

Chapter 16

Formal properties of a subset of discourse markers: connectives¹

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1. Introduction

In this paper I discuss the semantic constraints involved by the use of a subclass of discourse markers (DMs) generally designated by the term *connectives*. I consider them to be a DM subclass because they do not contribute to the truth value of the proposition in which they occur, they are polyfunctional items, and they do not belong to one particular grammatical category. The discrepancy between grammatical function and discourse function has been taken for granted since Ducrot's (1975) seminal paper on *car, parce que, and puisque*; coordinating and subordinating conjunctions, as well as adverbial conjunctions, may play the role of discourse markers. Nevertheless, all these items differ from other DMs in that they may give indications on how the discourse unit in which they occur relates to the particular piece of information to which they are attached. My aim is to show that this property can be captured formally by identifying the semantic constraints imposed by the connective on the left as well as by the context on the right.

Polyfunctionality will be treated in relation to the type of discourse configurations in which they can occur and the type of operation they perform on the left context. A specific item may assume various semantic values while performing one and the same operation on the left context. This view corresponds to a narrow version of the monosemic approach; it assumes that a certain item having a particular function always performs one and the same operation, which may give rise to different semantic values depending on the configurations in which the marker occurs. However, this does not amount to saying that one marker may not have different functions. If this is the case, a polysemic approach should be used in order to put these functions in relation to each other. For instance, the French marker *donc* has a connective value (*The weather is nice, DONC I'll go out for a walk*) and an exclamatory one (*How nice this place DONC is*). These two values correspond to two different functions. Therefore, they will not be treated as performing the same operation. I will only deal with the first case, in which one item having a connective function may convey various semantic values.

1.1. Approach, methodology, and data

The present approach to this particular DM class is related to a type of lexical semantics dealing with an item's conditions of use. We adopt the idea that the items analysed convey constraints determining the semantic profile of the entities they connect. These constraints belong to the connective's semantic component. In other words, the lexical semantics we are dealing with consists in sorting out the factors determining the compatibility of a marker with specific linguistic structures. It does not consist, as one might think, in seeking the coded meaning of an item by analysing the possible interpretations of the utterances in which it may occur. This particular standpoint is responsible for at least four parameters of our analysis.

- We focus our attention only on structures where each information unit connected by the marker corresponds to an utterance.
- We consider the constraints in relation to one particular function assumed by the marker. We do not try to describe them in relation to all the functions a marker may possibly assume. For instance, the constraints valid for the French inferential *donc* are not necessarily relevant for the other functions of this marker.
- The issue of polyfunctionality is addressed in relation to the type of discourse configurations in which the markers may occur and the type of operation they perform on the left context (see section 4). There are three main types of contexts where a connective may occur and in each one it performs a particular operation (see section 3).
- We consider "bad" and "good" uses of an item to be equally meaningful data.

We use a classical distributive methodology. It consists in a controlled variation of the linguistic contexts where a specific item may occur. We investigate the factors to which the marker is sensitive and use them in order to identify the semantic type of the entities connected. A general characteristic of connectives is their capacity to impose constraints not only on the semantic nature of the discourse unit they introduce but also on the semantic type of the preceding discourse unit. This feature may be captured when we have a direct link between discourse units and the information units connected.

Our study is based on standard written French data. We use constructed examples as well as corpus examples. We acknowledge the notion of *norm*. This means that (i) other things being equal, the marker's occurrence in one particular linguistic context can be considered as less natural than its occurrence in another particular linguistic context and (ii) this difference in acceptability is coded in the marker's conditions of use; it does not depend on the pragmatic nonappropriateness of the situation.

1.2. Problem statement

1.2.1. State of the art: some general assumptions shared by various approaches to discourse markers

Analyses specifically focused on connectives as a DM subtype have paid a particular attention to the scope issue. The notion of *scope* addresses many aspects involved in a connection process, which are mainly related to two problems: (i) the delimitation of the

linguistic material involved in the relation expressed by the connective and (ii) the kind of entities that the connective takes as arguments. Approaches interested in the former problem attempt to find criteria for delimiting the linguistic sequence concerned by the connection. When they are conversation oriented, they use notions such as *act*, *intervention*, *turn taking*, or *dialogic unit* to delineate these sequences. Those focused on written text resort to notions such as *clause*, *sentence*, *paragraph*, *full stop*.

Approaches interested in the latter problem are aimed at representing a schema generally applicable to various forms of connection realised by a connective. They have to deal with the problematic definition of the kind of entities being connected. Are they utterances, propositions, inferences, or something else? The analyses using the notion of utterance have to determine the level (i.e., illocutionary, epistemic, or content) at which the connection is established. Those resorting to the notion of proposition have to specify the type of framework adopted (i.e., modal or truth conditional). As for the linguists who think that connectives deal with inferences, they have to conceive of a model meant to determine how these inferences are obtained. Certain approaches adopt yet other perspectives to describe the entities taken as arguments. For instance, Berrendonner (1990) opts for a strictly cognitive perspective where these units are conceived as abstract information stored in discourse memory, the latter being continuously enriched by discourse flow and context. In contrast, Carel and Ducrot (Carel and Ducrot, 1999; Carel, 2002) adopt a strictly lexical point of view. They assign an intrinsic argumentative power to every lexical item and explore it by using two basic argumentative clauses, namely, *donc*-clauses and *pourtant*-clauses. These clauses are assumed to be interdependent: the one cannot be conceived without the other (Carel and Ducrot, 1999).

There are not many approaches accepting the combination of distinct perspectives. Analyses based on formal semantics adopt the proposition as the relevant unit for the connectives' description, textual approaches focus on the utterance level, and instructional or procedural analyses use inferences. The multidimensional approach adopted by the Geneva school (Roulet, Filliettaz, and Grobet, 2001) is compatible with a combination of these different representations. Due to a modular framework, they may be displayed at various analysis levels. Hence, discourse organization is considered to be the product of various organizational systems, the main ones being the linguistic one, the textual one, and the situational one. The connectives' scope is analysed in relation to the organizational system taken into consideration. The notion of proposition will be relevant at the linguistic level and that of inference at the textual one. As far as the situational level is concerned, it enables connectives to be analyzed as using praxeological structures. Nevertheless, such an approach does not need specific tools in order to represent a general schema capable of accounting for the different forms a connection may assume. Its specific aim is to provide an overview of discourse organization.

1.2.2. Problems

The main problem that any theory about DMs has to face is their intrinsic polysemy. This feature characterizes many connectives. One relevant example might be the French DM *donc*, which, as we have already mentioned, may assume different functions. It may be analysed as:

- A deductive connective in (1):

- (1) Max est petit, donc il fait encore des bêtises.
Max is young, **DONC** he still does silly things.

- A rephrasing marker in (2):

- (2) Vous pensez donc qu'il vaut mieux renoncer à cette affaire.
You think **DONC** that it's better to give up this matter.

- A phatic particle in (3):

- (3) Dis-donc, comment tu parles à ta mère?
Hey **DONC**, how do you speak to your mother?

- An exclamatory marker in (4):

- (4) Que Paul est donc gentil!
Paul is **DONC** so nice!

Moreover, these different functions are not always so easy to determine. There are many ambiguous cases, where the analyst may hesitate between several interpretations, as in (5):

- (5) Les baleines allaitent leurs petits.
Whales suckle their offspring.

Ce sont donc des mammifères.
They are **DONC** mammals.

In such a context, *donc* may be interpreted as a reformulation as well as a deduction marker.

To put it shortly, any classification has to cope with the diversity of uses, the numerous ambiguous cases and the factors responsible for these ambiguities (are the markers intrinsically ambiguous or does ambiguity arise when they occur in some specific context?). Since these items are so polyvalent, the notion of connective itself is pretty difficult to delineate. The function characterizing all the members of the class cannot be but generic. This does not allow one to put clear limits on the lexical items that can be used as connectives and those that cannot.

The formal approach I will explore will make it possible to highlight some features characterizing connectives as a DMs subclass. The basic idea is that their capacity of putting information together should bear on their conditions of use. Therefore I shall focus exclusively on the constraints they impose on their linguistic environment.

2. Definition

Connectives are a DM subclass that imposes restrictions on the formulation of the right and left linguistic context when the entities taken as arguments correspond to linguistic sequences. This claim is to be derived from two facts:

- A discourse relation connecting two discourse units does not impose the same constraints when a connective is used to express it and when no connective is used.
- Each connective determines the semantic profile of the entities it takes as arguments.

The first fact is illustrated by the analysis of counterfactual utterances proposed in Akatsuka and Strauss (2000). This study points out that the use of a counterfactual utterance requires an explicit desirability assessment from the speaker in the preceding utterance. The result of this assessment can be positive if the state of affairs is desired by the speaker or negative if this is not the case. Akatsuka and Strauss examine a series of examples borrowed from Fauconnier (1984), who does not take this parameter into account in his analysis.

- (6) Fortunately, the fire did not cross the highway. My house would have been destroyed.

- (7) Luckily, the fire was prevented from crossing the highway. My home would have been destroyed.

They show that the use of the counterfactual is clearly less natural if the attitudinal adverbs expressing the speaker's stance are not present:

- (8) ??The fire did not cross the highway. My house would have been destroyed.

- (9) ??The fire was prevented from crossing the highway. My home would have been destroyed.

At first glance, (8) and (9) might seem less natural than (6) and (7). However, it is not the expression of the speaker's stance per se that impinges on the adequate use of the counterfactual but some general principle related to the possibility of recovering a specific relation attaching any discourse constituent to its context. In (6) and (7), the counterfactual is interpreted as a justification of the speaker's positive stance. Examples (8) and (9) may also be seen as natural if the counterfactual utterance is interpreted as a justification of the validity of the state of affairs expressed in the first unit. The use of some epistemic indicator might facilitate this interpretation, which could seem less immediate for (8) and (9).

- (10) Probably the fire did not cross the highway. My house would have been destroyed.

- (11) Probably the fire was prevented from crossing the highway. My home would have been destroyed.

However, when a connective is used to express the same type of coherence relation, its very presence places constraints on the way the state of affairs is presented.

- (12) Il y a des souris chez Marie. J'en ai vu dans sa cuisine.
Mary has got mice in her house. I have seen some in her kitchen.

None of the discourse markers that are commonly used to convey such a relation is acceptable in such a sequence:

- (13) Il y a des souris chez Marie. ??Car j'en ai vu dans sa cuisine.
Mary has got mice in her house. CAR I have seen some in her kitchen.
- (14) Il y a des souris chez Marie. ??En effet, j'en ai vu dans sa cuisine.
Mary has got mice in her house. EN EFFET I have seen some in her kitchen.
- (15) Il y a des souris chez Marie. ??Effectivement, j'en ai vu dans sa cuisine.
Mary has got mice in her house. EFFECTIVEMENT I have seen some in her kitchen.

To make these connections more natural, it is necessary to add an epistemic clue in (13) and (14) and a viewpoint clue in (15).

- (16) Il y a probablement des souris chez Marie. Car j'en ai vu dans sa cuisine.
Mary has probably got mice in her house. CAR I have seen some in her kitchen.
- (17) Il y a probablement des souris chez Marie. En effet, j'en ai vu dans sa cuisine.
Mary has probably got mice in her house. EN EFFET I have seen some in her kitchen.
- (18) Selon Luc, il y a des souris chez Marie. Effectivement, j'en ai vu dans sa cuisine.
According to Luc, Mary has got mice in her house. EFFECTIVEMENT I have seen some in her kitchen.

Each of these linguistic clues assigns a specific semantic type to the proposition (namely a modal type for the first two and an evidential one for the third), rendering it compatible with the marker.

These data show the differences between the constraints at work behind a simple discourse relation and a relation signalled by a discourse marker. The construction of an adequate discourse relation is not dependent on a particular linguistic clue. It rather rests on pragmatic principles allowing the construction of an adequate context in which each discourse constituent may be attached to a particular information unit. This is not the case with connectives. They may require some special linguistic clue, especially for their left linguistic context. This is one of the features that distinguishes them from other DMs.

The second fact, i.e., that every connective determines the semantic profile of the entities it takes as arguments, can be illustrated by their property of calling for different clues in the left clause. As mentioned above, *en effet* and *effectivement* require an epistemic clue and a viewpoint clue, respectively. *Autrement*, which also conveys a justification relation (Inkova-Manzotti, 2002), places a constraint on the right clause, which has to be compatible with the accommodation of a counterfactual derived from the left clause.²

- (19) Va voir Marie! Autrement elle se fâchera.
Go and see Mary! AUTREMENT she will get angry.

- (20) Va voir Marie! ??Autrement elle se serait fâchée.
Go and see Mary! AUTREMENT she would have got angry.

(20) is ill-formed because the past conditional used in the right utterance is incompatible with the proposition accommodated from the imperative in the left utterance, i.e., *if you don't go and see Mary*.

On a more general level, accommodated propositions are not always accepted as antecedents by connectives. *À ce moment-là* may assume an inferential value; it conveys then the same type of relation as *donc* or *alors*. In such uses it cannot always be replaced by *donc*. Their interchangeability depends on the semantic type of the proposition used in the left utterance. If it is an accommodated proposition, i.e., an *if clause*, *donc* is inappropriate, while *alors* and *à ce moment-là* are natural (Choueiri, 2002).

- (21) Tu dois aller voir Marie. À ce moment-là tu sauras ce qui s'est passé.
You must go and see Mary. À CE MOMENT-LÀ, you will find out what has happened.
- (22) Tu dois aller voir Marie. Alors tu sauras ce qui s'est passé.
You must go and see Mary. ALORS, you will find out what has happened.
- (23) Tu dois aller voir Marie. ??Donc tu sauras ce qui s'est passé.
You must go and see Mary. DONC, you will find out what has happened.

By contrast, *à ce moment-là* is not appropriate when the left proposition cannot be interpreted as being an accommodated *if-clause*. As for *alors*, it accepts both accommodated and nonaccommodated propositions as its antecedents.

- (24) Tu es allé voir Marie. ?? À ce moment-là tu sais ce qui s'est passé.
You went to see Mary. À CE MOMENT-LÀ, you know what has happened.
- (25) Tu es allé voir Marie. Alors tu sais ce qui s'est passé.
You went to see Mary. ALORS, you know what has happened.
- (26) Tu es allé voir Marie. Donc tu sais ce qui s'est passé.
You went to see Mary. DONC, you know what has happened.

A final group of items that I will use to illustrate the way in which connectives determine the semantic type of their arguments conveys a completely different type of relation. It provides information about the topical organization of discourse and includes items such as *à ce propos* and *à propos de*. They are studied in Beaulieu-Masson (2002), where the difference between the antecedent required by *à ce propos* and the one required by *à propos de* is pointed out.

- (27) J'ai vu de très belles églises à Naples. À propos d'églises, es-tu bien allé à la messe hier?
I saw some beautiful churches in Naples. À PROPOS DE churches, did you attend the mass yesterday?

- (28) J'ai vu de très belles églises à Naples. ??À ce propos, es-tu bien allé à la messe hier?
I saw some beautiful churches in Naples. À CE PROPOS, did you attend the mass yesterday?
- (29) J'ai vu de très belles églises à Naples. À ce propos, es-tu allé visiter la cathédrale de Chartres?
I saw some beautiful churches in Naples. À CE PROPOS, have you ever visited the Chartres Cathedral?

These examples are used to indicate that *à propos de* may take a generic object as antecedent, while *à ce propos* requires a proposition denoting the attribution of a property to an object, i.e., the property of being beautiful as applied to certain churches.

3. Functional spectrum

Within this approach, the functional spectrum is determined in relation to the type of context where a connective may occur. Three main context types may be distinguished.

- Inferential contexts: the relation is motivated by an inferential link (i.e., deduction or abduction).
- Corrective contexts: the relation is motivated by a left-context modification.
- Topical contexts: the relation is motivated by the use of some topic accessible from the left context.

The connective performs a different operation in each context type. The same operation may be applied to various discourse configurations. For instance, in an inferential context we may have argumentative/counter-argumentative or illocutionary/content-based configurations (see section 4). The interaction between the operation and the discourse configuration itself is responsible for the connective's polyfunctionality. The operations corresponding to these three context types can be represented in a dynamic semantics framework inspired from Veltman's (1996) Update Model.

Within such an approach, discourse flow is represented as a series of successive eliminative updates on information states. An information state consists of a set of worlds. Each world stands for a complete set of propositions. Updating an information state with a proposition means eliminating all the worlds where that proposition is false. The update is considered successful if it does not result in the empty set. Connectives are conceived of as devices signalling relations between updates. The notation system we adopt uses *X* and *Y* as labels for the utterances corresponding to the left and right contexts, respectively.

Each operation is determined by the way in which the connective interacts with the information state.

- The connective uses a certain information state in order to guarantee the success of an update on another information state.
- The connective modifies the information state provided by the left context.
- The connective uses the information state provided by the left context as a frame for highlighting a parallelism or a contrast.

Connectives commonly considered as causal (i.e., *therefore*, *because*, *since*) use an information state as a guarantee to ensure the success of an update on another information state; several inferential processes are involved in this mechanism. Nevertheless, certain authors show how a concessive relation may be considered to be the negative counterpart of a causal one.³ The example given below is taken from König and Siemund (2000):

- (30) a. / The house is no less comfortable because it dispenses with air-conditioning. /
b. The house is no LESS comfortable / although it dispenses with air-conditioning. /
[/ stands for a pause; capitals stand for emphasis on less]
(König and Siemund, 2000: 354)

The authors of this paper base their demonstration on the existence of a presupposed logical implication noted $P \rightarrow Q$, corresponding to the expression of a law derived from the propositions connected. This implication is valid for a negated causality as well as for a concessive relation. Using this expedient, they establish the semantic equivalence between the construction $\sim(\textit{because } p, q)$ and the construction *although* $p, \sim q$ as follows:

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|-------|---|---|---------------------------------|
| (i) | $\sim(\textit{because } p, q)$ | | <i>although</i> $p, \sim q$ |
| (ii) | $P \rightarrow Q; p$ (presuppositions) | | $P \rightarrow Q; p$ (presupp.) |
| (iii) | $\sim(p \ \& \ q)$ | | |
| (iv) | $p \ \& \ \sim q$ (since p is a presupp.) | = | $p \ \& \ \sim q$ |

Since the negation of a causal construction does not affect its presuppositions, these go through unchanged (cf. line (ii)). The negation relating to the whole causal construction in line (i) can therefore only relate to the assertive part of its meaning, i.e., the conjunction $p \ \& \ q$ (cf. line (iii)). Since we also assume that the causal clause represents presupposed material, the negation can only affect the main clause, as is indicated in line (iv). The external negation of a causal construction is therefore shown to be equivalent to the internal one of a concessive construction. (König and Siemund, 2000: 354).

This enables us to see that causal and concessive connectives share the property of using information states in order to guarantee the success of an update on another information state.

The above-mentioned implication indicates that the connective uses the current information state as a guarantee. It bases the relation on some general law derived from this current state. This law represented by an implication between two quantified propositions enables the connective to use one information state in order to ensure the success of an update on another information state. The term *guarantee* means that the connective does not only refer to the previous information state, but it also uses it in an inferential procedure.

Another situation occurs when the connective modifies the information state provided by the left context. Some connectives have the capacity of cancelling updates on some previous information state. Let us look at the following examples provided by Razgouliaeva (2002).

- (31) La Bovary traînotte toujours, mais enfin avance. J'espère d'ici à quinze jours avoir fait un grand pas.
(Flaubert, *Correspondance*, 1853, p. 131).
Mrs. Bovary is still dawdling, MAIS ENFIN she is moving on. I hope I will manage to take a big step forward in the next fifteen days.
- (32) Vous êtes encore très bien, et tout le monde dit que vous ne paraissez pas votre âge; et quand vous sortez avec moi, mes anciennes camarades de classe vous prennent pour mon amoureux . . . mais enfin, vous avez changé (Fonson, Wicheler) (Razgouliaeva, 2002).
You're still very good looking, and everybody thinks that you don't look your age; and when you go out with me, my former classmates believe that you are my lover . . . MAIS ENFIN you are no longer the same.

This paper shows that the suppression of *enfin* makes the contrast stronger. Leaving aside the problems raised by the concatenation of two connectives, we may say that the difference in contrast strength sheds light on the way *enfin* acts on the information state provided by the left context. Using these examples as a starting point, we may construct some simpler structures where the difference in contrast is quite clear.

- (33) Les journées passent lentement en prison, mais enfin elles passent.
Days are very long when you're in jail, MAIS ENFIN they pass by.
- (34) Les journées passent lentement en prison, mais elles passent.
Days are very long when you're in jail, MAIS ENFIN they pass by.
- (35) Vous n'êtes pas vieux, mais enfin vous n'êtes pas tout jeune.
You are not old, MAIS ENFIN you are not very young.
- (36) Vous n'êtes pas vieux, mais vous n'êtes pas tout jeune.
You are not old, MAIS you are not very young.

The stronger contrast in the examples where *enfin* is absent comes from the fact that the right utterance seems to contradict the left one by denying a conventional implicature attached to it (*the days do not pass by* in (34) and *you are young* in (36)). According to Razgouliaeva, *enfin* has the capacity of cancelling such an implicature, thus making the contrast weaker. The ability to delete some information conveyed by the left context can be tested by resorting to examples where *enfin* is not accompanied by *mais*. As assumed in Rossari (2000, ch. 3), in some contexts *enfin* may cancel the illocutionary goal of a speech act.

- (37) Où étais-tu hier soir? Enfin tu n'es pas obligé de répondre.
Where were you yesterday night? ENFIN you don't have to answer my question.
- (38) Va voir Marie! Enfin fais ce que tu veux.
Go and see Mary! ENFIN do as you want.

In such structures the use of *mais* is impossible because the connective does not eliminate the contradiction and causes an illocutionary suicide.

- (39) Où étais-tu hier soir? ?? Mais tu n'es pas obligé de répondre.
Where were you yesterday night? MAIS you do not have to answer my question.
- (40) Va voir Marie! ?? Mais fais ce que tu veux.
Go and see Mary! MAIS do as you want.

This difference in acceptability indicates that *enfin* succeeds in eliminating the contradiction by cancelling the conventional implicature which consists of the illocutionary goal attached to any question or request (i.e., the desire of getting an answer or the desire of getting a certain action performed by the interlocutor).

A final situation occurs when the connective uses the information state provided by the left context as a frame for highlighting a parallelism or a contrast. Some connectives (such as *à l'instar*, *de même*, *à ce propos*) underline a parallelism and others (such as *à l'inverse*, *à l'opposé*, *au contraire*) a contrast. However, both types have to resort to the left information state in order to ensure the link with the information state they update with utterance Y; parallelism or contrast exist only if the two situations are conceived together, in relation to each other. Because of this, the connective may hardly be suppressed, as shown in the following examples:

- (41) J'ai vu de très belles églises à Naples. À ce propos, es-tu allé visiter la cathédrale de Chartres?
I saw some beautiful churches in Naples. À CE PROPOS, have you ever visited the Chartres Cathedral?
- (42) ??J'ai vu de très belles églises à Naples. Es-tu allé visiter la cathédrale de Chartres?
I saw some beautiful churches in Naples. Have you ever visited the Chartres Cathedral?
- (43) Marie parle anglais couramment. De même ses frères et sœurs sont très doués pour les langues.
Mary speaks English fluently. DE MÊME her brothers and sisters have a real gift for languages.
- (44) ??Marie parle anglais couramment. Ses frères et sœurs sont très doués pour les langues.
Mary speaks English fluently. Her brothers and sisters have a real gift for languages.

However, these structures become natural if parallelism is emphasized in utterance Y, because the absence of the connective is compensated for by an analogy marker.

- (45) J'ai vu de très belles églises à Naples. Es-tu allé visiter la cathédrale de Chartres, qui est aussi très belle?
I saw some beautiful churches in Naples. Have you ever visited Chartres Cathedral, which is also very beautiful?
- (46) Marie parle anglais couramment. Ses frères et sœurs ont également appris l'anglais très jeunes.
Mary speaks English fluently. Her brothers and sisters also learned English when they were very young.

These connectives' capacity of using a particular information state in order to highlight parallelism or contrast is not derived from the contextual property attaching any discourse unit to a particular piece of information. It is rather due to a lexical property as such, as shown by the difference between the examples where the connective is being used and those where it is not.

4. Model

The various operations mentioned in the preceding section are represented within Veltman's (1996) framework. We will use two connectives, *alors* and *après tout*, to illustrate the way we may correlate the parameters governing their use with general devices in update operations.

4.1. Alors

It has often been noted that some connectives may act not only on the content level, but also on the speech act level (see Sweetser, 1990, among others). In its nontemporal use, *alors* seems to have this property, since it can be employed to introduce a question after an assertion on which the former is based.

- (47) Tu mourais de faim tout à l'heure. Alors pourquoi ne manges-tu pas maintenant?
You were starving a moment ago. ALORS why aren't you eating right now?

It may thus appear as being able to assume both semantic values, since it either connects speech acts or contents. However, it cannot be used in a speech act configuration such as the following:

- (48) Je n'ai pas pu assister au dernier cours de maths. ??Alors pourquoi est-ce que les triangles sont isocèles?
I wasn't able to attend the last maths class. ALORS why are these triangles isosceles?

Structures similar to (47) are analysed in Jayez (2002), where it is shown that, because of the connective, the question is entailed by the propositional content of the preceding assertion. Jayez uses the neologism *impliquestion* to designate such configurations. Specifically, his analysis examines *yes/no*-questions and *wh*-questions. He proposes to represent the consequence link in relation to the propositional content of the *impliquestion* and not in relation to its denotation (i.e., the possible answers it might have). The

assumption he makes about *yes/no*-*impliquestions* goes as follows: "Dans un contexte où un contenu propositionnel *p* n'est pas tenu pour certain ou pour faux, une *impliquestion* oui-non de contenu *p* est légitimée par le fait de renforcer ou d'affaiblir *p* (et non pas les réponses possibles à la question)" (Jayez, 2002: 149).

The structure in (47) corresponds to a *wh*-*impliquestion*. It is quite difficult if not impossible to represent its propositional content. Hence, I will use the question denotation in order to represent the link with the preceding assertion. This link determines the connective's appropriate use. The difference between (47) and (48) is accounted for by the way we interpret the *wh*-question. In (47) it is interpreted as having a negative answer (*the interlocutor has no reason for not eating*), while in (48) it is interpreted as having a causal answer (*these triangles are isosceles because they have two equal sides*). Since a question can be assigned no truth value, there is no update performed but merely a check on the information state.⁴ This check guarantees that such an update would not result in the empty set. That amounts to saying that there is at least one world where the propositions *the interlocutor has no reason for not eating* and *these triangles are isosceles because they have two equal sides* are respectively true. The difference between (47) and (48) may be accounted for by taking into consideration these two answers.

The relation established by the connective between utterance X and utterance Y could be schematically represented as follows. In (47), the check on the information state resulting from Y cannot fail since the general law updated by *alors* (i.e., *when someone is starving, he has no reason for not eating*) ensures the existence of *p* [i.e., *the interlocutor has no reason for not eating*] in at least one world. In (48), the check on the information state resulting from Y fails because the general law *when someone does not attend a class, he has to catch up with what has been taught* does not ensure the existence of *p* [i.e., *these triangles are isosceles because they have two equal sides*] in at least one world.

This representation accounts for the constraints affecting the polyfunctionality of a connective occurring in inferential contexts. A marker such as *alors* will always be propositional-content sensitive, even in structures where the connection seems to concern the speech act level. Thus, the operation it performs stays the same, even if the relation may hold either at the speech act level or the content level.

4.2. Après tout

The use of *après tout* is appropriate when some revision process is operational. This process has two stages:

- Suppression: we may say that an update is being suppressed if a connective renders the proposition updated by utterance X neither true nor false in the subsequent information state.
- Substitution: after the suppression procedure is performed, the converse proposition is updated. Thus the initial proposition is replaced by its converse in the resulting information state.

The revision process has been tested on French rephrasing connectives such as *enfin*, *disons*, *de toute façon*, *quoi qu'il en soit* (Rossari, 2000, ch. 3), and *en réalité* (Rossari, 2002). Here I will resort to it so as to capture some possibilities of use of *après tout*. As it

has been emphasized by various approaches, this connective is particularly polyfunctional. Philippi (1999) has pointed out the extreme diversity of its functions; for instance, it has been described both as a reformulation connective (Roulet, 1990) and as an argumentation marker (Blakemore, 1987). These divergent perspectives are not surprising, since *après tout* seems adaptable to any discourse configuration. For instance, it may be used in argumentative configurations, where its host utterance can be interpreted as justifying the preceding one:

- (49) Cette voiture est trop chère. Après tout elle a déjà plus de 100.000 kilomètres.
This car is too expensive. APRÈS TOUT it has run more than 100,000 km.

It may occur in counterargumentative configurations, where the host utterance introduces some sort of counterexpectation:

- (50) Cette voiture est trop chère. Après tout elle est vraiment belle et j'ai absolument besoin d'une nouvelle voiture.
This car is too expensive. APRÈS TOUT it is really beautiful and I definitely need a new car.

It may also occur in illocutionary configurations, where it attenuates the illocutionary suicide in the same way as *enfin* does.

- (51) Où étais-tu hier soir? Après tout tu n'es pas obligé de répondre.
Where were you yesterday night? APRÈS TOUT you don't have to answer my question.
- (52) Va voir Marie! Après tout fais ce que tu veux.
Go and see Mary! APRÈS TOUT do as you want.

Nevertheless, it may also be used in contexts where *enfin* is unnatural.

- (53) Marie est enceinte. Après tout??Enfin tu es peut-être déjà au courant.
Mary is pregnant. APRÈS TOUT/Enfin perhaps you already know it.
- (54) Avec qui étais-tu hier soir ? Après tout??Enfin je le sais.
Who did you go out with yesterday night? APRÈS TOUT/Enfin I know who that was.
- (55) Arrête de boire ! Après tout??Enfin je ne suis pas ta mère.
Stop drinking! APRÈS TOUT/Enfin I am not your mother.

The marker's use in the above-mentioned configurations may be accounted for by the underlying suppression mechanism. The proposition being suppressed corresponds to a semantic entity derived from the speech act performed. It may either be one of its felicity conditions or its presumed relevance. More specifically, in (53) *après tout* enables the suppression of one of the felicity conditions of the assertion, i.e., *the hearer does not already know the information conveyed by the proposition*. As far as questions are concerned, the suppressed proposition may correspond to the felicity condition stipulating that *the speaker does not already know the answer* (54). As for orders, the felicity

condition being suppressed may run as follows: *the speaker has the appropriate social status* (55). The illocutionary suicide provoked by utterance Y in these three configurations is thus cancelled.

However, *après tout* may also be used in configurations where utterance Y, instead of giving rise to a possible illocutionary suicide, reinforces the speech act conveyed by utterance X.

- (56) Marie est enceinte. Après tout tu ne pouvais pas le deviner.
Mary is pregnant. APRÈS TOUT you could not have guessed it.
- (57) Avec qui étais-tu hier soir? Après tout je n'en ai aucune idée.
Who did you go out with yesterday night? APRÈS TOUT I have no idea who that was.
- (58) Arrête de boire! Après tout je suis ta mère.
Stop drinking! APRÈS TOUT I am your mother.

In such contexts, utterance Y reasserts the appropriateness of the act conveyed by utterance X. In other words, the speaker acts as if the felicity conditions attached to the latter hadn't been fulfilled.

The difference between the structures where *enfin* is possible (namely, (51) and (52)) and those where it is unnatural (namely, (53), (54), and (55)) is that in the latter, the suppression operation affects the relevance of the speech act, whereas in the former this very speech act remains apposite: the speaker merely communicates that the hearer doesn't have to perform the action required. When *après tout* occurs in argumentative configurations, the suppression mechanism bears on the presumed relevance of the speech act conveyed by utterance X. In (49), *après tout* suppresses a proposition of the type *X is a good argument for Z* ($Z = \text{Not to buy the car}$). In counterargumentative configurations (50), the suppression concerns the same type of proposition, but it is motivated by the introduction of a counterargument to X, while in argumentative configurations it is motivated by the introduction of a better argument than X.

This revision process accounts for the polyfunctionality of *après tout*. By suppressing an update, this connective is able to occur in various rhetorical configurations where it displays a wide range of semantic nuances (i.e., argumentative, counterargumentative, and corrective).

5. A broader perspective

The broader perspective in which our research may find some relevant extension is twofold. First, it provides for confrontation with theories on discourse relations. One of the main features emphasized by such an approach is the radical discrepancy between the constraints governing discourse relations in general and the parameters governing the use of a connective. Even if there are cases where connectives do signal a particular coherence relation, they should never be considered as the linguistic counterparts of discourse relations. Although they do not contribute to the semantic content of the proposition in which they occur, they impose semantic constraints on the entities they

connect. In contrast, the appropriateness of a discourse relation depends exclusively on the possibility of attaching an information unit to a certain discourse constituent (see Asher, 1993, among others). Therefore, such relations are based on principles that are not adaptable to constraints conveyed by connectives. An approach that would aim to predict both types of constraints might be able to take a big step forward in the study of the parameters governing discourse well-formedness.

Second, the formal properties of connectives could be used as a starting point for proposing some distinctions within the DM class. It might prove useful to adopt a dynamic semantics framework in order to highlight the properties of other members of the class, such as interjections (i.e., *regarde*) or modal particles (i.e., *vraiment*). The fact of placing constraints on the left context could be, for instance, one of the properties that might differentiate connectives from other DMs. By contrast, items such as *regarde* and *vraiment* are focused on the utterance in which they occur; they could perhaps be described in relation to the kind of indication they give on updates.

Notes

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- ² The notion of accommodation is borrowed from Lewis (1979). Roberts (1996) uses it to show how a particular modal discourse concatenation works. Schwenter (2001) employs it to account for the dialogical use of Spanish additive connectives.
- ³ Carel and Ducrot adopt such a view from a different perspective, when they assume that the so-called *donc*-clauses and *pourtant*-clauses are interdependent.
- ⁴ A different hypothesis is put forward in Jayez (2002). Since this analysis uses the propositional content of the question, it is possible to envisage a real update performed on at least one of the worlds pertaining to the information state under consideration. I resort here to the representation adopted in Jayez and Rossari (1998), where the answers are used to describe the way the link works.