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2000

Transitivity and the Choice of a Preposition in any Language

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Recommended Citation

Hascoet, V.: Transitivity and the Choice of a Preposition in any Language. M.Phil (Linguistics) thesis. Trinity College, Dublin, 2000.

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Introduction

* *Leurs goûts ont décidé son sort.*

The above sentence is an attempt at translation by an Anglophone, for the English *Their taste decided his fate*. It is flawed because the translator has omitted the word *de* after the verb *ont décidé*. *De* is a preposition that must be inserted automatically between the verb *décider* and a following object in French. The translator was ignorant of this fact and made a mistake. How could (s)he have known that a preposition was needed in French, when none is used in the English equivalent of this sentence? The current way of dealing with this issue is for a non-native speaker of French, to memorise the correct verbal construction, including the preposition *de*, in the lexical entry for the verb *décider*.

The issue at stake in this example is transitivity. In the English sentence *Their taste decided his fate*, it is said that the verb *to decide* is directly transitive since it does not involve any preposition; however, the French equivalent *Leurs goûts ont décidé de son sort* introduces the preposition *de* between the verb and its object: it is said that *décider* is an indirect transitive verb. Transitivity is a phenomenon widely attested across languages. It is generally accepted that it has universal properties. Regardless of the languages concerned, certain types of verbs seem destined to behave transitively and others intransitively.

Intransitive verbs have no objects at all. Givón (1990) gives a classification of verbs, of which certain categories, according to him, are universally intransitive. They include subjectless verbs '[which] most commonly denote natural or atmospheric phenomena' (Givón, p.89): examples are *It is raining/Il pleut*, in which both *it* and *il* are impersonal subject pronouns. Copular sentences of the type *He is a teacher* or *She is tall*, where the predicate is a noun or an adjective, not a verb, are often used in a habitual sense for descriptions. Objectless verbs describe states, as opposed to events or processes: Givón

gives the examples *My child is sick* or *The woman is sad* for the Bemba language. And finally, he cites verbs requiring a sentential subject, of the type *be true, be likely, be good, be difficult*, etc. because they also use an adjective as their predicate; Givón states that they are either epistemic or evaluative in nature, or that they assess ‘ease-of-performance’. Each of these categories then appears to be semantically motivated, and semantic motifs can be traced across languages. The assumption is that the same semantic values in all languages (give or take a few exceptions) will translate into syntactic structures of varying forms maybe, but of identical transitivity. Any of the above categories mentioned by Givón should yield a syntactic structure of intransitive form. On the other hand, a sentence involving at least two interacting participants fulfils the basic requirements for transitivity, and such a combination should yield syntactic structures of a transitive nature in any language.

However, let us come back to our starting point. The sentence *Their taste decided his fate/Leurs goûts ont décidé de son sort* always presented us with two participants, in French or in English. In any language, a process is taking place between *their taste* and *his fate* (or between *leurs goûts* and *son sort*), whereby the object is affected by the subject. The difference between the two languages does not therefore reside in the issue of transitivity per se, but in the determination of its directness or indirectness. Why does French require an object to be made indirect by introduction of a preposition after the verb *décider*, while English favours a direct relation between the equivalent verb *to decide* and its following object ?

In our first chapter, we will provide definitions for the common types of transitivity patterns to be found in both English and French. In the second and third chapters, we will give an overview of current research into the issue of transitivity. In chapters 4 and 5, we will attempt to find an explanation for the difference in transitivity displayed by a number of verbs in English and in French. Our primary purpose here is to investigate

the concept of transitivity with a view to establishing what distinguishes its directness from its indirectness. In so doing, we should be able to find out whether those are issues of universal scope, or whether they are language-specific. We will draw conclusions in our chapter 6.

Throughout this work, we have used numerous examples to illustrate theoretical points, as well as specific sentences for the data analysis. Each example bears the number of the chapter it appears in, and its own reference: for instance, the first example used in chapter 1 is referred to as (1.1). The data on the other hand, is clearly marked by the uppercase D and a number referring to the verb dealt with, as well as a lowercase letter for each sentence used as example. The entire database is presented in an appendix. For example, the first verb in the database is referred to as (D1); examples of this verb as used in discourse could be (D1a), (D1b), etc. The data will be both in English and in French. An extension of the data can be found in chapter 4, where we specifically investigate the pronominal forms of those verbs; in this instance, the examples we use are clearly marked by the uppercase P.

Chapter 1: Argument structure and transitivity: definitions

What are argument structure and transitivity? We must begin with clear definitions of those concepts, and of a number of related ideas.

1.1. Argument structure

1.1.1. *Predication*

Every sentence has something to say. What is meant can be referred to as the predication. The predicating elements of a sentence form its nucleus, its basic meaningful unit. They include two types of words: the arguments of the predication, and the non-arguments. According to Van Valin and LaPolla (1997), 'core arguments are those arguments which are part of the semantic representation of the verb' (p.26). Although it is used by many linguists as a syntactic function, the concept of argument is primarily a semantic concept, and we will use it as such in this study. An argument is a phrase that holds a close meaningful relation to the predicate of a sentence. In essence, the predicate on its own would be meaningless in the context of an utterance. One or several arguments necessarily appear in the sentence alongside their predicate in order to form a meaningful unit.

In a sentence like

(1.1) Yesterday Suzy carefully removed the splinters from the cut with tweezers

the predicate *removed* which refers to the process taking place in this utterance, and is

expressed through the medium of a verb, does not make sense when used in isolation:

(1.2) *removed

More information is needed for any recipient to decode this message, among which at least one agent must be specified for the process. In English, this is usually done by using a noun as subject for the verb-predicate.

(1.3) *Suzy removed

But the meaning of (1.3) is not yet clear. In order to complete the argumentation of *remove*, we must specify the object affected by the process. It is *the splinters* that have been removed by *Suzy*. Hence the phrase

(1.4) Suzy removed the splinters

now forms a complete unit in which the predicate *removed* becomes meaningful.

1.1.2. Argument versus non-argument

It is said that the verb *to remove* is a 2-argument verb, since it can only effect its meaning with the help of two elements: one placed before the verb is known as the first argument (it is represented here by *Suzy* and usually refers to the entity that starts the process expressed by the verb); in this case, a second argument (*the splinters*) is necessary and appears immediately after the verb; that element usually designates an entity that the process aims to affect specifically. It is also said that the verb *remove* has a valency of 2.

On the other hand, sentences also contain elements which are not indispensable to the comprehension of the predicate. Those are the non-arguments. In many syntactic theories, they also go by the name of ‘adjunct’.

In the sentence

(1.1) Yesterday Suzy carefully removed the splinters from the cut with tweezers

we have just explained how the elements *Suzy* and *the splinters* solely are deemed indispensable to the comprehension of the process expressed by the predicate *removed*. Other types of information such as the time (*yesterday*) and instrument used (*with tweezers*) are not directly linked to the meaning of the verb *to remove*, and could therefore disappear without affecting the correctness of the sentence:

(1.4) Suzy removed the splinters

The sequence of a first argument followed by a verb, followed by a second argument is the most frequent construction to be found in languages like English and French.

In grammatical terminology, it corresponds to the traditional SVO order of words, where S stands for the subject (our first argument), V for the verb and O for the object (or second argument). But not every predicate necessitates the support of two arguments in order to fulfil its meaning. One- or three-argument structures (or verbs with a valency of 1 or 3) are also common. When a construction allows more than one argument after its verb, the third and subsequent arguments may also be called objects. In this study, we will use the terms ‘subject’ to refer to the first argument of predication _ to be found before the verb_ and we will restrict the term ‘object’ to the second argument, that which immediately follows the verb.

1.1.3. *Direct versus oblique arguments*

Many linguists, including Van Valin and LaPolla (1997), argue that the distinctions we have just made are universal. That is to say that the semantic concepts of predication, argument and non-argument, underpin the meaning of sentences in any language.

However, the manner in which those relations are formalised at a syntactic level can vary greatly across languages.

In English, as in French, nouns and verbs usually serve as arguments. Moreover, and crucially for us in the study with which we shall be concerned here, in many languages some arguments are marked by prepositions, whereas others are not. This is due to a case-marking system, which could still be active as in Icelandic, or inherited from an old form of the language as in English or in French. Unmarked arguments are called direct arguments, whilst marked arguments are called oblique. In traditional grammar, second arguments which are unmarked are called direct objects, and second arguments which are marked, i.e. are introduced by a preposition in languages such as English and French, are called indirect objects.

However let it be noted that any word introduced by a preposition is not necessarily an oblique argument, and that every unmarked word is not necessarily a direct argument of the predicate. Non-arguments can also use prepositions (or not). The debate over the best way to distinguish arguments from non-arguments is not within our remit here. In this study, we will always try to give clear examples of predication, with unambiguous arguments, be they either direct or oblique. For that reason, we will employ the grammatical terminology of direct and indirect object, to avoid burdensome labels such as ‘direct second argument’ and ‘oblique second (or third, etc.) argument’.

1.1.4. Prominence of the arguments

In Grimshaw's definition '[...] argument structure represents a complex of information critical to the syntactic behaviour of a lexical item. [...] the term refers to the lexical representation of grammatical information about a predicate. The a-structure of a lexical item is this part of its lexical entry.' (Grimshaw, 1990, p.1). We had already established that the concept of argument structure was linked to semantics since a predicate needs its arguments in order to make sense in context; we also suspected that argument structure participated in the determination of syntactic behaviours for its predicate, since similar argument relations can yield various syntactic structures for a given predicate in different languages. We can now assume that argument structure also holds a close relationship to the lexicon. 'Complex' of information is probably an adequate description for such a versatile notion.

Grimshaw later fine-tunes her definition: 'A-structure is a structured representation which represents prominence relations among arguments' (p.4). She goes on to state that such prominence relations are determined by thematic and aspectual considerations, but we need not speculate on the subject in our present study. What Grimshaw establishes here is a very relevant notion sometimes referred to as 'saliency' or 'foregrounding', which we shall see more of in the course of this work. The idea that certain arguments in the set that forms the a-structure of a predicate, are more 'important' than others will be central to our thinking. For instance, Grimshaw distinguishes the 'external' argument from the 'internal' argument (or arguments) of a predicate. From a syntactic point of view, an external argument is an argument which is not governed under the predicate. In the example

(1.1) Yesterday Suzy carefully removed the splinters from the cut with tweezers

the argument *Suzzy* would appear under the highest node of a tree diagram, above its predicate *removed*, whereas the argument *the splinters* is a daughter of the same predicate. Thus ‘the external argument is the most prominent argument in the a-structure of a predicate [...] an argument is external or internal by virtue of its intrinsic relations to other arguments. Its status cannot be changed except by the introduction of another argument.’ (p.5)

In languages such as English and French, when S-V-O sentences are used, the external argument is realised as the subject of the verb-predicate, and the internal arguments are its objects. The nature of the relation that links the predicate and its internal arguments (or, to use grammatical terminology, the verb and its objects), or indeed that links the objects among themselves, and their possible hierarchy, can now be investigated through the concept of transitivity.

1.2. Transitivity

Roughly, we can say that the term transitivity refers to the status of the internal arguments, and to the relationship they hold to their predicate. There exist several sorts of those relationships, so we will now present several syntactic structures for English and French predicates, and discuss various issues affecting them.

1.2.1. Intransitivity

The most basic form of transitivity is actually the absence of any transitivity for a predicate. Some verbs convey all of their meaning without the help of any internal argument. Such constructions are said by many linguists, including Givón (1990), to be

common across the languages of the world, to depict mainly states (as opposed to events or processes) and weather phenomena.

It is certainly the case in both French and English. Copular sentences of the type (1.5) to (1.8) below all refer to states and they are all intransitive:

(1.5) Sammy was a carpenter

(1.6) Sammy était charpentier
Sammy was carpenter
'Sammy was a carpenter'

(1.7) Their dog seems sick

(1.8) Leur fille est devenue triste après la mort
Their daughter PAST became sad after the death
'Their daughter became sad after the death
of her father'

In the same manner, utterances relating to the weather are also intransitive in both languages, as in (1.9) to (1.12):

(1.9) The sun is shining

(1.10) Le soleil brille
The sun shines
'The sun is shining'

(1.11) Raindrops keep falling on my head

(1.12) La neige tombe sur les sommets
The snow falls on the mountain tops
'Snow is falling on the mountain tops'

1.2.2. *Middle verbs*

This type of transitivity relation refers to processes and events, and it is thus different from intransitive constructions. However in English, like the intransitive constructions, it is typically deprived of any internal arguments.

(1.13) Bread cuts easily

(1.14) The knife sharpens

But a translation into French of the examples above will yield very different syntactic patterns; this shows again that similar argument structures do not necessarily mean similar syntax, especially in a cross-linguistic context.

(1.15) Le pain se coupe facilement
The bread cuts easily
'Bread cuts easily'

(1.16) On coupe le pain facilement
One cuts the bread easily
'Bread cuts easily'

(1.17) Le couteau s'aiguise
The knife sharpens
'The knife sharpens'

Here we can actually avail of two translations for *Bread cuts easily*, with very dissimilar syntactic strategies. Example (1.15) uses a form of the verb known as pronominal, which is common in Romance languages, but has no equivalent in English; example (1.16) uses

a more traditional S-V-O pattern with an impersonal subject. A passive construction could have been acceptable as well, depending on the context of the utterance. Example (1.17) again uses the pronominal form of the verb. Whereas the *on* form possesses an internal argument *le pain*, the *se* pronominal form is more ambiguous, and there exists a point of contention among linguists on the subject of whether *se* must be construed as an argument or not. We will return to such pronominal forms in the course of our study.

1.2.3. *Direct transitivity*

The most frequent type of transitivity pattern to be found in both French and English is the direct transitive one. By this we mean that the predicate's internal argument holds a direct relation to that verb without the help of any preposition. Direct transitivity seems to be associated with verbs of motion, of contact and of transformation particularly well in both languages as the examples below demonstrate:

(1.18) Susan drove the car to the airport

(1.19) Susan a conduit la voiture à l'aéroport
 Susan PAST drove the car to the airport
 'Susan drove the car to the airport'

(1.20) An old lady stroked the cat

(1.21) Une vieille femme caressa le chat
 An old lady stroked the cat
 'An old lady stroked the cat'

(1.22) Les converted his garage into a gym

(1.23) Les a transformé son garage en salle de musculation
 Les PAST converted his garage in gym
 'Les converted his garage into a gym'

In all those examples, the first internal argument _ the one closest to the verb_ is a direct object of the verb. Note that in the above, the phrases *to the airport/à l'aéroport* and *into a gym/en salle de musculation* may also be internal arguments of the predicate, indirect ones we might add, as they would be linked to the verb via the prepositions *to/à* and *into/en*. However, as it is the status of the first internal argument that typically determines the type of transitivity to be attributed to the predicate, the verbs *drove* and *converted* will still be called 'direct transitive'.

1.2.4. *Indirect transitivity*

Unsurprisingly, we will call those predicates whose second argument comes along with a preposition, 'indirect transitive'. Here are a few examples in both English and French.

(1.24) I spoke *to* the chairman of the board yesterday

(1.25) The archer aims *at* the target

(1.26) Tout le monde a participé à la soirée
 Everyone PAST contributed to the party
 'Everyone contributed to the party'

(1.27) Salomé sort avec Jean-Marc depuis trois mois
 Salomé goes out with Jean-Marc for three months
 'Salomé has been going out with Jean-Marc for three months'

In each of the above cases a preposition links the argument immediately following the verb, to its predicate. What distinguishes a direct from an indirect relation between a predicate and its first internal argument, is not at all obvious. We may assume that the presence of a preposition before an indirect object, is somehow motivated; but what kind of motivation is at stake here ? We must ask that question in the next few chapters, as it cuts to the core of what transitivity really is. Whereas syntactic observations such as the

presence or absence of prepositions before internal arguments may help us label predicates, they will not assist in any way our understanding of the true nature of the transitivity phenomenon, which, like argument structure, must be semantically motivated.

1.2.5. *Ditransitivity*

There remains one major pattern of transitivity for us to investigate. Ditransitivity is a type of argument structure in which the predicate has two direct internal arguments. It is particularly common in English for verbs of communication, which construe both the message and its recipient as direct internal arguments, while the sender is embodied by the external argument. So we are dealing here with a 3-argument structure. Here are some examples:

(1.28) Rick immediately faxed Dinah the message

(1.29) I asked you a question

(1.30) Mrs Warren told Mrs Smith the news

Of the two internal arguments, the recipient is closest to the verb and takes on the status of first internal argument; then the message is given the status of second internal argument.

However, there is another way to construe the same relations between those predicates and their arguments. One could also say:

(1.31) Rick immediately faxed the message to Dinah

(1.32) Mrs Warren told the news to Mrs Smith

Here the message is construed as the internal argument closest to the predicate, and the recipient is now the second internal argument only. Note that in so doing, it has become an indirect argument through the addition of a preposition *to*. But this alternative argument structure is not acceptable when applied to example (1.29):

(1.33) * I asked a question to you

Therefore, we cannot assume that both constructions are absolutely synonymous. There must be a reason why one is sometimes favoured over the other, and especially why both constructions are not acceptable to all verbs of communication. The answer lies in the relation between the predicate and the argument that refers to the recipient of the communication process. In essence, we are faced here with the problem of ordering the internal arguments; we have already seen that such ordering is based on what Grimshaw called ‘prominence’ relations. In the examples (1.28) to (1.30), the identity of the recipient is construed as more prominent than the nature of the message itself. In (1.31) and (1.32), it is the message which seems more important, while the identity of the recipient recedes to the background of the process. In the sentence **I asked a question to you*, it is the recipient who matters, since the predicate *ask* always implies an argument *question* by its own meaning; therefore the argument *a question* is actually a redundancy here; it is deemed less important than the argument *you*. Thus the form *I asked you a question* is favoured in English as *you* logically assumes the position of first internal argument, while *a question* can only be the second internal argument.

The theory of prominence however does not explain why the recipient, when expressed as the second internal argument, should also become indirect. This sort of enigma relates precisely to the nature of the concept of transitivity.

Finally we shall add a word about the way in which French deals with such ditransitive sentences. Let us translate the examples (1.28) to (1.30):

(1.34) Rick a immédiatement faxé le message à Dinah
Rick PAST immediately faxed the message to Dinah
'Rick immediately faxed Dinah the message'

(1.35) Je t' ai posé une question
I you PAST asked a question
'I asked you a question'

(1.36) Mrs Warren a annoncé la nouvelle à Mrs Smith
Mrs Warren PAST announced the news to Mrs Smith
'Mrs Warren told Mrs Smith the news'

We must immediately emphasise that there seems to be no provision for ditransitivity in the French language. The argument structure here favours a direct internal argument followed by an indirect one. The message is construed as the first internal argument (i.e. the direct one), and the recipient as the second internal argument, the indirect one. This is absolutely identical to the alternative construction we have just seen for verbs of communication in English.

How come French does not allow two direct internal arguments as English does ?

Strictly speaking, this is not absolutely accurate. Ruwet (1972) actually mentions some examples of ditransitivity in French, of the type:

(1.37) On a élu Patrice président
One PAST elected Patrice president
'Patrice was elected president'

But according to him, such examples are limited to processes dealing with positions of authority; and one cannot help but notice that both internal arguments here, *Patrice* and *président*, actually refer to the same person.

Interlingual differences in the syntax of argument structure, as well as intralingual ones, must take their roots in the semanticity of the process at stake. In other words, there must be a semantic explanation for the impossibility of ditransitive constructions for verbs of communication in French. It resides in the relation between the predicate and its recipient, which appears to be construed differently in both English and French.

Having presented the key concepts pertaining to the domain of argument structure, as well as a definition of the term itself, and having explained the main types of transitivity available to verbs in both French and English, we can now formulate the key question that will motivate the present study. We know that for the same argument structure, different languages will not necessarily yield similar syntactic patterns. However, as we shall concentrate further on the status of the first internal argument, which crucially determines a predicate's transitivity, we must note again that transitivity is a remarkably stable phenomenon across the languages of the world. Effectively, most predicates are transitive in any language. Whether transitivity is direct or indirect, depending on the status of the first internal argument, is a more complex and confusing issue. How does a predicate select direct or indirect transitivity in the context of its argument structure? This is the question that will now concern us, and we shall start by investigating some of the literature that deals with the nature of the concept of transitivity.

Chapter 2: How are argument structure and transitivity determined (I):

theories of the syntax-semantics interface

Traditionally, it is assumed that there is a correlation between the semantic units that underlie an a-structure, and the syntactic patterns that a-structure yields for its predicate. How semantics links to syntax and/or vice-versa is the concern of three such approaches.

2.1. Hopper and Thompson: defining and identifying transitivity

'...Transitivity is not dichotomous, but is a continuum,[...]' (p. 266)

Hopper and Thompson's article, published in 1980, remains the authoritative reference on the topic of transitivity. This is the 'definition' they adopt for the concept of transitivity: 'Transitivity is traditionally understood as a global property of an entire clause, such that an activity is 'carried-over' or 'transferred' from an agent to a patient. Transitivity in the traditional view thus necessarily involves at least two participants [...], and an action which is typically EFFECTIVE in some way' (p.251).¹

Transitivity, they allege, can be pinpointed in discourse by a series of tell-tale signs. These ten criteria are either morphosyntactic or semantic in nature. Each criterion in its own way refers to 'the effectiveness or intensity with which the action is transferred from one participant to another' (p.252). Therefore, this transfer or carry-over between participants is construed as *more or less* effective, or *more or less* intense. That is why transitivity is not, in

¹ Hopper and Thompson do not use the words 'patient' and 'agent' as participant roles, but rather as prototypical arguments. 'Agent' stands for '1st argument' of the process, and 'patient' for '2nd argument'.

Hopper and Thompson's view, an either-or choice, but a continuum. Sentences are more or less transitive, or to use their terminology 'highly-transitive' or low-transitive.

We can study in detail the criteria selected by Hopper and Thompson to determine the level of transitivity of a given sentence.

A. PARTICIPANTS

As transitivity refers to a transferring process, two participants are required. One-participant sentences are deemed intransitive. However, the authors point out that many two-participant sentences are actually intransitive across languages because it is also preferable that, in a process of transfer, the O (or object) be animate. Many two-participant processes in which the second argument is inanimate, do not actually qualify as carry-over, and cannot therefore be transitive according to Hopper and Thompson.

B. KINESIS

For any carry-over to take place, there must be some type of movement of the Object. Whether that movement is physical or more symbolic is open to interpretation.

C. ASPECT

The two values selected by the authors are telic, corresponding to a transitive process, and atelic, for an intransitive one. Telicity concerns the holistic interpretation of a process: wherever it can be attributed an endpoint, the process described by the verb is said to be telic.¹

In an incomplete process the O could be viewed as less (or not entirely) affected, while with a perfective verb, the O would be totally transferred. Affectedness of O is another of Hopper and Thompson's criteria, to which we will return shortly.

¹ Those values parallel the perfective/imperfective dichotomy. In Hopper and Thompson's analysis, a perfective verb is more likely to be transitive, and an imperfect verb is more likely to be intransitive.

D. PUNCTUALITY

A highly-transitive verb would show a tendency to carry a punctual value, whereas a low-transitive verb would tend to be non-punctual. Non-punctuality can refer to an imperfective, or even iterative, value, so that this analysis seems to confirm our previous point.

E. VOLITIONALITY

As we hinted at earlier on, a highly-transitive process should involve volitional participants. The more volitional the participants, the more transitivity there will be in the sentence.

F. AFFIRMATION

This category actually concerns the status of negation in relation to transitivity. For any carry-over to take place, it seems logical that an affirmative value also be applied to the process. A process which would be denied would signal low-transitivity.

G. MODE

Hopper and Thompson oppose the realis value of indicative modes to the irrealis value of all other modes such as the subjunctive, the conditional, the optative, etc. They systematically link realis to high-transitivity and irrealis to low-transitivity. This connection can be justified in the same way as the AFFIRMATIVE criterion: a process which is put in doubt, is less likely to actually take place and is therefore a candidate for low transitivity.

H. AGENCY

In order for any carry-over to take place, an agent should initiate the process. Preferably, this should be an animate agent. So where evidence of agency can be found, we should have a highly-transitive verb; where non-agency seems to be the case, low-transitivity is more obvious.

I. AFFECTEDNESS OF O

If a transfer occurs in the process described by the verb, the object of the sentence should be greatly affected: an affected O is more likely to be part of a transitive clause, but an unaffected O would be associated with an intransitive clause. Hopper and Thompson see morphosyntactic evidence in ergative languages where case-marking distinguishes transitive from intransitive sentences: a transitive sentence shows ergative case-marking on A (the agent) and absolutive case-marking on O; intransitive sentences have only one participant, i.e. A, and it is in the nominative case.

J. INDIVIDUATION OF O

Affectedness of O eventually leads to the question of the individuation of O, or to what extent is O an independent word. Hopper and Thompson show that when O is highly affected by a process, it will preferably be given a definite interpretation (it could be preceded by a definite article in French or in English). But when O is less affected, it tends to take on an indefinite value. The authors find proof that in certain languages a less affected O is effectively incorporated into the verb, thereby losing its status as an independent word. So a highly individuated O will be a mark of high transitivity and a less individuated O will signal low transitivity.

Having presented convincing data from a variety of languages in support of their criteria, Hopper and Thompson can now formulate a TRANSITIVITY HYPOTHESIS:

“If two clauses (a) and (b) in a language differ in that (a) is higher in Transitivity according to any of the features [A-J], then, if a concomitant grammatical or semantic difference appears elsewhere in the clause, that difference will also show (a) to be higher in Transitivity.” (p.255)

All or some of the criteria will combine to point out in the direction of transitivity or intransitivity along a continuous scale. Clusters will form in one direction or the other, indicating which option should be preferred.

The weakness of Hopper and Thompson's article however is that it does not address the question of the syntax-semantics interface. Presumably, each language will determine a cut-off point between them, and this may vary across languages.

Ideally, it would be helpful to regroup all the criteria under a larger concept. Hopper and Thompson have attempted just that by linking transitivity to foregrounding.

Foregrounding is a discourse concept, not unlike Grimshaw's prominence relations: it describes all manners of bringing new information into discourse against a background of already acquired information. Ultimately the choice of transitive or intransitive clauses would lie with the Speaker. It is (s)he who would control whether a process should be encoded as a new piece of information, and would eventually assign it highly transitive values, or whether it would already be known and should be intransitive in form.

Statistical proof is provided with the study of different texts. The authors remark that 'in languages like English, foregrounding is not marked absolutely, but is instead indicated and interpreted on a probabilistic basis; and the likelihood that a clause will receive a foregrounded interpretation is proportional to the height of that clause on the scale of Transitivity' (p.286).

2.2. Langacker: a cognitive account of transitivity

Some cognitive linguists have approached the issue of transitivity, notably Talmy (1988) with his concept of force dynamics. Langacker (1991) offers the most elaborate model in this field. Using the metaphor of a stage to represent sentences as plays, he distinguishes

the setting from the participants: whereas in discourse the setting of a 'play' is provided by adverbials of time and space for instance, the actors (or participants) in the play are the objects and the subjects that engage in interactions. A sentence thus illustrates a process of 'energy transmission' between the participants. Sentence structure is the reflection of that process. A sentence is essentially the expression of an 'action chain' in which a 'head' emits energy towards another participant; the second participant in turn can transmit this energy to a third entity, and so on. This 'action chain' can continue until a participant interrupts the transmission of the energy flow by absorbing it. The last participant in the chain is called the 'tail'. For instance, in the sentence

(2.1) At lunchtime Frederick ate soup with a fork

Frederick is the source (or 'head' of the action chain) which transmits energy to *a fork* which in turn plunges into the *soup*. The process ends there with the soup as the tail of the chain. This whole process involves physical contact between Frederick and the fork, and between the fork and the soup. But action chains also apply to mental processes according to Langacker.

(2.2) The children are watching television

In this example, the children initiate an action chain which is clearly directed at the television. Even though no physical contact happens between the two participants, the flow of energy is no less real in cognitive terms. Instead of 'head' and 'tail', Langacker speaks of 'experiencer' and 'experienced'.

With his model, Langacker believes that he can explain different types of argument structures. According to him, the number of arguments expressed in a sentence reflects the number of participants of the action chain that the speaker wishes to mention. The choice of which argument becomes the subject also relies on the number of participants and the direction of the energy flow. For instance, a middle construction such as

(2.3) The channel changed

is the result of an action chain in which the speaker focuses solely on the last participant affected by the process: here, *the channel* is the tail of the action chain.

But a typically transitive sentence like

(2.4) Paula changed the channel

mentions both the head of the energy flow (*Paula*) and its tail (*the channel*). The head assumes the subject position, and the tail is the object.

Eventually, Langacker also accounts for instrumental constructions of the type

(2.5) Paula changed the channel with the remote control

Here the action chain is as follows:

(2.6) Paula → the remote control → the channel

We must note that, although the channel is the tail of the chain, it does not occupy the last argument-slot in the corresponding sentence. That is because Langacker's conception

of energy transmission does not in any way assess prominence. His is a linear, time-based model. But let us remember that the ordering of arguments in syntactic frames is the result of prominence relations among the participants.

Finally, Langacker also provides his own explanation for ditransitive sentences. In his opinion, sentences such as

(2.7) Bríd gave Paul the keys

are not the result of a simple causal chain that would result in Paul getting the keys.

It is rather a combination of the physical process of Bríd handing the keys to Paul, and of the mental process of Paul acknowledging his receiving them. Not everyone agrees with this conception however.

We now know enough of Langacker's model to support Hopper and Thompson's definition of transitivity as a 'transfer', with a cognitive basis. Transitivity is a transfer of energy, either physical or mental, between participants. However this cognitive view cannot explain the ordering of arguments within a syntactic frame, so we will now return to our investigation of the syntax-semantics interface.

2.3. Van Valin and LaPolla: searching for linking rules

In *Syntax: structure, meaning and function* (1997), Van Valin and LaPolla elaborate a theory of how to link semantics to syntax and vice-versa. We will limit ourselves to their account of the linkage of argument structure.

In their view, every sentence involving a verb describes a state of affair in the world, which is a combination of two elements: the predication, as expressed by the verb itself, and the reference, i.e. the participants of the predication process (subjects, objects or oblique participants). From a semantic perspective, participant roles are varied and numerous. Van Valin and LaPolla use an exhaustive list of participant roles in their theory, such as AGENT, EFFECTOR, EXPERIENCER, INSTRUMENT, FORCE, PATIENT, THEME, BENEFACTIVE, RECIPIENT, GOAL, SOURCE, LOCATION and PATH. Predication also covers a wide range of situations, and here VanValin and LaPolla refer to the theory of Aktionsart as presented by Vendler (1967). In parallel with the concepts of situation, event, process and action described in Aktionsart, they propose the terms state, activity, accomplishment and achievement, which actually correspond to Vendler's classification. It is not of direct interest to us to try and classify verbs in this manner, other than because this system forms the basis of what the authors term the Logical Structure (or LS) of a verb.

Each verb in the lexicon is assigned a Logical Structure that paraphrases how the participants involved in the process described by this verb actually relate to/act upon one another. Therefore LS integrates both predication and reference in order to give as complete and accurate a description of the meaning of the verb as is possible.

An example of Logical Structure for the verb *to show* in the sentence *Mary showed the photograph to Sam* goes like this:

(2.8) [**do'**(Mary,Ø)] CAUSE [BECOME **see'** (Sam, photograph)]

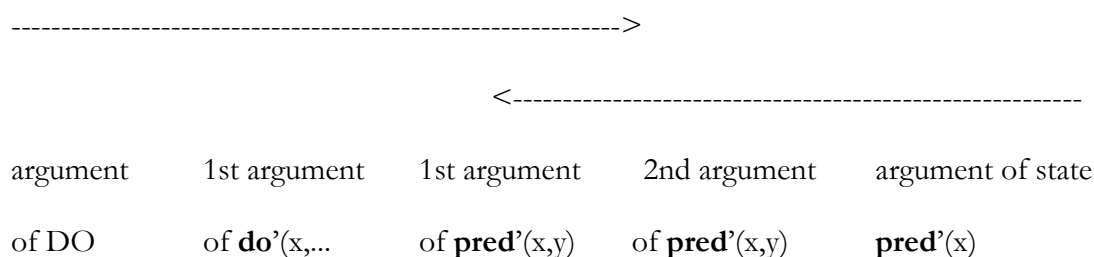
Once established the Logical Structure will help us determine the valency, transitivity and macroroles used by the verb to form its syntactic output. Van Valin and LaPolla only use

the notion of macroroles in their theory. The macroroles are the participants most closely related to the predication. There are usually two of them, an Actor and an Undergoer, although this may change to one or even zero. The actor is an AGENT-type participant; it is the driving force behind the process referred to by the verb. Van Valin and LaPolla note that not only AGENT participant roles may be eligible for this function but also EXPERIENCER, INSTRUMENT, RECIPIENT, SOURCE or FORCE. They most often translate into the syntactic function of subject of an active verb in languages like English and French. But let us remember that this is certainly not systematic across languages. The Undergoer is the entity most affected by the predication; it is therefore a PATIENT-type participant, but this macrorole may also be undertaken by THEME, RECIPIENT, SOURCE or LOCATION participant roles, in that order of preference. The Undergoer function usually appears as the object of an active verb. Macroroles therefore play a pivotal part in the transition from the semantic form of a verb to its syntactic realisation, and vice-versa. 'Macroroles are generalizations across the argument-types found with particular verbs which have significant grammatical consequences; it is they, rather than specific arguments in logical structure, that grammatical rules refer to primarily' (p.139). When assigning semantic participants to particular syntactic functions, the macroroles will be considered first.

Having established the nature of semantic participant roles on the one hand and the macroroles as the priority syntactic functions on the other hand, we can now examine Van Valin and LaPolla's idea of the interface between the syntax and the semantics of verbs. Actually selecting which participant role will be the Actor and which will be the Undergoer, is not a black-and-white decision. Rather, it follows a continuum which the authors call the Actor-Undergoer Hierarchy:

ACTOR

UNDERGOER



The participant role most likely to take on the role of Actor is an AGENT one. Then that Actor must be assigned a syntactic function in the sentence. The Actor-Undergoer Hierarchy model tells us that if the verb is an intransitive verb (a predicate involving agency), then the participant selected as its Actor will be assigned to the function of sole argument of that verb. If the verb involved is a transitive DO one, with two arguments, then the participant selected as Actor will take on the function of first argument for that verb.

At the other end of the scale, once a participant role has been selected as Undergoer (a PATIENT-type is preferable), it must also be assigned a syntactic function. The prototypical link is between Undergoer and the sole argument of an intransitive pred'verb, ie. a predicate which does not involve agency. Where the verb involved is a 2-argument transitive predicate, the Undergoer will be assigned the function of second argument.¹

The linking process from the macrorole to a corresponding syntactic position (Van Valin and LaPolla call it Privileged Syntactic Argument or PSA) is not identical for every

¹ But the assignment process is not so clearcut when we have to deal with a 2-place predicate. Other semantic or pragmatic influences on the sentence might lead us to select the position of 1st argument for the Undergoer over the Actor. This is what happens in an English or French passive sentence where the Undergoer appears as the subject, and the Actor as an oblique argument.

language. Whereas participant roles, and probably their mapping onto the macrorole functions of Actor and Undergoer according to a strict hierarchy, could be universal, they suggest that the interface between the macroroles and the syntax is subject to language-specific variations.

2.4. Givón: from case-roles to syntactic patterns

In *Syntax: a functional-typological approach* (1984), Givón tackles ‘the case-marking behaviour of the verb’s argument’ (p.86). Where Van Valin and LaPolla proposed four types of verbs, he acknowledges three across languages: states, events and actions. In each case, the second argument is gradually more affected by the process, so that events are more likely to engender transitive clauses than states, and actions even more so than events. So, along with Hopper and Thompson, Givón agrees that ‘transitivity is a matter of degree’ (p.98).

He also bases his account of transitivity on semantic case-roles. He distinguishes the major case-roles like PATIENT, DATIVE and AGENT from the minor case-roles of BENEFACTIVE, LOCATIVE, INSTRUMENTAL and ASSOCIATIVE; later, he also adds the semantic roles of TIME, PURPOSE and INTENT¹.

Along with Hopper and Thompson, Givón agrees that transitivity only affects two-argument verbs. In his model, a prototypical transitive verb presents the following pattern:

an agent	+	a verb of change	+	a patient-of-change
as subject				as object

The very notion of a prototypical transitive pattern allows for less prototypical alternatives. Either the case of the object (i.e. PATIENT), or the case of the subject (i.e. AGENT) may change. As far as our study is concerned, only the former will be of relevance.

According to Givón, concepts such as humanity, animacy, agentiveness and volitionality all affect the transitive process. He argues that the core issue is saliency, a notion not unlike Hopper and Thompson's background/foreground distinction or Grimshaw's prominence. In pragmatic terms, the more salient the participant is within the process (or the more affected it is by the process), the more chances it has of being interpreted either as the subject of that process or as its transitively direct object.

The distinction between transitively direct and transitively indirect objects is therefore very simple in Givón's terms: the IO is 'not an affected patient' (p.109). It is then more likely to be introduced by a suffix or prefix (in the case of French or English, a preposition). This is akin to saying that an IO is less topical or salient than a DO.

Certain semantic roles are more eligible for the function of IO than the prototypical PATIENT-direct object: they are the LOCATIVE, the DATIVE, the ASSOCIATIVE, the BENEFACTIVE and the INSTRUMENTAL.

'[...] we discussed various types of **participants** in states, events and actions. We defined them as the most common **semantic case-roles** found in human language. While these case-roles are considered universal, it is not the case that all languages code them syntactically in the same way' (p.135). This is in simple terms the issue with which we are

¹ This classification only very partially recoups that of Van Valin and LaPolla, but neither they nor Givón are striving for an exhaustive catalogue of all semantic cases, as this is clearly a matter of personal interpretation.

concerning ourselves. Givón calls it ‘the functional dilemma’ and gives it the following definition:

‘Functional dilemma in objectization:

“How to express simultaneously the semantic case-role of an argument and its pragmatic case-role as secondary topic (i.e. DO)”’ (p.169).

There is interplay between a semantic level involving participants with certain semantic case-roles, and a pragmatic level which determines the syntactic functions of subject and direct object. Givón’s originality is to introduce the notion of pragmatics in order to explain the syntax-semantics interface. What he calls subject and direct object in a grammatical terminology, he also calls primary and secondary clause topics in a pragmatic perspective. This is actually the same as the concepts of macroroles defined by Van Valin and LaPolla.¹

How do semantic roles translate into direct (or indirect) object then ? Objectisation prototypically selects a PATIENT role as the direct object of a verb’s process. If none can be found, promotion to DO must take place; this is defined as ‘the placing, by whatever grammatical means, of a *non-patient* object into the position of direct object, whose grammatical coding (most commonly by morphology) is otherwise characteristic of patient objects’ (p.172).

There is, according to Givón, a ‘hierarchy of access to direct objecthood’:

DAT/BEN > PAT > LOC > INSTR/ASSOC > MANN

¹ Of course, Givón’s choice of the terms ‘subject’ and ‘direct object’ to refer to the macroroles, is only acceptable to the extent that the macroroles actually translate into those grammatical functions. We know that this is not always the case across languages. But Givón is aiming at simplicity via his prototypical model.

However we are now faced with a paradox: in a process of promotion to DO, can the participant afford to lose its semantic marking (i.e. the preposition that usually indicates its semantic case-role) ? The issue is clarity: wherever the verb's meaning is semantically linked to that of the participant being promoted, the latter's semantic value should not be lost, and promotion will not engender confusion; alternatively, if there are no other preposition-less participants in the clause, then again, confusion will be avoided and promotion to DO by loss of the preposition, can take place without fear of losing the semantic specificity of the participant being promoted. It is paramount in any case to preserve the semantic case-role of the participants since, 'by losing their original semantic case-role markers to become DO, non-patient objects increase their probability of being semantically misinterpreted' (p. 182).

Givón insists on every language's need to balance case-marking with case-differentiation. Case-differentiation is a semantic concept that refers to the obviousness with which we can identify the semantic role of a participant; case-marking is a morphosyntactic concept referring to the way in which a language encodes case-differentiation. 'Case-marking systems [...] are not made to explicitly mark *every* argument, but rather *_ideally_* to maximally *differentiate* between arguments in actual sentential contexts' (p.184).

It is not always necessary to explicit a participant's semantic role with morphosyntactic indicators such as prepositions. A principle of economy actually dictates that, if the context of the sentence poses no ambiguity, this should be avoided.

Hopper and Thompson, Van Valin and LaPolla, and Givón all believe in a set of linking rules that would interface the syntax of a predicate with the semantic values of its arguments. Langacker provides a cognitive basis for this approach. How it would work in the detail is nevertheless a point of debate. Hopper and Thompson completely avoid the

issue; instead they highlight the values of both predicates and arguments that exert an influence over transitivity. Van Valin and LaPolla refer to an intermediate plane they call the macroroles; those are the two arguments most closely related to the predicate, although the nature of this ‘closeness’ is not clearly explained. Givón also uses an intermediate level, that of pragmatics. The notion of saliency he introduces strongly echoes Hopper and Thompson’s foregrounding, Langacker’s chain reactions and even Grimshaw’s prominence, as seen in chapter 1. But we are not yet satisfied as to how those prominence relations among arguments may translate into syntax.

Chapter 3: How are argument structure and transitivity determined (II): approaches from lexical-semantics

More recently, researchers in the field of lexical-semantics have challenged the notion of an exclusive and systematic interface between the domains of syntax and semantics. They are now re-examining the whole area of argument structure from the point of view of an individual verb's lexical characteristics.

3.1. Wechsler: restricted and unrestricted arguments

In his 1995 study *The Semantic basis of Argument Structure*, Wechsler reinvestigates the theories of the syntax-semantics interface. He identifies two main approaches: one is through a set of thematic roles, which must be universal. Givón's case-roles, Van Valin and LaPolla's participants hail from that school. But Wechsler points out to the difficulty of defining a universal set of thematic-roles, as we already have in chapter 2. The other is through the categorisation of the predicates themselves into different types, as was attempted by Jackendoff (1990). The theory of Aktionsart (from which Van Valin and LaPolla also drew inspiration) had already explored the same territory.

Both approaches seem too complex to Wechsler. He claims to be able to account for the determination of all cases of argument structures in three simple steps only.

Step 1 seeks *ordering rules* to determine the order in which the arguments appear in the a-structure. As neither thematic roles, nor classification of predicates has succeeded yet in finding a complete explanation, Wechsler ventures that '[...] the appropriate semantic basis involves primitives of an even more abstract and general sort, and that there are

very few in number. Indeed there may only be one or two of them' (p.2). However he does not go as far as identifying them.

The second step identifies *semantically restricted complements*: some argument NPs are specifically marked in a language as belonging to certain semantic relations. They are identified by case-marking, or with a preposition for instance. Other argument NPs are unrestricted. In as far as it considers NPs individually, and since the semantic relations that hold between them and their markers may be part of their lexical entries, there is a strong possibility that the notion of *restriction of arguments* is lexically based.

Thirdly, *the isomorphy condition* also concerns the order of arguments. It explains how unrestricted (i.e. unmarked) arguments must remain in the same slot as was determined by their thematic role, whereas restricted arguments can move around the sentence, since their marker makes it easier to identify the semantic relations they enter in. Unrestricted arguments only have their position within the a-structure to convey such information. If they switch place, they lose that vital link and their meaning is obscured. This notion is reminiscent of English ditransitive sentences.

With his approach, Wechsler gets rid of some cumbersome labels and rigid linking rules, but general categorisations are fading. On the one hand, thematic roles are still linking to argument slots. But on the other hand, we find a seemingly endless series of semantic relations, signalled by particular markers in each case, for each individual NP. Effectively, Wechsler has reintroduced the notion of lexical specificity into the determination of argument structure.

3.2. Gawron: a new look at oblique complements

In his theory, Wechsler refers to the work of Gawron while dealing with oblique complements. According to Wechsler, oblique complements are restricted (and often marked by a preposition in French or in English). They are also outside the argument structure of the predicate, but may be linked to one of its arguments. For example, in the sentence

(3.1) Try to avoid smearing the drawing with charcoal

the NP *the drawing* is the internal argument of the predicate *smearing*, but *with charcoal* is not a direct argument of that predicate. Instead, it is an oblique argument linked to the internal argument *the drawing*.

But how do oblique arguments acquire their markers ? Gawron estimates that ‘a preposition has semantic content, rather than simply tagging a complement of the verb’ (id, p.66). Take the preposition *for*: ‘ [it] occurs with a class of verbs having to do with desire: *wish, hope, pray, ask, long, try, hunger* and *yearn*. If we posit a relation DESIRE which is a component for all these verbs, and use DESIRE as the lexical relation for one meaning of the preposition *for*, then *for* will be eligible to mark arguments with any of them. The Argument Principle does not require us to do so; it merely licenses the subcategorization as a possible valence for the grammar’ (Gawron, 1986, p.344).

In essence, if one semantic value of the preposition is compatible with one semantic value of the verb, then both can co-occur. They will not necessarily do so: for instance, English uses the phrase *to yearn for* but the prepositionless verb *to desire*.

‘This means that the direct/oblique distinction cannot be derived from the semantics but must be lexically stipulated, at least in some cases’ (p.69). There would be in effect two types of oblique arguments: one that would be determined by the predicate within the confines of its a-structure; and one that would emanate from a special semantic bond between the verb and the preposition itself. The latter could only be stipulated in the verb’s lexical entry, making the determination of argument structure at least partially lexically-based.

3.3. Levin: looking at diathesis alternations

English verb classes and alternations (1993) is a comprehensive work by Beth Levin which classifies over 5000 English verbs into semantic categories determined by their syntactic behaviour. ‘This work is guided by the assumption that the behaviour of a verb, particularly with respect to the expression and interpretation of its arguments, is to a large extent determined by its meaning. Thus verb behaviour can be used effectively to probe for linguistically relevant pertinent aspects of verb meaning’ (p.1). Unlike any of the authors we have seen so far, Levin courageously takes a stand and places semantics before syntax.

Working backwards so to speak, Levin analyses the syntactic behaviour of English verbs, in particular the alternations they allow between different syntactic constructions. She then formulates hypotheses as to the semantic reasons that motivate the different constructions for a given verb. For instance, she proposes that the middle transitivity alternation (or alternation between a middle form and a transitive form for the same predicate) is available only to those verbs whose meaning involves *causing a change of state*.

She also famously examined the alternations of the four verbs *cut*, *hit*, *touch* and *break*. She came to the conclusion that *touch*, *hit* and *cut* must display common semantic features since they all allow the conative alternation (where the second argument is introduced by the preposition *at*); she termed them verbs of contact. But they also entered into different alternations, and were therefore to be considered variants of the common semantic core. ‘Touch is a pure verb of contact, hit is a verb of contact by motion, cut is a verb of causing a change of state by moving something into contact with the entity that changes state, and break is a pure verb of change of state’ (p.10).

‘If the distinctive behaviour of verb classes with respect to diathesis alternations arises from their meaning, any class of verbs whose members pattern together with respect to diathesis alternations should be a semantically coherent class: its members should share at least some aspect of meaning’ (p.14).

Levin classifies dozens of verb alternations in her work, but we are specifically concerned with those diathesis alternations that involve a shift between a direct transitive argument structure and an indirect transitive argument structure. For example, the conative alternation involves one structure in which the preposition *at* is used to introduce the second argument of the sentence, and another structure where the preposition is dropped. Sentences such as *He hit the door* and *He hit at the door* are alternatives, and a semantic interpretation would distinguish between them on the basis of a notion of goal: the door is the goal towards which the hit is directed in *He hit at the door*, whereas goal is irrelevant in *He hit the door*, therefore the preposition can be dropped.

Other examples of preposition-drop alternations can be found with other types of prepositions, notably locative prepositions. *The horse can jump the fence* is a variant for *The horse can jump over the fence*; *She walked around in circles* is a variant of *She walked in circles*, etc. *With* preposition-drop alternations are also frequent with verbs of social interaction: one

can say *We met with them yesterday* as well as *We met them yesterday*: the difference seems to be one of intensionality.

We must also note alternations concerning ditransitive constructions. The dative alternation is one such: we already know from chapter 1 that a construction of the type *Brid gave the keys to Paul* will easily translate into French, but its double object variant *Brid gave Paul the keys* will not, as French does not allow double direct objects. What semantic motivation can be found for such an alternation should prove crucial in explaining English/French contrasts.

Levin's work on diathesis alternations reveals an approach to argument structure and transitivity based on the observation of individual verbs, in other terms, a lexical approach. Verbs can pattern together into conflation classes, based on the alternations they have in common. But those diathesis alternations are determined by the semantic roles of the arguments, which are themselves a reflection of the individual semantic values contained within the verbs' own lexical entries.

3.4. Pinker: furthering the lexical-semantics approach

In *Learnability and cognition: the acquisition of argument structure* (1989), Pinker discusses 'Baker's paradox' or how do children acquire the argument structures of verbs, when they cannot benefit from much negative evidence in the discourses they are exposed to? In other words, how do we know what is acceptable or what is not, in terms of argument structures, if we are not told so explicitly?

A-structure is only part of a verb's lexical entry according to Pinker. The latter should also comprise morphological and phonological information about the predicate, its part-

of-speech category and its meaning or semantic structure. Any modification in this information will yield a new lexical entry, effectively corresponding to a new word. Therefore, Pinker assumes that ‘the same verb used with two different argument structures actually consists of two distinct lexical entries sharing a morphological root and components of their semantic structures’ (p.71-72). Note that certain semantic *components* only can be shared by the two words in this view, because the correlation between the semantic structure of a word and its syntactic structure is so close that modifying the one automatically modifies the other. Therefore no two words could share every component of their meaning, and behave differently from the point of view of their argument structure. If two verbs were to have the same semantic entry, they would be one and the same.

‘Semantic structures are mapped onto syntactic argument structures, thanks to linking rules, so when the verb’s meaning changes, its argument structure changes too, as an automatic consequence’ (p.63). Pinker deems that those linking rules are systematic. Although his classification of verbs is somewhat different from those we have seen before, what he proposes here has already been observed elsewhere and can be paraphrased as follows:

- Rule 1 states that an AGENT should take on the role of subject, and this should be systematically applied where a form of causative verb is concerned.
- Rule 2 states that the PATIENT of such a causative verb should be linked to the object position; these two rules taken together are very reminiscent of Givón’s prototypical model of transitivity.
- Rule 3 states that the THEME of a state verb or of a motion verb should preferably be linked to the subject position, or if this is not possible, to the object position. This is compatible with analyses such as Givón’s, and Van Valin and Lapolla’s: the former stated

that the AGENT would assume the subject position over a THEME, and the latter that the PATIENT would do so, if the case arose.

- Rule 4 states that the GOAL in a directed motion process should be linked to the verb indirectly, via use of the preposition *to*. This is not very surprising for English.

- Rule 5 states that the THEME in a transfer of possession process, should take the position of second object, which is the same as saying that all transfers of possession can yield ditransitive constructions.

Those mechanisms are much more constraining than any approach we had explored so far. Pinker acknowledges that, on the topic of linking rules, he is somewhat at odds with researchers such as Jackendoff, Rappaport and Levin. The principal disagreement centers around the issue of how many linking rules are needed to account for the whole area of argument structures. However Pinker himself accepts that there are narrow-range rules, next to the broad-range rules he has proposed. The broad-range rules are ‘classwise and property-predicting’, i.e. they pertain to (semantic) classes of verbs, whereas the narrow-range rules are ‘itemwise and existence-predicting’: narrow-range rules will only apply to specific lexical items, and will only predict which argument structures are possible for a particular verb.

Is there redundancy in this approach ? Ideally, Pinker would like to see all narrow-range rules replaced by broad-range rules that could encompass all the smaller rules below them, edicting mechanisms for whole classes of verbs rather than for individual verbs. ‘First, the broad-range rules determine what all the narrow-range rules have in common [...]. Second, the motivation for why certain subclasses alternate and others don’t is provided by the broad-range rules’ (p.152). On the other hand, there is no evidence that what seems to be the shortest route to solving Baker’s paradox, is actually the favoured

way of first language learners: it is entirely plausible that children learn argument structures through individual verbs, and accumulate narrow-range rules. Moreover, Pinker has found some evidence that ‘narrow-range rules can be sensitive to the presence of the full set of arguments accompanying a verb, including optional path constituents [oblique arguments]’(p.227). For example, two narrow-range rules will be needed to yield *She rolled the ball into the box*, and *She rolled the ball*. Although Pinker is confident that a broad-range rule can capture this alternation, narrow-range rules can provide certain useful details.

What this distinction between narrow- and broad-range rules reveals nevertheless, is the likeliness (already strongly supported by Levin’s work) that verbs can be conflated into semantic classes that will demonstrate evidence of common argument structures and alternations. Such conflation classes are to be organised around a thematic core: ‘a thematic core is the schematisation of a type of event or relationship that lies at the core of the meaning of a class of possible verbs’ (p.73). All verbs included in a particular conflation class will share that core feature and display similar argument structure patterns. Conversely, such conflation classes can be used to explain why some verbs do not participate in certain alternations for instance: an explanation could be that ‘such verbs are clearly ruled out because they are cognitively incompatible with a thematic core associated with the argument structure’ (p.98).

Pinker proposes that argument structure lies at the crossroads of the three domains of syntax, semantics and the lexicon. On the one hand, he clearly stipulates that a-structure is part of a verb’s lexical entry, confirming our suspicion that close links exist between syntax and the lexicon. And on the other hand, he too believes in conflation classes

organised around core semantic values, in other words he endorses the concept of a syntax-semantics interface.

3.5. Lexical-semantics and cognitive linguistics

Here again we are able to draw some interesting parallels between a school of semantics and cognitive research. Both lexical semantics and cognitive linguistics display a similar approach to words in as much as semantic values are perceived as an intrinsic part of any lexical item. In turn, those values influence the use of words by speakers in a discourse context. For lexical semanticists, semantic values pertaining to an individual lexical item are encoded in its l-entry. They trigger linking rules to certain syntactic behaviours; for instance, in the case of predicates, lexical-semantic values directly link to argument slots. For cognitive linguists, the semantic values attributed to lexical items also determine their selection in sentences. This cognitive view really is the foundation of the lexical-semantics approach. It explains how a word is chosen for use in a sentence in the first place, because of the semantic values it encapsulates. Then lexical-semantics can analyse how those values influence its syntactic role within the sentence.

With this reasoning, cognitive research has been particularly adept at describing the semanticity and behaviour of prepositions. Along with Langacker's ideas as seen in our second chapter, this school is part of the 'prominence' view of cognitive linguistics. Whereas Langacker used the concept of prominence to offer a cognitive explanation of transitivity, other cognitivists base their analyses of prepositions on the dichotomy of figure vs. ground. To them, human perception is constantly striving to distinguish prominent objects from background objects. Prominent objects are known as 'figures'

that stand against a 'ground' of less important objects. Language focuses essentially on the description of figures.

In their opinion, the role of prepositions is first and foremost to convey information about location. Where location and possibly movement, are involved, cognitive linguists will use the terms 'trajector' for a moving figure, and 'landmark' for its motionless ground. A preposition's basic locative value is expressed by means of an image schema – a visual representation of its prototypical use, as it is perceived by our senses. But prepositions tend to extend their applications beyond their locative basis, into other cognitive domains. That is why its central schema gives rise to less prototypical 'elaborations', and even to metaphorical extensions of a given preposition.

Famous examples of prepositions' cognitive analyses as reported by Ungerer and Schmid (1996) include OVER by Lakoff (1987) and OUT by Lindner (1982). We shall add the French preposition A by Vandeloise (1991) in order to demonstrate that this particular school of cognitive linguistics is not confined to the English language.

Basic definitions for those prepositions go as follows:

- OVER: 'a trajectory moving along a path that is above the landmark and goes from one end of the landmark to the other and beyond' (Ungerer and Schmid, 1996, p.162)

An example is found in the sentence

(3.2) The plane flew over

Here *the plane* is the trajector flying over a fixed landmark, which is understood to be the Speaker.

- OUT: the trajector moves in such a way that, eventually, it is no longer within the boundaries of the landmark

(3.3) She went out

This sentence sees a trajector *she* moving out of a landmark area such as the room.

- A: a trajector is moving towards a landmark so distant that its shape, size and characteristics are not visible (in an image schema, the landmark is represented as a dot). There is a strong sense of a path leading to that landmark.

(3.4) L' empereur est à la plage
The emperor is at the beach
'The emperor is at the beach'

Here the Speaker describes an imaginary path followed by his eye in order to locate the emperor at a distant landmark of no definite physical characteristics. The landmark clearly is the beach, but the trajector is not the emperor: it is the Speaker himself.

Elaborations on those basic meanings include such examples as

(3.5) Sam drove over the bridge

(3.6) He picked out two pieces of candy

In the first example, the basic image schema for OVER is slightly modified in as much as there is now physical contact between the trajector *Sam* and the landmark *the bridge*.

In the second example, the landmark *candy* is no longer construed as a homogeneous entity, but as a group of individual items. Such variations on the core locative meanings of prepositions are numerous.

Finally, those core values can be further extended when used in conjunction with metaphors. In the example below, the central schema for OVER is superimposed on two commonly used metaphors: one refers to life as a journey, and the other sees problems as obstacles in one's path.

(3.7) Harry still hasn't got over his divorce

We are now far from the initial locative sense of OVER, but the image used here implies that the trajector *Harry* must overcome the landmark *divorce* in much the same manner as the plane used to fly overhead in (3.2).

Aside from Gawron, who in his conception of the selection of prepositions implied that argument structure at large was determined at the level of lexical semantics, all the other linguists reviewed in this section used a model of interface between semantics and syntax. However they all found that those models could never account for the totality of argument structures (therefore, of transitive constructions). In all cases, reference was made to a level of interface between the lexicon and semantics. Semantic values were always attributed directly to the predicates, or to their arguments. Cognitive linguistics helped us strengthen this case by providing information about how the semantic values attributed to prepositions for instance, influenced their use in discourse. As a component of the words themselves _ of their lexical entry_, every time the semantic values are accessed in order to determine at least part of the syntactic forms of predicates, a direct link is established between the lexicon and syntax.

Chapter 4: The determination of transitivity status

4.1. The theoretical viewpoint

Our overview of current approaches to the problem of determination of argument structure has opposed two schools. On the one hand, some linguists are looking for an answer in the links that would bond together the syntactic and semantic levels of a predicate: they are seeking to establish the rules of an interface. On the other hand, other researchers are investigating the direct links that would exist between syntax and the lexicon: some syntactic patterns would not be attached to the semantic values of the predicate, but encoded in its l-entry. Both approaches find some elements of justification in those cognitive views of language that favour prominence as the basis for the selection and ordering of lexical items in a sentence. Whether a syntax-semantics interface would use an intermediate plane made of macroroles, as proposed by VanValin and LaPolla, or indeed whether the principle is founded at all, is not our direct concern in this study, but looking at transitivity may imply for us to make up our mind on the issue of the determination of argument structure as a whole. So why and how is a status of indirect transitivity conferred upon certain arguments ?

The first school would assume the existence of a semantic value for each preposition used to introduce indirect transitive arguments, or even the notion of a unique semantic value to encompass the very notion of indirect transitivity itself. The second school would treat each predicate individually and assume a status of indirect transitivity to be part of its lexical make-up. The two approaches are not necessarily mutually exclusive; in Pinker's, Levin's and Wechsler's work, there is always the possibility for both to co-exist.

We will seek to validate either (or maybe both) ‘theories’ through our data analysis. At every stage, we should keep in mind a few notions that have re-occurred through the literature.

Firstly, prominence relations seem paramount in the ordering of arguments. For us, this means in particular that a second argument is less salient than a first argument, but more salient than a non-argument. We might wonder how this hierarchy may affect the issue of direct vs. indirect transitivity as well.

Secondly, we must remember at all times that arguments correspond to participants to which certain semantic values have been attributed. Some of these values recur in the determination process and must be paid particular attention to.

Finally, the selection of transitivity status may not only be a problem of case-marking, but also of case-differentiation. Every marked argument should see its marking motivated by semanticity, and the choice of preposition might give us a clue as to which semantic values are at stake. But conversely, an unmarked argument might not necessarily be devoid of semanticity: it may simply be suppressing its markers for the sake of economy. In our data, we must be careful in attributing semantic values to the participants that act as arguments, be they direct or indirect.

In a nutshell, there are three steps to the question of how indirect transitivity is determined:

- 1 concerns the overall determination of the predicate’s a-structure;
- 2 is the actual selection of indirect versus direct transitivity for the second argument;
- 3 relates to the choice of a preposition where indirect transitivity has been selected.

Although step 2 constitutes our topic, it can hardly be examined in isolation from steps 1 and 3.

4.2. The data: a study of interlingual differences in a-structures

Both the theory of the syntax-semantics interface and the theory of lexical-semantics assume that languages analyse the semantic values contained within/ associated with verbal items, in order to determine the syntactic form of their a-structure. If we observed verbs with an assumed identical meaning in two different languages such as English and French, but with different syntactic patterns, especially in regard to their transitivity status, we would be in a position to explore this hypothesis. Why should verbs of identical meaning behave differently from the point of view of their transitivity across languages ? Let us remember at this point that the transitivity issue has long impressed linguists by its remarkable cross-linguistic consistency. Therefore the data we are about to investigate in this study should be considered exceptional behaviour, rather than the norm.

The data we will use presents a list of verbs that behave in a direct transitive fashion in English, but in an indirect transitive manner in French. They introduce a preposition between the verb and the object in French, where there is none in English.

The verbs were selected using Levin's *English verb classes and alternations* (1993) as a starting point because of its extensive classification of verbs. Personal observations were also added. We retained only those verbs that showed interlingual difference in transitivity when used with a noun phrase as object, as inclusion of verbal objects would have created a much larger and much more complex database. Were the present study to lead

to hypotheses testing in the future, we also narrowed down the list to verbs commonly used and easily understood by an average language learner of intermediate level.

All utterances were taken from or inspired by the *Collins Cobuild English Language Dictionary* (1987), which draws its examples from authentic English language texts with the help of a concordancer. The data was then translated into French. Only verbs that could translate as one word were retained: verbal phrases such as *faire pression sur quelqu'un* for *to press someone*, or *aller bien à quelqu'un* for *to suit someone* were dismissed.

The data includes 20 verbs:

- (D1) to answer/ répondre à
- (D2) to ask/ demander à
- (D3) to change/ changer de
- (D4) to decide/ décider de
- (D5) to divorce/ divorcer de
- (D6) to doubt/ douter de
- (D7) to enjoy/ jouir de
- (D8) to escape/ échapper à
- (D9) to fax/ faxer à
- (D10) to forgive/ pardonner à
- (D11) to leave/ partir de
- (D12) to obey/ obéir à - to disobey/ désobéir à
- (D13) to phone/ téléphoner à
- (D14) to press/ appuyer sur
- (D15) to renounce/ renoncer à
- (D16) to resemble/ ressembler à
- (D17) to resist/ résister à

(D18) to suit/ convenir à

(D19) to telegraph/ télégraphier à

(D20) to value/ tenir à

Our appendix contains prototypical examples of those verbs using an NP as second argument. They are all direct transitive in English, and indirect transitive in French.^{1 2}

We have taken a decision not to include French pronominal constructions with *se* _ when they occurred for certain verbs_ in the database: thus *se décider à* (to decide) and *s'échapper de* (to escape) are not listed in the data itself, as they present both syntactic and semantic variations in relation to the core verbs from which they are formed. But we are nevertheless going to investigate pronominal verbs briefly.

¹ Translation of the English verbs into French can sometimes lead to different solutions. For instance, *to value* can be translated both as *évaluer* (a directly transitive verb), and *tenir à*, as we have used in our data; both translations here correspond to different meanings of the verb. *To enjoy* knows at least four translations, depending on context; we have retained *jouir de* for its indirect transitive construction. We opted for the translation of authentic English utterances into French, rather than the direct use of authentic French utterances different from the English ones, since this approach facilitates a comparative study between the two languages.

² We have already signalled in chapter 1 the difficulty of identifying arguments and non-arguments in relation to a predicate. While searching for utterances to illustrate the use of our data verbs in their syntactic context, we arbitrarily followed the entries given in two dictionaries, the *Collins Cobuild English Language Dictionary* (1987) for the English verbs, and *Le Petit Robert - Dictionnaire de la Langue française* (1995) for the French verbs, as debating the participation of a phrase into a verb's a-structure is not our purpose here. The reader may find however that he/she disagrees with the syntactic frames we have retained to typify each item's a-structure, as they may appear incomplete. Why not allow the verb *renounce* a V + DO + IO frame when one can say *to renounce something for something/ someone* ? Because our reference dictionary did not list that particular syntactic frame for *to renounce*, thereby indicating that the argument *for something/ someone* was to be considered as periphery. Matters of lexicology are well beyond our scope here, and we contented ourselves with V + DO constructions for English and V + IO constructions for French, as this was sufficient (and simpler) for our study. But we duly note that the matter is always ambiguous.

4.3. Direct vs. indirect transitivity: the case of pronominal verbs

In many Romance languages, a particle traditionally classified as a pronoun, is used in conjunction with certain verbs to highlight semantic characteristics of the process such as reflexivity and reciprocity. In French, that particle takes the basic form *se* in the infinitive and it is thought to act as object to the verb. But as it never appears with any preposition, it is intriguing to consider whether *se* is a direct or an indirect object to its predicate.

4.3.1. *Is se a direct or an indirect object ?*

According to traditional grammar, French shows three types of pronominal verbs:

- Reflexive verbs use their reflexive pronoun as direct object to the predicate. Since it is impossible for a French verb to be ditransitive, we assume that any other argument used by the predicate should be indirect.
- Reciprocal verbs use their pronoun as indirect object; this relates to the animacy of the participant represented as the *se* pronoun, which is also the participant represented as the subject of the predicate. Those verbs can be followed by a direct argument.
- There are also non-referring *se* pronouns, often related to a middle or passive meaning of the predicate. In those cases, pronominal and non-pronominal forms of the predicate will differ in meaning, whereas reflexive and reciprocal uses of the pronominal forms should retain the same meaning as the non-pronominal forms from which they are derived.

This approach is very similar to those adopted by proponents of the syntax-semantics interface in argument structure. It assumes that *se* is the syntactic means by which semantic values such as reflexivity and reciprocity manifest themselves.

Directly conflicting this state of affairs however, there is also the assumption that a pronominal verb's transitivity status should be identical to that of its corresponding non-pronominal form. We shall see now in analysing the pronominal forms for our data verbs, that this poses challenges.

All the following verbs in our database displayed reflexive value in at least one of their pronominal forms:

(D3) changer (to change)	→	(P3) se changer (to change one's clothes)
(D4) décider (to decide)	→	(P4) se décider pour + NP (to decide for + NP)
(D8) échapper (to escape)	→	(P8) s'échapper de/ par + LOC (to escape from/through +LOC)
(D14) appuyer (to press)	→	(P14) s'appuyer à/sur/contre + LOC (to lean against/on/against+LOC) ¹
(D20) tenir (to hold)	→	(P20) se tenir à + NP (to hold onto + NP)

In each case, the process described is similar in both the non-pronominal and the pronominal forms. In the pronominal forms, the process affects primarily the participant represented by the *se* pronoun: *se* takes on the status of direct object. As the subject of the predicate also represents the same referent, it is a case of a participant, usually animate, operating a process upon itself: this is reflexivity. Let us note that in four out of

¹ *S'appuyer à* literally translates as 'to press one's body against', so we should not be fooled by the translation *to lean on*: both non-pronominal and pronominal forms of the verb refer to identical processes.

five cases here, the predicate can also take a further argument¹, which is introduced by a preposition, and is therefore indirect.

However, we find among our data some verbs which, in their reflexive form, should confer an indirect transitive status onto the *se* pronoun, with reference to their non-pronominal a-structure. They are:

- | | | |
|------------------------------|---|---|
| (D2) demander (to ask) | → | (P2) se demander
(to ask oneself, to wonder) |
| (D10) pardonner (to forgive) | → | (P10) se pardonner (to forgive oneself) |

As one can use a phrase such as *se pardonner ses fautes* (to forgive oneself one's own mistakes), only (D10) *pardonner* may display use of a direct object in the pronominal form, thereby confirming the necessarily indirect status of *se*. (D2) *se demander* must be considered to use the *se* pronoun indirectly simply by virtue of meaning: since non-pronominal and pronominal predicates here refer to identical processes, i.e. the relationships between the participants are of a similar nature, we must concede that, if the object of all those processes is indirect in the non-pronominal form, then the object in all pronominal forms must be indirect as well. Here semantic judgement overrides the crude semantic-to-syntax links established by traditional grammar.

Let us see if the grammar rules are respected in relation to our verbs' reciprocal senses. We find here that verbs relating to a communication process easily confer a reciprocal meaning onto their pronominal form. They include:

¹ In (P4) *se décider pour* + NP (to decide for + NP) and (P20) *se tenir à* + NP (to hold onto + NP), we

(D1) répondre (to answer, to reply)	→	(P1) se répondre (to reply to one another)
(D9) faxer (to fax)	→	(P9) se faxer (to fax one another)
(D13) téléphoner (to phone)	→	(P13) se téléphoner (to phone one another)
(D19) télégraphier (to telegraph)	→	(P19) se télégraphier (to telegraph one another)

The *se* pronoun effectively is a shortcut for a process meaning ‘X answers Y and Y answers X’, ‘X faxes to Y and Y faxes to X’, etc.

Other verbs in our data also take on reciprocal meaning in the pronominal form, as well as a possible reflexive meaning. They include:

(D2) demander (to ask)	→	(P2) se demander (to ask one another)
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for which we have already observed a reflexive meaning. We can add:

(D16) ressembler (to resemble)	→	(P16) se ressembler (to look like one another)
(D18) convenir (to suit)	→	(P18) se convenir (to suit one another)

There is no difficulty here in both participants, as represented by the subject and the *se* pronoun, acting upon one another reciprocally. The fact that *se* should be interpreted as an indirect object refers to the transitivity status of the non-pronominal forms, where the second argument was systematically introduced by a preposition *à* (see appendix for examples). This concurs with the ‘rule’ established by traditional grammar: it stated that

are certainly dealing with predicative arguments; in the other cases, the locative phrases may be considered as adjuncts. We will not settle this issue here.

all *se* pronouns in a reciprocal process would be construed as indirect objects of the predicate.

But we must highlight the ambiguity of *se*: we might wonder whether certain predicates use it reciprocally or reflexively. We solve the conundrum by referring to the meaning of the predicate once again, not by applying semantics-to-syntax rules in a blind manner.

(P22) *se demander* is one of those ambiguous verbs: one can only establish whether *se* is reflexive (meaning ‘to ask oneself’) or reciprocal (meaning ‘to ask each other’) in context. The reflexive sense often corresponds to a single participant, while the reciprocal sense must apply to a plural use of the verb, with reference to several participants in the process. Therefore traditional grammar appears incomplete in its account of pronominal forms.

Our data even offers one example of the third type of pronominalisation, the non-referring one. There is at least one verb here that shows neither reflexive, nor reciprocal values in its pronominal form:

(D6) *douter* (to doubt) → (P6) *se douter de + NP* (to suspect)

As predicted by the rules, the pronominal meaning, although clearly related, differs from the non-pronominal one. *Se* is said to be an intrinsic pronoun, specific to that new meaning; it is not in itself a referring object pronoun.

A number of verbs in our database did not even fit into any of the three pronominal categories; in fact, the following verbs do not pronominalise at all:

(D5) *divorcer* (to divorce)

(D7) *jouir* (to enjoy)

(D11) *partir* (to leave)

(D12) *obéir* (to obey)

(D15) *renoncer* (to renounce)

(D17) *résister* (to resist)

Concerning reflexivity, it can easily be shown that at least five of those verbs, (D5) *divorcer*, (D7) *jouir*, (D12) *obéir*, (D15) *renoncer* and (D17) *résister*, actually refer to processes that necessarily take place between at least two participants: logically, they cannot reflexivise.

And a conflictual connotation applies to all those verbs except (D7) *jouir*.

Even (D11) *partir* implies the physical separation of both subject and object participants, which potentially blocks any interaction between the two. This could explain why reciprocity seems inapplicable here. This is not entirely true however; reciprocity is possible for at least four of those verbs by means of the phrase '*l'un [PREP] l'autre*' ([PREP] each other). One can use the following in French:

(P5) *divorcer l'un de l'autre* (to divorce one another)

(P12) *obéir l'un à l'autre* (to obey each other)

(P15) *renoncer l'un à l'autre* (to renounce each other)

(P17) *résister l'un à l'autre* (to resist one another)

The use of a preposition *à* or *de* in all those cases clearly confirms that the arguments involved in the reciprocal process are indeed indirect. We could add at this point, although the case did not appear in our data analysis, that reflexivity is not the preserve of the *se* particle either. Some verbs use the phrase '*[PREP] soi-même*' ([PREP] oneself) to

mark that particular value, as in *'douter de soi-même'* (to doubt oneself). If it is not the only marker for reflexivity or reciprocity, we may wonder what exactly is the value of the so-called *se* pronoun. Looking at non-referring pronominal verbs, we may wonder if it is a pronoun at all.

4.3.2. Grimshaw: a lexical approach

In an article published in 1982, Grimshaw thinks that *se* is not a pronoun at all, but a marker left on predicates by the operations of inchoativisation, reflexivisation and middle verb formation. It is in short a lexical marker. Grimshaw hails from the same school as Pinker and Levin. Working at the level of logical structure (LF), she seeks to associate lexical rules with (generative) grammatical forms. In her view, it is lexical rules that trigger the assignment of grammatical functions onto certain arguments.

As she re-investigates traditional accounts of pronominalisation in Romance languages, Grimshaw manages to accommodate the three categories of pronominal verbs with three lexical rules. Non-referring pronominal forms are often the result of a process of inchoativisation of the verb; for instance, in the following transformation, the first example is in a causative form, and the second one is its inchoative counterpart:

(4.1)	Pierrre casse le verre	→	(4.2)	Le verre se casse
	Pierre breaks the glass			The glass breaks
	'Pierre breaks the glass'			'The glass breaks'

Alternatively, it is also assumed that *se* in Romance languages introduces what in English we term 'middle verbs'. Grimshaw establishes 'the Middle Rule' to account for those forms. However, since *se* does not refer to any participant here, it is doubtful whether it should be conferred pronominal status at all.

In the present study, we are more concerned with reflexive and reciprocal forms in which *se* looks like an argument of the verb. Grimshaw establishes one rule called Reflexivisation, to account for both phenomena. She equates reciprocity to a plural form of reflexivity. This assimilation is debatable however as we have already explained that many plural pronominal forms presented both reflexive and reciprocal interpretations. That said, Grimshaw's approach is convincing as it solves two enigmas at once: we now know that non-referring *se* is not necessarily a pronoun; and we need not concern ourselves with the direct/indirect issue anymore, since neither reflexive nor reciprocal *se* forms were ever arguments of the predicate.

In this theory, *se* is the marker left after the a-structure of the non-pronominal form of the verb has been manipulated. Grimshaw sees two types of manipulations at work: in non-referring *se*, an argument has been removed, as in our examples of inchoativisation

(4.1)	Pierre casse le verre	→	(4.2)	Le verre se casse
	Pierre breaks the glass			The glass breaks
	‘Pierre breaks the glass’			‘The glass breaks’

In reflexive and reciprocal forms, *se* is the marker left to indicate the binding of an internal argument (an object) onto the external argument of the predicate (the subject).

We already knew that subject and *se* particle both referred to the same participant in reflexive constructions; what happens in this account, is that the predicate's direct object is bound onto its external argument. It also seems that in reciprocal structures, an indirect object is bound onto the subject slot.

This is a process of detransitivisation, whereby a predicate actually reduces its valency by losing one argument. This phenomenon is restricted to verbs of valency 2 or more: where a verb initially had only one internal argument, the loss of that argument effectively means that its corresponding *se* form will be intransitive; verbs of a higher

valency can retain other internal arguments along with their new *se* marker. The hierarchy of the arguments will be reorganised; for instance, in reflexive a-structures, former indirect objects can be promoted to direct objecthood if they fill the slot vacated by the argument now bound onto the *se* marker.

This rapid tour of the vast issue of pronominalisation sought out to answer one simple question: how does one recognise a direct from an indirect object? The absence of any preposition with *se* singled out pronominal verbs as prime candidates for a preliminary investigation. Notwithstanding the doubtful pronominal status of *se* itself, we observed some interesting facts relating to the domain of transitivity. We saw that traditional approaches, very similar to those adopted by proponents of the syntax-semantics interface in argument structure, were incomplete. *Se* was seen as the syntactic means by which semantic values such as reflexivity and reciprocity were to manifest themselves. But since it had the same transitivity status as the argument it stood for (it was sometimes a DO and sometimes an IO), the linking rules established between those values and the syntactic structures we call pronominal, were not absolutely consistent. On the other hand, Grimshaw's account was representative of the lexical semantics school of thought: verbs only pronominalised because they followed lexical rules that were ingrained in their lexical make-up.

Both approaches point in the same direction however. Firstly, broad linking rules let through a number of individual cases: we must pay more attention to the individual characteristics of our data verbs. Secondly, the determination of a verb's transitivity status is closely related to its semantic values, whether those are included in that predicate's l-entry or part of a distinct network. We now need to learn more about the semanticity of our data verbs.

Chapter 5: The choice of *à* and *de* with indirect transitive arguments: a semantic basis for the French prepositional system

How can we determine which semantic values associate with individual predicates ?

Since we know after Gawron, that indirect verbs select prepositions whose semanticity somehow reflects their own, we shall investigate the nature of the prepositions which accompany our French verbs. Cognitive approaches to prepositions, as seen in our chapter 3, should assist us in this task. We hope that by shedding light onto the process used by French predicates in selecting a preposition, we will be able to determine what undermines the direct vs. indirect dichotomy. All the verbs in our data appear with either *à* or *de*. We will therefore concentrate on those two prepositions.

5.1. Proposal for a semantically motivated system for the determination of prepositions with indirect transitive arguments in French

5.1.1. Examples of verbs using the preposition '*à*' to introduce an indirect object

In our selection of examples, the most prominent and consistent group contains verbs of communication such as (D2) *demander* 'to ask', (D1) *répondre* 'to answer' and (D13) *téléphoner* 'to phone'. Invariably, the communication processes described here entail the participation of a recipient for the message. Invariably in French, that recipient is an argument of the verb introduced by the preposition *à*.

(D2b) "Combien de langues parlez- vous ?"
How many languages speak you(SG)
' How many languages do you speak ?

demanda-t-il à la jeune fille
asked he to the young girl
he asked the young girl'

(D1d) Réponds à ton père !
 Answer to your father
 ‘Answer your father !’

(D13b) Je suis retourné à l’ hôtel pour téléphoner à Jenny
 I PAST went back to the hotel to phone to Jenny
 ‘I went back to the hotel to phone Jenny’

In (D2b), the communication verb *demanda* ‘asked’ has two arguments: an external argument *il* ‘he’ acting as its subject, and an internal argument *la jeune fille* ‘the young girl’ introduced by the preposition *à*; that makes it an indirect object. *A la jeune fille* ‘to the young girl’ refers to the recipient of the message sent through the predicate *demander* ‘to ask’. In (D1d) the verb *réponds* ‘answer’ in the imperative form only has one argument, the indirect object *à ton père* ‘(to) your father’, which also represents the potential recipient of the answer. In (D13b), although the communication verb *téléphoner* ‘to phone’ is part of an infinitival clause, it still has one internal argument, introduced by the preposition *à* and posing as the recipient of the phone call.

- Animacy

There are really three types of communication verbs in our selection: the basic verbs of communication like (D2) *demander* ‘to ask’ and (D1) *répondre* ‘to answer’; the verbs of communication using a technical device such as (D9) *faxer* ‘to fax’, (D19) *télégraphier* ‘to telegraph’ and (D13) *téléphoner* ‘to phone’; and the ex-verbs of communication (verbs that originally referred to verbal processes, but have evolved towards other meanings): those are (D10) *pardonner* ‘to forgive’, (D12) *obéir/désobéir* ‘to obey/to disobey’ and (D15) *renoncer* ‘to renounce’.

(D9f) Elle a faxé la mauvaise nouvelle à son frère
 She PAST faxed the bad news to her brother
 ‘She faxed the bad news to her brother’

(D19d) Il avait oublié de télégraphier à la veuve
 He had forgotten to telegraph to the widow
 ‘He had forgotten to telegraph the widow’

(D10d) Ils avaient pardonné à leur hôte
 They had forgiven to their host
 ‘They had forgiven their host’

All of those verbs have, as part of their a-structure, an argument introduced by the preposition *à*. That recipient must be capable of comprehension towards the message it is being sent; therefore it is no surprise to find out that *à* introduces an animate participant. There are two notable exceptions however.

(D12d) Il ne leur est jamais venu à l’esprit
 It NEG to them PAST never occurred
 ‘It never occurred to them’

qu’ ils pouvaient désobéir à leurs parents
 that they could disobey to their parents
 ‘that they could disobey their parents’

(D12b) Les troupes rechignaient à obéir aux ordres
 The troops were reluctant to obey to the orders
 ‘The troops were reluctant to obey orders’

The predicates (D12) *obéir* ‘to obey’ and (D12) *désobéir* ‘to disobey’ do not see a recipient in their indirect objects *à leurs parents* ‘(to) their parents’ and *aux ordres* ‘(to the) orders’; those arguments in fact represent the senders of the message. In this case the recipients *ils* ‘they’ and *les troupes* ‘the troops’ actually take on the roles of subject. By virtue of the principle of foregrounding/ saliency/ prominence we know to be operating at the basis of the ordering of arguments, we must assume that those particular predicates emphasise how a message is received, rather than how it is sent.

If we are to follow cognitive beliefs on semantics, we should soon find certain extended meanings of the ‘animacy’ value. By extended, cognitive linguists mean that concrete notions such as animacy _ which is based here on an observable quality, the autonomy of movement of the recipient _ can be applied to participants that our senses would not normally perceive as prime candidates for that particular value.

(D15b) Nous avons renoncé à l’usage de la force
 We have renounced to the use of the force
 ‘We have renounced the use of force

pour régler notre différend
 to settle our dispute
 to settle our dispute’

In (D12b) and (D15b), the indirect object introduced by the preposition *à*¹ is inanimate. It can be argued that in (D12b), the orders represent an act of speech carried out by an animate entity, and that the argument *aux ordres* ‘(to the) orders’ is therefore a metaphorical extension of the principle of animacy. But the verb (D15) *renoncer* ‘to renounce’ only allows one inanimate (and indirect) argument. It is a paradox of its etymological evolution that the latin *renuntiare*, meaning ‘to state as a response’, shifted from being a pure predicate of verbal communication, to being a psych-verb referring to a mental, even emotional, process. However, as the nature of its argument changed from animate recipient to inanimate theme, the preposition *à* survived. Nowadays it looks more like an archaism than a truly motivated marker.

¹ In example (D15b), the preposition *à* is contracted with the definite article *les* to form the word *aux*.

- Distance

Other verbs using the preposition *à* to introduce their second argument include

(D8) *échapper* ‘to escape’ and (D17) *résister* ‘to resist’. Both allow animate as well as inanimate participants in the indirect argument-slot.

(D8d) Et il y a un détail d’importance qui semble
And there is a point of importance that seems to
‘And there is a major point that seems to

avoir échappé au capitaine Imrie
have escaped to the Captain Imrie
have escaped Captain Imrie’

(D17d) Ils ont essayé de résister aux voleurs
They PAST tried to resist to the robbers
‘They tried to resist the robbers’

In examples (D8d) and (D17d), the indirect objects refer to people. Therefore animacy may again be motivating the choice of preposition *à* before the second argument. But strangely both predicates (D8) *échapper* ‘to escape’ and (D17) *résister* ‘to resist’ have negative connotations. There is tension between the first argument initiating the process, and the second argument at the receiving end. The former seems to be under attack; it must adopt a defensive strategy: resisting or running away. This amounts to creating either physical or mental space between itself and the other participant. It is the notion of distance that dominates those processes.

(D8b) Je doute que de telles tactiques échappent à leur attention
I doubt that such tactics escape to their notice
‘I doubt that such tactics escape their notice’

(D17b) Notre syndicat a résisté à l’ introduction de l’ automatisation
Our union PAST resisted to the introduction of the automation
‘Our union resisted the introduction of automation’

In (D8b) and (D17b), even inanimate participants like attention span and progress, are construed as aggressors from which the first arguments *tactics* and *union* must protect themselves. This implies that the internal argument must be equipped with a certain amount of volition and agentiveness, as if it were animate. Effectively, both arguments *à leur attention* ‘(to) their notice’, and *à l’introduction de l’automatisation* ‘(to) the introduction of automation’ are the results of human action. So the value of distance can also benefit from an extension of animacy.

Another instance of extended meaning in our selection can be seen in the phrase (D20) *tenir à* ‘to hold dear’. This use is clearly derived from the basic sense of the verb *tenir* ‘to hold’. Whereas *tenir* involves physical contact between the subject and the object, (D20) *tenir à* refers to an emotional process.

(D20b) Lorsqu’ils atteignent cet âge, ils tiennent à leur indépendance
 When they reach that age, they value to their independence
 ‘When they reach that age, they value their independence’

The derivation is easy to trace: what one likes, one wishes to hold. In this instance then, *à* underlines the distance between first and second argument: physical contact is impossible, but the emotional bond remains.

Distance could be the core value of *à* in all our examples so far: for all verbs of communication, there is a distance between the sender and the recipient of the message, especially where technical support is used; and where tension prevails between the subject and object of the verb, a distance, maybe psychological, separates both participants; this may even involve the desire to create distance physically between them, as with the verb (D8) *échapper* ‘to escape’. This dynamic process must somehow be

controlled, and it is only logical that it should be under the control of an agentive, and volitional, participant. It is even easier if that participant is also animate. In most cases, the participant that determines distance between the external and internal arguments, is the internal argument itself, hence its marking by the preposition *à*. But occasionally, we have seen that the principle of saliency may reverse this trend as with (D12) *obéir/désobéir* ‘to obey/to disobey’: those twin predicates retain the preposition *à*, even though the volitional participant is expressed as the first argument; *à* still acts as a marker of distance (and possible tension) between the participants however.

Can distance explain the use of *à* with verbs as diverse as (D16) *ressembler* ‘to resemble’ and (D18) *convenir* ‘to suit’ ?

(D16d) Votre père et vous lui¹ ressemblez tous les deux
 Your father and you to him resemble both
 ‘Both you and your father resemble him
 beaucoup physiquement.
 a lot physically
 very much physically’

(D16b) La situation ressemble à celle de l’Europe en 1940
 The situation resembles to that of the Europe in 1940
 ‘The situation resembles that of Europe in 1940’

Whether the indirect object is animate as in (D16d) or inanimate as in (D16b), the value of distance can be invoked to explain in both cases the use of the preposition *à*. It is necessary for the participants *lui* ‘(to) him’ and *celle de* ‘that of’ to mark a distinction between them and the subject participants, or total identification might take place. The predicate (D16) *ressembler* ‘to resemble’ automatically marks its second argument with *à* to emphasise that distinction.

¹ *Lui* is an object pronoun that contains reference both to the object *him* and to its indirect status.

(D18b) Vous devriez faire comme le docteur pense
 You should do as the doctor thinks
 ‘You should do what the doctor thinks

qu’ il conviendra le mieux à vous et à votre bébé
 that it will suit the best to you and to your baby
 will suit you and your baby best’

Finally, we can also relate the use of *à* with the verb (D18) *convenir* ‘to suit’ to its core value of distance. *Convenir* comes from the latin ‘con venire’, ‘come together’. It originally referred to a process of moving with a purpose to reduce the distance between the participants involved. That alone explains adequately its presence with the modern form *convenir*, although the meaning of the predicate has evolved, its a-structure has retained the preposition *à*.

We have been able to justify all uses of the preposition *à* in our selection of verbs through a single core value. Can we do the same now for preposition *de*?

5.1.2. Examples of verbs using the preposition de to introduce an indirect object

- Locative *de*

In our selection, only two verbs use prepositions with a locative sense. (D14) *appuyer* ‘to press’ can use the prepositions *à*, *sur* and *contre*, and (D11) *partir* ‘to leave’ requires the preposition *de*.

(D14b) Le jeune homme appuya sur un bouton
 The young man pressed on a button
 ‘The young man pressed a button’

(D11b) Mon train part de Euston à 11 h 30
 My train leaves from Euston at 11.30
 'My train leaves Euston at 11.30'

De is originally a locative preposition. It marks a reference point, and the predicate it appears with, describes movement away from that point.

- The 'separation' value

But *de* mainly appears in our selection with non-motion verbs such as (D5) *divorcer* 'to divorce'.

(D5b) Si elle veut divorcer de lui, elle a toute ma sympathie
 If she wants to divorce from him, she has all my sympathy
 'If she wants to divorce him, she has my sympathy'

The participant introduced by *de* is necessarily animate with this predicate. Why was *de* selected in this instance ? Which specific semantic value does it offer ? As with (D11) *partir* 'to leave', it must involve movement away from the participant introduced by *de*: to divorce someone implies to move away from that person; it also means severing ties.

Let us look at other verbs that also use the preposition *de*.

(D4b) Le but de Charlton a décidé du match
 The goal of Charlton PAST decided of the match
 'Charlton's goal decided the match'

(D3d) Il a changé d'emploi
 He PAST changed of job
 'He changed job'

Neither (D4) *décider* ‘to decide’ nor (D3) *changer* ‘to change’ are verbs of movement.

However, both imply a change in situation for the participants of the process, a separation of past and present. We can illustrate that sense more clearly by taking a closer look at (D3) *changer* ‘to change’:

(D3b) J’ ai changé P ampoule
 I PAST changed the bulb
 ‘I changed the bulb’

It is possible to use the verb (D3) *changer* ‘to change’ with a direct object, as well as an indirect one. The difference in meaning is not immediately obvious; both constructions mean ‘to change’. But where a DO construction applies to the manipulation of the participant construed as the object, the IO construction applies to more serious events such as changing job, house, opinion ... and even clothes (*changer d’appartement* ‘to change flat’, *changer d’avis* ‘to change opinion’, *changer de chemise* ‘to change shirt’). Those events have wider implications for the subject of the process, such as physical movement; they often refer to non-reversible situations, with a ‘before’ and an ‘after’ being clearly delineated.

With all three verbs (D5) *divorcer* ‘to divorce’, (D3) *changer* ‘to change’ and (D4) *décider* ‘to decide’, we are faced with a sense of breaking away from the past to start things anew.

Divorcing, changing things and making decisions all involve a value of ‘separation’.

- **Non-volitional participant**

In all three instances, it is also the case that the participant which appears as the internal argument and is introduced by *de*, is not involved in the process at all. With a verb such as (D5) *divorcer* ‘to divorce’, it is the participant represented as the subject who initiates the process; the second participant, even though animate, seems to have no bearing on

what is taking place. Incidentally, in French, where a divorce is consensual, both participants take the subject slot conjointly as in *Pat et Marie divorcent* ‘Pat and Marie are getting a divorce’.

In (D4b) *Le but de Charlton a décidé du match* ‘Charlton’s goal decided the match’, the match may be the participant primarily affected by the decision process, but it is inanimate and absolutely uninvolved in the event as it is also non-agentive.

And the job in (D3d) *Il a changé d’emploi* ‘He changed job’ is equally non-agentive, so that we are now a far cry from the participants encountered with the preposition *à*. Basically, we had found the latter to be volitional. There is no such value in the participants introduced by *de*. Rather it is non-volitionality that appears to be a requirement here.

(D6d) Pourquoi devrais-je douter de lui ?
Why should I doubt of him ?
‘Why should I doubt him ?’

(D6b) Certains de nos membres doutent de l’efficacité des manifestations
Some of our members doubt of the value of the demonstrations
‘Some of our members doubt the value of demonstrations’

(D7b) Ils jouissent d’un niveau de vie exceptionnel
They enjoy of a standard of living exceptional
‘They enjoy exceptional standards of living’

The verbs (D6) *douter* ‘to doubt’ and (D7) *jouir* ‘to enjoy’ also require indirect objects with the preposition *de*. They are not verbs of movement, and it is difficult to construe them as involving the value ‘separation’. Whereas (D6) *douter* ‘to doubt’ uses both animate and non-animate objects, (D7) *jouir* ‘to enjoy’ only wants an inanimate participant as its internal argument. Inanimate objects are generally deprived of volitionality. But what of an animate object such as *lui* ‘(to) him’ in (D6d) *Pourquoi devrais-je douter de lui ?* ‘Why should I doubt him ?’ It is not the first time we have encountered a human participant

with the preposition *de*. In (D5b) *Si elle veut divorcer de lui, elle a toute ma sympathie* ‘If she wants to divorce him, she has my sympathy’, we had already remarked on the absence of involvement on the part of the participant expressed as the indirect object. It seems that we are faced with a similar situation in (D6d), with the second argument *lui* ‘(to) him’ taking no part in the process. In fact, the predicate (D6) *douter* ‘to doubt’ demands that its human subject express a judgement on its object. Being a psychological process, rather than a physical one, it relies entirely on its first participant. The object, be it even a human one, has little choice but to remain passive.

- Passive value

We cannot but note at this point how the preposition *de* coincidentally appears in passive constructions in French. Whereas the prototypical preposition in French passive sentences is *par* ‘by’, used to introduce the agent of the process as the internal argument of the verb, there also exists the possibility of substituting *de* with certain types of predicates.

(5.1) Le camion était conduit par une femme
 The lorry was driven by a woman
 ‘A woman was driving the lorry’

(5.2) Il est aimé de tous ses amis
 He is loved of all his friends
 ‘All his friends love him’

In the first example the verb *conduire* ‘to drive’ is an active process, involving movement and an agent marked here by the preposition *par* ‘by’. But in the second example, the verb *aimer* ‘to love’ describes an emotional process, without any active or agentive value. Therefore *de* can be selected to introduce the second participant, which is in no case an

agent. On the contrary, neither agency nor volition is needed with a psych-verb such as *aimer*.

As we have now established a consistent set of semantic values for both prepositions *de* and *à*, we can summarise our findings and investigate their cognitive basis.

5.2. Links to cognitive theories

Some cognitive linguists assume that the different semantic values of a preposition are all derived from a primitive locative sense. Can we convincingly establish such a pattern for both *à* and *de*?

5.2.1. 'A': from dot to distance

According to Vandeloise (1991), there are two core values to the preposition *à*. The first one, as we saw earlier in chapter 3, is locative: *à* appears before a landmark, construed as distant, therefore unidimensional. A visual representation of this sense would be a simple dot, standing for an object without any defined shape or contours because of its distance from the viewer. As well as pointing towards this landmark, *à* carries a strong sense of a path leading towards it, according to Vandeloise.

The second value is what Vandeloise terms 'routine *à*': a conventionalised use of that preposition, wherever a preposition is needed. This prototypical value would be devoid of meaning.

Both values actually confirm our line of reasoning here. Starting as a locative preposition, as all prepositions do in cognitive theories, *à* originally pointed to a distant location, without any particular physical features. The recipient in a process of communication,

often amounted to a location towards which the message was sent. So all recipients became *à*-marked internal arguments in the a-structures of verbs of communication. Those recipients were generally animate, and logically capable of volition and animacy (they could use those qualities to reply to the message they had received for instance), so that any participant accompanied by the preposition *à* automatically became endowed with those potential values. And the channel of communication could be identified with the 'path' value of *à*. Once a path was established between the sender and the recipient, there was always the potential for that path to be used to reduce (or increase) the distance between the two participants of the communication process. That is how the 'distance' value also became entwined with any further use of *à*. In fact, 'distance' provided the motivation for all further uses of *à*, and we have seen that it underlines such diverse uses as (D17) *résister à* 'to resist' and (D16) *ressembler à* 'to resemble'.

It may also be that the prototypical use of *à* developed because this was a rather neutral preposition, immune to the traditional locative values of shape, size, dimension, etc. Therefore it would mark just about any type of participant. It might not be so much the intrinsic values of *à* that determine its frequent use to introduce indirect objects, as the very principle that determines the use of prepositional markers.

Here we must refer back to what we have learnt about transitivity in general.

If a predicate expresses a process of 'carry-over' or 'transfer' between two participants and if transitivity assesses the quality of that process, a direct object used as second argument would reflect a successful process, whereas an indirect object would signal an unsatisfactory transfer. In the case of *à* introducing the indirect object, we can speculate that its presence emphasises just that: a faulty process. It is not so much the value of the preposition, as its mere presence that is revealing.

But we could also equally assume that the values of ‘distance’ and ‘path’ inherent to *à*, are after all relevant to the nature of the fault involved. In that case, the ‘carry-over’ would be affected by certain characteristics of the internal argument; those characteristics, as signalled by the presence of *à*, could include volition, animacy and agentiveness, or in more general terms, a willingness on the part of the object to put a distance between itself and the subject controlling the predicate.

This second hypothesis entails that the nature of the preposition selected by the object reveals much about the process taking place. Let us try and verify this hypothesis with an analysis of the preposition *de*.

5.2.2. ‘De’: from landmark to non-volitionality

We have unequivocally established from the beginning that *de* is originally a locative preposition that refers to a landmark. Any process involving the use of *de* in a locative sense, involves movement away from that landmark. That primitive sense could be seen in the verbal construct (D11) *partir de* ‘to leave’.

We then established that an extended meaning of this locative sense, would involve a notion of separation between the subject and the object of a predicate. This happened with verbal phrases such as (D15) *divorcer de* ‘to divorce’, (D3) *changer de* ‘to change’ and (D4) *décider de* ‘to decide’. The separation could be physical as well as psychological; it could apply to animate and inanimate objects; and in every case, the process was firmly directed by the subject, with the object appearing to dispel any active involvement.

Finally, we saw with verbs such as (D6) *douter* ‘to doubt’ and (D7) *jouir* ‘to enjoy’ that the notion of an uninvolved object, devoid of any agency or volitionality, could also be expressed by the preposition *de*. This sense is again a direct extension of the previous one, so that we have now established a sliding scale of semantic values for the

preposition *de*, starting from its primitive locative meaning and gradually moving away towards more abstract uses.

This evolution from concrete locative sense towards a more abstract meaning is typical of the way prepositions in general are conceptualised in the area of cognitive linguistics. The relationships between the different values of a given preposition are either explained as a continuous derivation from one meaning to the next, as seems to be the case with *de*, or as a more complex network of interrelated meanings, sometimes radiating from a common core; this is rather the case with *à*.

Chapter 6: Conclusions

6.1. In favour of a more lexical approach

Syntax, semantics and the lexicon are all part of the determination of argument structure, therefore they are all part of the determination of transitivity as well. We saw in chapter 2 that some linguists were seeking to explain the whole area of argument structure by linking exclusively the two domains of semantics and syntax. Although this approach is supported in cognitive terms by researchers such as Langacker, neither Van Valin and LaPolla, nor Hopper and Thompson, nor Givón managed to construct a linking theory large enough to encompass all cases of argument structure. It quickly became apparent through more recent research presented in chapter 3, that the lexicon also had an important part to play in the process. Linguists such as Pinker, Levin, Wechsler and Gawron all acknowledged its role in various proportions. In this, they were at one with cognitivists like Lakoff, Lindner and Vandeloise who saw the semantic properties of individual words as the source of their use in discourse. Data analyses in chapters 4 and 5 allowed us to examine verbs that presented interlingual differences of transitivity between English and French. Firstly, we asked whether one could distinguish a direct from an indirect object in the absence of any obvious lexical marker such as a preposition. An overlook of the issue of pronominal verbs in French showed us that rules in the style of the syntax-semantics interface, such as those purported by traditional grammar, were not completely satisfactory; here again, the issue of lexically-based semanticity, as advocated by Grimshaw, seemed a likely recourse to explain how the meaning of a verb could determine the transitivity status of its internal arguments. We then took a closer look at the prepositions selected by our data verbs, with the hope of establishing the guidelines that determine such choices, and furthermore, the very

reasoning that would justify the choice of direct vs. indirect transitivity for all predicates concerned. We succeeded in uncovering a consistent system that could form the basis of the selection process for prepositions such as *à* and *de*. Moreover, that system could be rooted in well-established cognitive views about prepositions. We also determined that the very motivation for the use of a preposition before a second argument was to underline a type of impediment to the process of carry-over expressed by a transitive structure.

Throughout this research, the three domains of syntax, semantics and the lexicon have recurred over and over again. How exactly do they interact in the determination process of a predicate's transitivity status? And what is the place of the lexicon in this triangle?

In order to understand the principles at work when the argument structure of a predicate is being determined, we can ask about the most basic process of argument structure determination: that of a child's initial acquisition of a-structure. Pinker investigated that very process when he tried to explain Baker's paradox, or how we acquire the correct a-structures for verbs when we are seldom exposed to negative evidence. There are two possible answers to that question.

The first answer considers all data individually, and establishes a lexicon in the child's mind. Every predicate is given its own entry, including details relating to its a-structure, as heard from evidence. Every time that predicate is heard again, new data is recorded into its lexical entry, such as the possibility of other a-structures. In this hypothesis, the determination of argument structure is an exercise in recalling a-structures from the predicate's lexical entry each time we wish to use it. Consequently every single argument would have its own linking rule, and the linking rules would work directly between the lexicon and syntax.

The second hypothesis uses semantics as an intermediate between syntax and the lexicon. Each time a predicate is heard in the context of an utterance, its semantic components are analysed and the predicate is filed under a semantic heading, for instance *verb of state* or *verb of communication*. Each verbal semantic category triggers its own linking rules to certain syntactic patterns; for example, verbs of communication link to double object a-structures in English. In this account, the question of how semantics and syntax actually interface is completely relevant.

However, as demonstrated by our analysis of pronominal verbs in chapter 4, no linking rules can establish alone how a status of direct or indirect transitivity can be conferred upon every argument. We always knew that the lexicon had a part in the determination of argument structure as a whole, so how does it affect the verbs in our selection specifically ?

In *Learnability and Cognition: the Acquisition of Argument Structure* (1989), Pinker managed to reconcile both hypotheses in a way that may interest us particularly in this context. He assumes that a-structure acquisition takes place, as in the first hypothesis, through a purely lexical process of filing lexical entries for individual predicates (we saw in our second chapter that the a-structures were always part of a verb's entry in Pinker's theory).

However we cannot deny that certain semantic categories relating to participants coincide astonishingly with established syntactic patterns. ¹

¹ Pinker reminds us that people such as Perlmutter (1978) and Rosen (1984), to which we shall add Givón (1984; 1990), have observed how types of verbs across languages, are linked to identical syntactic structures: for instance 'verbs of voluntary action, manner of speaking, and some involuntary bodily processes are unergative, and verbs of being in states, changing state, and changing existence are unaccusative (Perlmutter, 1978)' (p.225). More cross-linguistic evidence comes from Dryer (1986) who 'reviews a diverse sample of languages with ditransitive constructions and notes that the second object is notionally a "patient/theme", generally nonhuman, in the context of a first object that is a "goal/beneficiary", generally human (pp.94-95).

Pinker thinks that such broad categories are really formed in the mind after initial acquisition. That is to say that once a predicate has found its place in the child's lexicon, it is then reassessed in order to find among its semantic components, some features which it might share with other predicates. As the child acquires more vocabulary, categories are formed that link together predicates with common semantic features. Thus the lexicon and the semantic categories start coexisting and sharing information.

The next step must now link them to syntax. It is likely that children first rely exclusively on the lexical entries of verbs, giving weight to the first hypothesis. But as their vocabulary expands, they start using the semantic categories as a shortcut to determine a verb's argument structure. This implies that links are finally established directly between the semantic level and the syntactic level of argument structure: the notion of an interface is relevant after all. As adults, we probably rely heavily on those shortcuts, as they spare our memory patterns. So argument structure is determined individually for each predicate in the relationship that links the lexicon directly to syntax; this relationship is made of numerous linking rules between participants and argument-slots. An intermediate level of semantics, based on the generalisation of such rules into broad categories, can act as a shortcut to the determination of a-structure.

In this view then, it must be assumed that, as with any attempt at generalisation, some elements do not fit the pattern. Whereas determination of argument structure may be done through the means of semantic classes, as has been observed frequently among languages of the world, some predicates remain impervious to classifications and can only be apprehended through the basic process of lexicon-to-syntax linking. It is likely that our data targeted such verbs that, through reasons of etymology mainly, did not follow the prototypical patterns. That is probably the very reason why they came to our

attention at all. Had they fitted into prototypical semantic classes, their a-structures would have been smoothly determined. But the very fact that two different processes seemed to be used in English and in French, highlighted discrepancies in the theory of a universal syntax-to-semantics interface.

6.2. Questioning the universal / language-specific divide

We should now reflect on the issue of universality in the determination process of argument structures. All theories of the syntax-semantics interface intrinsically assume that the semantic values used in that process are universal. All languages would have a sense of the human vs. the non-human, the animate vs. the inanimate, the agentive vs. the passive, etc. Those would form universal semantic categories, probably based on the universal human experience that is the cognitive perception of our environment. Such general classification form the basis of all areas of cognitive linguistics: energy transmission and movement as invoked by Langacker, or figures and grounds, paths and directions as used by Lakoff, Lindner and Vandeloise among many other linguists, are unquestionably universal in the minds of those who employ such concepts. Therefore, in the process of determination of transitivity, all human beings would analyse the world into identical semantic categories, according to a common cognitive basis, but every language would find its own way of expressing those values through specific syntactic patterns. In a nutshell, in the syntax-semantics interface, the semantics are universal but the syntax is language-specific. Here the cut-off point between universality and language-specificity is the linking process itself.

However our data analysis in this work somehow contradicts this simple assumption. We looked at verbs of similar meaning that adopted different syntactic patterns in two given

languages. If we were to pursue the point of view of the syntax-semantics interface to its logical conclusion, we should have found systematic correspondences between English and French in accounting for the semantic values of the participants of each process. For example, where French expressed the value of non-volitionality of the second argument by the means of the preposition *de*, English would have systematically used its own syntactic device to signal non-volitionality. Instead the English language did not display any marker; nor did it use any specific markers for animacy, agentiveness, distance, etc. in our selection. There existed no systematic translation blueprints of those values between the two languages. The only possible explanation for this state of affairs is that English did not, at least for the verbs we selected, take any notice of those semantic values; therefore it did not need to mark them. This means that English did not apply the same semantic analysis to our verbs as French did. Effectively, both languages had their specific semantic approaches. This clearly implies that language-specificity may start earlier than the theories of the syntax-semantics interface would have us believe.

In order to test this hypothesis, we need to have a look at English prepositions. Let us select some English verbs that have a preposition as part of their argument structure. They are indirectly transitive. We shall also give their equivalent in French, which in every case is directly transitive. In effect, we will attempt the same exercise as in chapter 5 but in reverse: we are now looking at verbs of indirect transitive behaviour in English, but direct transitive behaviour in French, in order to apprehend the semantic system that underpins English prepositions.

- | | |
|---------------------------------------|--------------------------------|
| (6.1a) to approve of/to disapprove of | (6.1b) approuver/ désapprouver |
| (6.2a) to ask for | (6.2b) demander |
| (6.3a) to hope for | (6.3b) espérer |

(6.4a) to look at	(6.4b) regarder
(6.5a) to look for	(6.5b) chercher
(6.6a) to pay for	(6.6b) payer
(6.7a) to smell of	(6.7b) sentir
(6.8a) to wait for	(6.8b) attendre

In every case, those predicates can be followed immediately by a noun phrase.

Three different prepositions appear in this selection. We must find each one's core value.

It is immediately apparent that *at* in (6.4a) *to look at* has a spatial value. It introduces the eye's target, which must be somewhat distant from the subject-onlooker. This value is reminiscent of French *à*, although the distance between the first and the second participant of the process need not be so great in English. The object observed can also have a variety of shapes and sizes; it is not restricted to a mere dot, as it was in French.

The preposition *for* is the most used in this selection. In every case, it is consistent with a prospective value. *To ask, to hope, to look, to pay* and *to wait* are all imbued with a sense of expectation, a movement towards the future. We must remark that prospectiveness is notably absent from any of their French counterparts, except maybe for (6.3b) *espérer* 'to hope'. The latter is not marked in any way however, its prospective value being part of the meaning of the verb itself rather. Whereas the English verbs all focus on the gains to be had from the processes they describe, their equivalents in French focus matter-of-factly on the processes themselves. Secondly, it must be pointed out that *for* seems to be a remarkably productive preposition in English, as it is used here with very common verbs, but its closest French equivalent, the goal preposition *pour*, is not used quite as much.

Finally, we find two verbs which both use the preposition *of*. Traditionally it is said that *of* is the equivalent of the French *de*; if so, we should be able to find the same semantic

values at work with (6.1a) *to approve of* and (6.7a) *to smell of* as we did with (D11) *partir de* ‘to leave’, (D5) *divorcer de* ‘to divorce’, etc. The core values of the preposition *de* in French were separation, non-volitionality and passivity. It could be said that the second argument in a sentence including the predicates *approve* or *disapprove*, must be non-agentive and non-volitional. As with the French (D6) *douter de* ‘to doubt’, the process at stake involves a judgement on the part of the human subject; that process passivises the second argument, even when it is human. In (6.7a) *to smell of* the use of the preposition *of* is firstly motivated by the necessity of distinguishing two senses of the predicate *smell*: one sense is active, as in *I smell a fire* where the subject acts the process referred to by the predicate; the other sense is passive. In the sentence *The garden smelt of honeysuckle* the subject *the garden* is non-agentive. Therefore, it is no surprise to see precisely the preposition *of* used with this passive sense.

In conclusion, this exercise, random and incomplete as the sample may be, still yields a few lessons. It seems possible to find the same semantic values underpinning prepositions in both French and English; it certainly appears to be the case with *de* and *of*. It might even be the case to some extent with *at* and *à*. But already that example suggested that a common core feature might be interpreted in different ways by individual languages. Both prepositions might operate on related but not totally similar values. And sometimes prepositions which are supposedly equivalent, might actually be based on different values. For example, whereas *for* indicates prospectiveness, *pour* rather indicates a goal. In addition, respective frequencies for those prepositions are certainly not identical in both languages.

It is then rather difficult to assume, as the theories of the syntax-semantics interface did, that all languages break down the cognitive perception of their environment into identical categories. Here we have shown for instance that the semantic system

underlining English prepositions might function on a different interpretation of a given set of values from the French system. There is nothing stopping us from speculating that it might use a different set of values altogether. Therefore language-specificity in the determination of argument structure does not appear only at the level of semantics-to-syntax linking. It is part and parcel of the semantic process itself.

6.3. A redefinition of transitivity

All the research about transitivity that we investigated in the course of this study, focussed on the distinction between intransitivity and transitivity. After Hopper and Thompson, we adopted the definition of transitivity as a ‘carry-over’ or a ‘transfer’ between two participants. We found that process justified in cognitive terms by the work of Langacker for example. In that perspective, one could distinguish the transitive predicates from the intransitive ones, by looking at the semantic value of their first participant (most often the subject in English or in French). In the case of a transitive process, the subject had a strong tendency to agentiveness; but with intransitive verbs, the subject tended to be a simple theme. However, no research considers the question of directness in transitivity: how is direct transitivity to be told apart from indirect transitivity? Unlike the distinction between intransitivity and transitivity, this one must focus on the second argument of the predicate, the argument that appears immediately after the verb. Whether that argument uses a preposition or not, is related to the issue of its affectedness in the process.

According to Givón, IO is ‘not an affected patient’ (1984, p.109). Givón implies that the difference between a direct object and an indirect one, is that DO is affected by the process expressed by the predicate, whereas IO is not. But what does he mean by

‘affected’? If ‘affected’ means ‘involved’ in the transitive process, Givón is clearly wrong since every participant that has been assigned a slot in a predicate’s a-structure is part of the process and must be affected by it. If ‘affected’ somehow means ‘manipulated’, then he may be right. We saw in chapter 5 that the semantic values of humanity, animacy, agentiveness and volitionality were all connected to the use of a preposition before the second argument. They indicate that the object opposes all attempts at reification or passivisation that could deprive it of meaningful participation in the process. Therefore, the second argument may always be ‘affected’ or involved, but it is not necessarily inactive within it. Some types of participants, when construed as objects, have the potential to exert some influence on the process. That potential is expressed by the presence of a preposition that determines a status of indirect transitivity for the argument structure of the predicate. The nature of the preposition used gives us information about the type of influence which the object *actually* has. In French, the preposition *à* tends to signal an object’s strong opposition to the process initiated by the subject, by the means of establishing a symbolic distance from the latter. But by using the preposition *de*, a speaker assesses the object as being devoid of agentiveness and under the control of the subject.

According to Hopper and Thompson, the more agency and the more volition its participants display, the higher the chances of transitivity are for a process. But as with any other approach to transitivity, Hopper and Thompson do not investigate the effects of that claim for each individual participant. Again, it is crucial to emphasise the distinction between first and second argument of the predicate. While agency and volition of the first argument do point to its agentiveness, therefore to the likeliness of a transferring (or transitive) process as exemplified by Langacker’s energy chains, agency and volition on the part of the second argument may run counter to the smooth

Appendix: Data verbs and examples

This appendix lists all the verbs we will use as a basis for our analysis. They are designated by the letter D and a number, as determined by the alphabetical order of the English predicates. Each verb sees its typical argument structures, as indicated in our reference dictionaries, listed in the infinitive form for French and English.

Then examples for all the argument structures are displayed. The French examples are translations of the concordancer-based English sentences quoted in our reference English dictionary.

(D1) to answer/répondre à
to answer something/ répondre à quelque chose
to answer someone/ répondre à quelqu'un

(D1a) She answered an advertisement for a full-time mother help

(D1b) Elle a répondu à une petite annonce
She answered to an advertisement
'She answered an advertisement

pour une aide maternelle à temps plein
for a mother help full-time
'for a full-time mother help'

(D1c) Answer your father !

(D1d) Réponds à ton père !
Answer to your father !
'Answer your father !'

(D2) to ask/demander à

to ask someone/demander à quelqu'un

to ask something/demander quelque chose

to ask someone something-to ask something to someone/demander quelque chose à quelqu'un

(D2a) 'How many languages can you speak ?' he asked the young girl

(D2b) "Combien de langues parlez- vous ?"

How many languages speak you(SG)

'How many languages can you speak ?'

demanda-t-il à la jeune fille

asked he to the young girl

he asked the young girl'

(D2c) He asked my name

(D2d) Il demanda mon nom

He asked my name

'He asked my name'

(D2e) He started asking Diana a lot of things

(D2f) Il commença à demander beaucoup de choses à Diana

He started to ask a lot of things to Diana

'He started asking Diana a lot of things'

(D3) to change/changer de

to change something/changer quelque chose

to change something/changer de quelque chose

(D3a) I changed the bulb

(D3b) J' ai changé l' ampoule

I PAST changed the bulb

'I changed the bulb'

(D3c) He changed job

(D3d) Il a changé d' emploi

He PAST changed of job

'He changed job'

(D4) to decide/décider de

to decide something/décider de quelque chose

(D4a) Charlton's goal decided the match

(D4b) Le but de Charlton a décidé du match
The goal of Charlton PAST decided of the match
'Charlton's goal decided the match'

(D5) to divorce/divorcer de

to divorce someone/divorcer de quelqu'un

(D5a) If she wants to divorce him, she has my sympathy

(D5b) Si elle veut divorcer de lui, elle a toute ma sympathie
If she wants to divorce from him, she has all my sympathy
'If she wants to divorce him, she has my sympathy'

(D6) to doubt/douter de

to doubt something/douter de quelque chose

to doubt someone/douter de quelqu'un

(D6a) Some of our members doubt the value of demonstrations

(D6b) Certains de nos membres doutent de l'efficacité des manifestations
Some of our members doubt of the value of the demonstrations
'Some of our members doubt the value of demonstrations'

(D6c) Why should I doubt him ?

(D6d) Pourquoi devrais-je douter de lui ?
Why should I doubt of him ?
'Why should I doubt him ?'

(D7) to enjoy/jouir de¹

to enjoy something/jouir de quelqu'un

(D7a) They enjoy exceptional standards of living

(D7b) Ils jouissent d'un niveau de vie exceptionnel
They enjoy of a standard of living exceptional
'They enjoy exceptional standards of living'

¹ *To enjoy* is rather difficult to translate as it takes on a number of equivalents in French according to context. Let us note however that *jouir de* is not as common a translation as *aimer* or *apprécier*, both direct transitive verbs in French.

(D8) to escape/échapper à

to escape something/échapper à quelque chose
to escape someone/échapper à quelqu'un

(D8a) I doubt that such tactics escape their notice

(D8b) Je doute que de telles tactiques échappent à leur attention
I doubt that such tactics escape to their notice
'I doubt that such tactics escape their notice'

(D8c) And there is a major point that seems to have escaped Captain Imrie

(D8d) Et il y a un détail d'importance qui semble
And there is a point of importance that seems to
'And there is a major point that seems to

avoir échappé au capitaine Imrie
have escaped to the Captain Imrie
have escaped Captain Imrie'

(D9) to fax/faxer à

to fax something/faxer quelque chose
to fax someone/faxer à quelqu'un
to fax someone something/faxer quelque chose à quelqu'un
to fax something to someone/faxer quelque chose à quelqu'un

(D9a) She faxed the bad news

(D9b) Elle a faxé la mauvaise nouvelle
She PAST faxed the bad news
'She faxed the bad news'

(D9c) She faxed her brother

(D9d) Elle a faxé à son frère
She PAST faxed to her brother
'She faxed her brother'

(D9e) She faxed her brother the bad news

(D9f) Elle a faxé la mauvaise nouvelle à son frère
She PAST faxed the bad news to her brother
'She faxed the bad news to her brother'

(D9g) She faxed the bad news to her brother

(D9f) Elle a faxé la mauvaise nouvelle à son frère
She PAST faxed the bad news to her brother
'She faxed the bad news to her brother'

(D10) to forgive/pardonner à

to forgive something/pardonner quelque chose

to forgive someone/pardonner à quelqu'un

to forgive someone something/pardonner quelque chose à quelqu'un

(D10a) They had forgiven his delayed arrival

(D10b) Ils avaient pardonné son retard
They had forgiven his delay
'They had forgiven his delayed arrival'

(D10c) They had forgiven their host

(D10d) Ils avaient pardonné à leur hôte
They had forgiven to their host
'They had forgiven their host'

(D10e) They had forgiven their host his delayed arrival

(D10f) Ils avaient pardonné à leur hôte son retard
They had forgiven to their host his delay
'They had forgiven their host his delayed arrival'

(D11) to leave/partir de¹

to leave something/partir de quelque chose

(D11a) My train leaves Euston at 11.30

(D11b) Mon train part de Euston à 11 h 30
My train leaves from Euston at 11.30
'My train leaves Euston at 11.30'

(D12) to obey/obéir à – to disobey/désobéir à

to obey something/obéir à quelque chose

– to disobey something/désobéir à quelque chose

to obey someone/obéir à quelqu'un

- to disobey someone/désobéir à quelqu'un

(D12a) The troops were reluctant to obey orders

(D12b) Les troupes rechignaient à obéir aux ordres
The troops were reluctant to obey to the orders
'The troops were reluctant to obey orders'

¹ *To leave* actually translates in three different ways in French: I have obviously selected the translation that yields an indirect transitive verb. We must note that *partir de* is strictly used for situations where the object is a location, either real or symbolic. The other two translations are *quitter* and *laisser*, both direct transitive verbs.

(D12c) It never occurred to them that they could disobey their parents

(D12d) Il ne leur est jamais venu à l'esprit
It NEG to them PAST never occurred
'It never occurred to them

qu' ils pouvaient désobéir à leurs parents
that they could disobey to their parents
'that they could disobey their parents'

(D13) to phone/téléphoner à

to phone someone/téléphoner à quelqu'un

(D13a) I went back to the hotel to phone Jenny

(D13b) Je suis retourné à l' hôtel pour téléphoner à Jenny
I PAST went back to the hotel to phone to Jenny
'I went back to the hotel to phone Jenny'

(D14) to press/appuyer sur

to press something/appuyer sur quelque chose

(D14a) The young man pressed a button

(D14b) Le jeune homme appuya sur un bouton
The young man pressed on a button
'The young man pressed a button'

(D15) to renounce/renoncer à

to renounce something/renoncer à quelque chose

(D15a) We have renounced the use of force to settle our dispute

(D15b) Nous avons renoncé à l' usage de la force
We have renounced to the use of the force
'We have renounced the use of force

pour régler notre différend
to settle our dispute
'to settle our dispute'

(D16) to resemble/ressembler à

to resemble something/ ressembler à quelque chose
to resemble someone/ ressembler à quelqu'un

(D16a) The situation resembles that of Europe in 1940

(D16b) La situation ressemble à celle de l' Europe en 1940
The situation resembles to that of the Europe in 1940
'The situation resembles that of Europe in 1940'

(D16c) Both you and your father resemble him very much physically

(D16d) Votre père et vous lui ressemblez tous les deux
Your father and you to him resemble both
'Both you and your father resemble him

beaucoup physiquement.
a lot physically
very much physically'

(D17) to resist/résister à

to resist something/ résister à quelque chose
to resist someone/ résister à quelqu'un

(D17a) Our union resisted the introduction of automation

(D17b) Notre syndicat a résisté à l' introduction de l' automatisation
Our union PAST resisted to the introduction of the automation
'Our union resisted the introduction of automation'

(D17c) They tried to resist the robbers

(D17d) Ils ont essayé de résister aux voleurs
They PAST tried to resist to the robbers
'They tried to resist the robbers'

(D18) to suit/convenir à

to suit someone/ convenir à quelqu'un

(D18a) You should do what the doctor thinks will suit you and your baby best

(D18b) Vous devriez faire comme le docteur pense
You should do as the doctor thinks
'You should do what the doctor thinks

qu' il conviendra le mieux à vous et à votre bébé
that it will suit the best to you and to your baby
will suit you and your baby best'

(D19) to telegraph/télégraphier à

to telegraph something/télégraphier quelque chose

to telegraph someone/télégraphier à quelqu'un

to telegraph someone something/télégraphier quelque chose à quelqu'un

to telegraph something to someone/télégraphier quelque chose à quelqu'un

(D19a) He had forgotten to telegraph condolences

(D19b) Il avait oublié de télégraphier ses condoléances
He had forgotten to telegraph his condolences
'He had forgotten to telegraph condolences'

(D19c) He had forgotten to telegraph the widow

(D19d) Il avait oublié de télégraphier à la veuve
He had forgotten to telegraph to the widow
'He had forgotten to telegraph the widow'

(D19e) He had forgotten to telegraph the widow condolences

(D19f) Il avait oublié de télégraphier ses condoléances
He had forgotten to telegraph his condolences
'He had forgotten to telegraph the widow

à la veuve
to the widow
condolences'

(D19g) He had forgotten to telegraph condolences to the widow

(D19h) Il avait oublié de télégraphier ses condoléances
He had forgotten to telegraph his condolences
'He had forgotten to telegraph the widow

à la veuve
to the widow
condolences'

(D20) to value/tenir à^{1 2}

to value something/tenir à quelque chose

(D20a) When they reach that age, they value their independence

(D20b) Lorsqu' ils atteignent cet âge, ils tiennent à leur indépendance
When they reach that age, they value to their independence
'When they reach that age, they value their independence'

¹ *To value something* (translated as *évaluer quelque chose*) is a verb of measure, with no psychological effect attached: it behaves transitive directly in both languages:

(D20c) *The dealer valued the book at \$200*

(D20d) *L' antiquaire évalua le livre à 200 dollars*
The dealer valued the book at \$200
'The dealer valued the book at \$200'

² Note that French allows the phrase *tenir à quelqu'un* whereas English does not have an equivalent **to value someone*.

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