurring with nouns denoting pipes, only *par* —by virtue of its semantic content— makes us conceptualize this kind of objects as pipes. As it could be shown in this paper, this preposition focuses on such properties of pipes as the presence of a space portion or the capacity to connect other entities involved in the motion, whereas the preposition *à travers* underlines the material nature of these entities, and more precisely their ability to constrain, by their limits, the figure's lateral movements.

Stosic, D. (2007), « The Prepositions *par* and *à travers* and the Categorization of Spatial Entities in French ». *In* M. Aurnague, M. Hickmann & L. Vieu (Eds),*The categorization of spatial entities in language and cognition* , Amsterdam / Philadelphia : John Benjamins, p. 71-91.

Only in the first case (with *par*) these entities are classified by language as pipes; in the second case (with *à travers*) they are considered as any other material entities. So, French obviously allows two different points of view on this kind of entity (pipe / material entity). But, this possibility does not exist, for instance, in Serbian which in the situations at issue only uses the preposition *kroz* —semantically very similar to *à travers*— so that the ground entity (pipe) is conceptualized by Serbian speakers as a simple material object and not really as a pipe (see Stosic, 2002).[4]

These results illustrate the need to take dynamic markers of linguistic space into account in classifying spatial entities in language and cognition. As we have shown, the study of dynamic space can identify certain other properties to which language is sensitive, in classifying spatial entities. Taking dynamic morphemes into account is a good way of testing the validity and accuracy of the existing categorization of spatial entities but also of refining it. The evidence from other languages is also indispensable.

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Notes

[1] This research was carried out within the project "Spatial entities and their categorization in language and cognition" (COG135; 1999-2001) that was financially supported by the Program "Cognitique" of the French Ministry of Research. I would like to thank Michel Aurnague for his constructive comments on many drafts of this article. I am also grateful to Andrée Borillo for her useful remarks and to Harriet Dunbar for her stylistic advice.

[2] Some of these questions have already been discussed in (Stosic, 1999; Aurnague, 2000, 2004; Aurnague & Stosic, 2002).

[3] Note that, as Mathieu-Colas (1998) showed, it is possible to define the class of "roads" ("voies de communication") syntactically. NPs denoting this class of entities can appear with three predicates: *aller* quelque part *par* <voie> ('go somewhere via <road>'), *prendre* <voie> ('take <road>'), <voie> être *impracticable* ('<road> be impassable').

[4] A parallel can be drawn with apertures (e.g., hole, window, door). As we showed in sections 3.1 and 4.1, both *par* and *à travers* occur with nouns of apertures, but whereas *par* selects them as "connecting" entities, *à travers* focuses on the material parts of these entities and underlines the constraints that their boundaries impose on the figure's movements. So, in French, two different points of view can be adopted in the linguistic and cognitive representation of these entities (aperture / material entity), which is not the case in some other languages, like Serbian. In describing the path situations at issue, this language uses, here again, the preposition *kroz*, very close to *à travers*, so that apertures are always considered as any kind of material entity (Stosic, 2002).

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Appendixes

Source of exemples

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