Anticipation in Conference Interpreting:
A Cognitive Process

Sonia Vandepitte

Ghent Translation and Interpreting College

soniavandepitte@hotmail.com

ABSTRACT

In conference interpretation research, anticipation is usually seen as the oral production of a particular part of a message in special circumstances. In psychophysiological research, however, anticipation is a mental process. The article presents a revised definition of anticipation that takes account of both approaches. It does so in terms of deliberate enrichment, a conceptual tool from relevance theory. Anticipation in conference interpreting is found to yield a high number of strengthenings rather than deletions, additions or contextual implications. This is a cognitive aspect which is typical of interpreting and distinguishes it from other communication events.

1. Anticipation in conference interpreting studies

1.1. A brief survey

In conference interpreting studies, anticipation is a generally recognized strategy. The recent volume by Englund Dimitrova and Hyltenstam on simultaneous interpreting (2000) includes both de Bot and Moser-Mercer, et al. referring to anticipation. Next year, it will be half a century since the concept was first mentioned in connection with conference interpreting by Herbert (1952). It then took a quarter of a century before any further research on anticipation was presented. In 1978, at the NATO Symposium on Language Interpretation and Communication in Venice, three investigations dealt with the topic. Wilss

based himself on the work by Mattern (quoted in Wilss, 1978: 346), and suggested developing anticipation abilities in interpreter training. Lederer (1978: 330-2) explicitly mentioned the cognitive anticipatory activities of word prediction and sense expectation, and returned to them in later work (1980 and 1981). And Le Ny (1978) looked at anticipation from a psychosemantic point of view. After these introductory approaches, Gile (1985 and 1995a: 170) resumed the discussion of anticipation and regarded it as an example of inversion of the four efforts involved in conference interpreting. From a psycholinguistic point of view, Chernov saw anticipation as the result of message redundancy (1992 and 1994). Later, Setton (1998: 174, 1999) discussed instances of anticipation within his coherent model covering all activity in SI, i.e. a cognitive-pragmatic approach conflating both the top-down and the bottom-up approaches in studies on conference interpreting and relevance theory. Van Besien (1999 and 2000) stressed the need for a process-oriented approach. And from a purely didactic point of view, finally, there were findings and exercise suggestions by Van Dam (1989) and Kalina (1992).

1.2. Anticipation traditionally defined

In conference interpreting (Wilss, 1978; Lederer, 1978; Gile, 1985; Van Dam, 1989: 175[1]; Setton, 1998: 174 and 1999: 52[2]; Van Besien, 1999 and 2001), anticipation is usually defined as:

> the target language production by the interpreter of a (string of) word(s) before (or simultaneous with) the speaker's production of the corresponding (string of) words.

This definition sees anticipation as an empirically observable act. One could call it the result or product-oriented view of anticipation[3].

Example S8 from Setton (1999: 138, 217-8 and 297-8), copied below, illustrates how three interpreters (IL, IA and IB) anticipate the speaker's verb *miterfaât* in a text:

1.S.	Der Europäische Subventionsbetrug wird – das ist hier in ihrem Kreis schon gesagt worden – in der Bundesrepublik Deutschland durch den Pan in den Siebziger Jahren eingefügten Paragraphen 264 des Strafgesetzbuches gegen Subventionsbetrug **miterfaât**.
IL.	is a crime which has been **enshrined**
IA.	This is something that – is **regulated**
IB.	as already been said in this particular seminar is **treated**

Each of the three interpreters produce an alternative (*enshrined, regulated* and *treated*) before the speaker utters *miterfaât*.

1.3. Types of anticipation

Depending on differences related to the production of anticipation, different types of anticipation have been distinguished. First, Lederer (1978: 331) recognized "[a]nticipations based on language prediction" (which have later been referred to as linguistic anticipation[4], e.g. Setton, 1999: 52), on the one hand, and "[a]nticipations based on sense expectation" (which have later been called extralinguistic anticipation, e.g. Setton, 1999: 52) on the other hand (e.g. the above example S8 from Setton).

These two types of anticipation actually involve the activity of different modules in the mind. With the former, a particular linguistic item (e.g. the second element of a collocation) is retrieved by means of *linguistic* knowledge only, as the following example from Lederer illustrates:

"Sugars are playing important positive roles".
"Le...   rôle positif et important des sucres".

Through their linguistic knowledge, interpreters who have heard the speaker utter *play* are able to produce the word *rôle* before actually having heard the word *roles*. Any native speaker of English, for instance, is able to continue the utterance

She was green with ...

with the word *envy*. Sometimes, however, one word may occur in different collocations, for instance, *to hold off*. An utterance like

They held off ...

cannot be finished with the linguistic information present only: one needs additional (situational or cotextual) *pragmatic* information. If that information is present, the second type of anticipation can be produced. For example, as soon as one knows *they* refers to *the general and a few high officers,* one may think in terms of holding off something like 'the enemy's attack'. If, on the other hand, *they* refers to *committee members,* one may continue the utterance with 'their decision'. A particular type of such extra-linguistic or sense-based anticipation is Goodale's "ritual anticipation": in particular situations it is usual to produce clichés for greetings, farewells, expressions of thanks, approval and disapproval (Goodale, 1987).

Secondly, Lederer (1980) also made a distinction between anticipation proper and freewheeling: in the former instance the interpreter's production comes before the speaker's production, in the latter it comes more or less at the same time as the speaker's production.
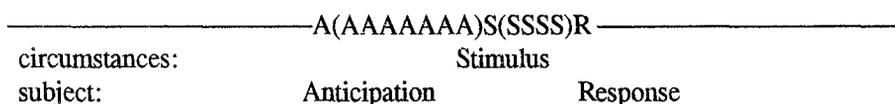
1.4. Anticipation goals

Whatever type of anticipation is produced, it is usually seen as one of the strategies with which an interpreter can deal with the complex process of interpreting as a whole. But which precise aspect of that process is it that anticipation addresses? Adopting Künzli's definition of strategy, which is repeated in Moser-Mercer (1997: 258) as "a strategy is the use of declarative or procedural knowledge that a translator brings to a conscious or unconscious problem situation", the investigator thus has the task of identifying the specific problem that interpreters face whenever they deploy the strategy of anticipation.

According to Wilss (1978), the primary purpose of anticipation is "the achievement of high-quality simultaneous interpreting performance". In Setton's view, such high-quality boost can be achieved through better achievement of synchronicity (Setton, 1998: 174). In particular, still according to Setton, anticipation is "typically used for countering verb-last or Head-noun-last structures" (1999: 52). The last strategy, however, seems to be inspired mainly by the kind of data that are commonly used for discussions of anticipation: most of them are from interpreting from German into French or English, i.e. from an SOV— into an SVO-language (Wilss, 1978; Le Ny, 1978; Lederer, 1981; Gile, 1985; Van Dam, 1989; Setton, 1999 and Van Besien, 1999 and 2001). There is, however, no a priori reason why anticipation could not be adopted when interpreting from a verb-first or head-noun-first structure[5] into an SOV-language. In such an instance, the interpreter needs to counter object-last or modifier-last structures. From a linguistic point of view, I would therefore like to formulate a broader strategy, i.e. that of countering 'opposite branching' in the case of languages with non-isomorphic sentence structure (whether it is left branching when translating from an SOV-language into an SVO-language or right branching when translating from an SVO-language into an SOV-language).

2. Anticipation in psychophysiology

Anticipation outside linguistic contexts has also been the subject of investigation by various psychologists and psychophysiologists in recent years. They examined subjects (for physiological changes such as heart rate, or response readiness measured by electromyographical recordings) when these anticipate an event (such as a dangerous situation) or an activity (such as reading, playing tennis, driving a car, controlling air traffic). Anticipation is then reflected in the body's preparation for a particular action (e.g. holding a tennis racket in the right way) as soon as there is a particular stimulus (e.g. a high ball coming from the left). In other words, anticipation is related to an action to be performed at a future time, i.e. as soon as a particular stimulus (S), or set of stimuli (SSSS), occurs. Schematically, anticipation (A) can be presented on a time axis as follows:

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─────────────────────────A(AAAAAAA)S(SSSS)R ─────────────────────
      circumstances:                    Stimulus
      subject:            Anticipation              Response
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In this scheme, a subject finds him— or herself in particular circumstances in which a certain stimulus (S) can be expected to take place, which will require an immediate response (R) from the subject.

At least one important claim from this body of research is relevant for anticipation in interpreting: anticipation of an impending stimulus of whatever kind is actually voluntary attention (Öhman, Hamm & Hugdahl 2000[2]: 536-9, 552ff). The physiological anticipatory changes are triggered by the nucleus ambiguus branch of the autonomic nervous system. This system deals with cognitive processes such as attention. In other words, anticipation is a cognitive process or activity.

3. Towards a cognitive definition of anticipation

Considering the results of both approaches, the investigator is left confused: the definitions from both fields clearly do not have the same referent. The conference interpreting definition of anticipation does not reflect the psychophysiologists' view of anticipation as a particular **mental** activity, neither does it correspond to the cognitive view that many interpreting researchers themselves hold of anticipation (Le Ny, 1978; Lederer, 1981; Gile, 1985; Kalina, 1992; Setton, 1998 and 1999; Van Besien, 1999 and 2000 and De Bot, 2000). Le Ny (1978: 295), for instance, suggests the idea that anticipation is an ongoing activity which runs parallel to the perception of the incoming speech sounds and their semantic analysis. In his view, anticipation yields successive *expectations* of meanings, organized according to the output language, which are taken as a standard with which the meanings of the incoming words are compared, and if they match, that particular string of anticipated meanings is produced. Kalina (1992) regards anticipation as a strategy to be applied at the comprehension stage only (a strategy which may or may not be followed up at the next stage of expressing the message). In her view, anticipation is part of *processing* the source text, both bottom-up and top-down. De Bot's view (2000), too, is cognition-oriented: while admitting that the precise way in which anticipation works in a language production process is still unclear, he sees anticipation as *using previous knowledge*, i.e. as activating semantically based subsets in the lexicon.

Clearly, the conference interpreting definition above, seeing anticipation as a response only, does not recognize the duality that anticipation seems to consist of. While paying attention to the field of performance, i.e. the easily observable production of an utterance, it ignores the cognitive field, which is only observable through the measurement of not immediately observable physiological changes such as heart rate, perspiration production, etc. If conference interpreting studies is to grasp the phenomenon of anticipation comprehensively, however, it is essential that a definition of anticipation in conference interpreting *fully* recognize the cognitive character of anticipation.

We can move in this direction by applying the view from psychophysiology to an instance of anticipation. Here, the stimulus that the interpreter is waiting for is (the initial part of) the speaker's speech itself, and in particular the first part of their utterance. In other

words, the stimuli the interpreters prepare themselves for (S) are the sounds coming from the speaker. These sounds induce ideas, i.e. mental representations or assumptions. In response to these assumptions, interpreters will produce an utterance (R) that conveys the same mental representation. Hence, interpreters are mentally and bodily preparing to produce the speaker's message in another language. Anticipation is therefore the production of a particular mental representation without it being completely induced yet through the speaker's sounds. Schematically, interpreting anticipation can be presented as follows:

———————————————————A(AAAAAAA)S(SSSS)R ——————————————
circumstances: Stimulus
speaker, conference room   speaker's partial message
subject: Anticipation   Response
interpreter   bodily and mental   production of target language
                              preparation   equivalent to speaker's message

in which stimulus S stands for the initial *part* of the speaker's uttered proposition, which is *fully* completed in the interpreter's corresponding utterance R.

4. Anticipation in relevance theory

4.1. A preliminary definition

Within a relevance-theoretic approach to translation and interpreting (Gutt 2000[2]), only Setton analyses a few corpus instances of anticipation in terms of "natural inference followed by production from the representations inferred" and the principle of pragmatic incrementality[6] (1999: 270). It is possible, however, to present a more explicit image.

The framework of relevance theory is adopted, because it is the most appropriate theoretical framework available. First, relevance theory is a well-founded cognitive approach of communication based not only on linguistic but also on pragmatic insights (e.g. Grice's well-known conversation analysis). Secondly, it offers conceptual tools that seem appropriate in understanding some of the interpreting processes (such as logic, cognitive environment, contextual effect , and inferences — cf. Chernov, 1992 and 1994). Thirdly, and most importantly, the comprehension stage of an interpretation is a regular case of ostensive-inferential communication. Indeed, when conference interpreters listen to a speaker, they receive "a stimulus which makes it mutually manifest to communicator and audience that the communicator intends, by means of this stimulus, to make manifest or more manifest to the audience a set of assumptions" (Sperber and Wilson, 1986: 155). In other words, when the interpreter listens to the speaker and understands the message (Gile's Comprehension Effort, 1995: 162ff), we may assume that the principle of relevance applies. This means that the first assumption made by the interpreter about the interpretation of a particular utterance that yields enough contextual effect (whether in the way of a

deletion, an addition or contextual implication or strengthening), is held to be the intended one. If that is not the case, the speaker probably has not picked the most relevant stimulus to produce their message or the interpreter did not have enough information or knowledge available to process the stimulus in the most relevant way.

Using the relevance-theoretic concept of 'assumption', we can now rephrase anticipation as follows:

> Anticipation is the interpreter's **mental** generation of (parts of) assumptions that correspond to those that have not yet been expressed by the speaker.

In the case of S8, the interpreters have mentally generated *completed* assumptions (later expressed by means of the verbs *enshrined, regulated* and *treated*) before they had actually received the word *miterfaât* as a phonetic stimulus. The only input they had had from the speaker was an incomplete assumption:

> Der europäische Subventionsbetrug wird ...
> Something is done to European subsidy fraud

4.2. Anticipation as a case of deliberate enrichment

Being in a case where the ending has not yet been uttered resembles situations of not having been able to hear a particular word or just not getting the word from the speaker. When interpreters do complete an assumption in this way, they put themselves in a situation that is similar to, for example, a student hearing from his teacher:

> It will take some time to mark this paper.

in which the student also has to fill in a gap, i.e. decide what "some time" precisely means. In relevance terms, this is a case of enrichment, a procedure in which the listener / interpreter needs to retrieve a missing element in order to find the intended meaning of the message.

How do listeners/interpreters find the missing element? By relying on the tools available: i.e. their comprehension skills, which include an inferential process that applies to the premises available to the interpreters in their cognitive environments.[7] An experienced interpreter, having prepared his cognitive environment in such a way that it resembles the speaker's cognitive environment[8] as much as possible, will then produce an anticipated item that is most likely to be the intended one. In accordance with the principle of relevance, it will be the first result from an inferential process based on the relevant assumptions from his cognitive environment, which yields adequate contextual effect.

In contrast with the normal comprehension process, however, in which the common listener does not feel the urgent need to engage in anticipating, the interpreter **deliberately** tries to complete a proposition that is not yet complete. As if in competition with the

speaker, an anticipating interpreter does not wait a few more seconds to receive the missing element in the speaker's flow of words, but mentally goes on processing.

Rephrasing the definition we can see anticipation as

the mental production of (parts of) relevant assumptions to be used in deliberately produced instances of enrichment,

in which the relevant assumptions are those that the speaker also holds.

In the above definition, Künzli's declarative and procedural knowledge are present: while the interpreter needs the best cognitive environment available for the situation (declarative knowledge), he will use its assumptions in the inferential enrichment procedures that his comprehension skills will rely on (procedural knowledge).

4.3. Anticipation types and goals revisited

Section 1.3 shows how different types of anticipation can be distinguished. From a cognitive point of view, the distinction between linguistic and extralinguistic anticipation remains important. It reveals the workings of two different types of information modules (declarative knowledge) in the mind. Anticipation is clearly not always a matter of linguistics only.

The second distinction, however, that between anticipation proper and freewheeling needs to be situated at the production level, not the mental stage. The core of the distinction seems to lie in production time. Although the reason for differences in production time must be related to cognitive procedures, it seems likely that a long production time is rather due to the individual's cognitive skills or to very specific circumstances than to the character of the cognitive abilities involved.

The three strategy aims, mentioned in § 1.4, too, can be reformulated within the relevance-theoretic approach. Whether the aim of anticipation is defined narrowly in terms of countering structures, or broadly in terms of achieving synchronicity or improving interpreting quality, in each anticipating case, the interpreter conducts a precipitated comprehension act. Acting as if there were a real gap in the information stream from the speaker, the interpreter tries to find relevance for that incomplete utterance. An anticipating interpreter is actively[9] searching for optimal relevance by means of enrichment procedures.

4.4. Anticipation as a mono-strategic process

Kalina (1992) and Van Besien (1999a) explain anticipation in terms of two strategies: "as the result of a combination of a *top down* strategy, i.e. the interpreter hypothesizes on the content of the speaker's utterance before it has been finished, and a *bottom up* strategy, which serves a control" (Van Besien, 1999a: 24). The first strategy resembles De Bot's idea: anticipation may be seen as using previous knowledge, i.e. as activating semantically based subsets in the lexicon. The second strategy, however, is absent in De Bot (2000). In

relevance terms, too, the second strategy cannot be seen as part of the anticipation process itself.

Indeed, the actual anticipatory stage is governed by the principle of relevance, which means that the presumption of optimal relevance leads comprehension to the most optimal interpretation immediately. The interpretation process does not allow for time to first check an inference against the incoming speech. This checking act takes place at what Paradis calls the interpreter's monitoring stage (2000: 23). Only then does the interpreter find out whether the anticipated item corresponds to the one intended by the speaker. Such correspondence can be seen in terms of entailments in in truth-conditional terms. As soon as the speaker's input item is produced, interpreters can check whether their anticipatory item shares any entailments with those derived from the input item. In example S8 *miterfaßt werden* has the following logical entailments:

Be included
Be adopted
Be present

And although the verbs *be enshrined, be treated,* and *be regulated* have different entailments and are used in different contexts[10], they all also share the entailment

Be present.

They are therefore acceptable in an interpreting situation.

If the interpreter's anticipation turns out not to share any entailment with those derived from the speaker's utterance, it is wrong in view of the information processed afterwards. It then needs to be amended at that general self-monitoring stage.

After comparison of this view with Kalina's and Van Besien's two-strategy analysis of anticipation, it is clear that a relevance-theoretic approach does not allow for the bottom-up strategy as control to be part of the anticipation procedure itself. Since the bottom-up strategy is seen to take place on the basis of the incoming speech from the speaker, actual monitoring can only take place *after* the speaker has actually produced the item that was anticipated by the interpreter. In other words, anticipation itself does not involve two strategies, and the bottom-up stage is one of the tasks of the general monitoring process afterwards.

5. Interpreting is different from 'normal communication'

In contrast with Massaro's claim (cf. Gutt 2000: 199), that "no unique or novel skills are required [for simultaneous interpreting], as long as the interpreter knows the two relevant languages as well as the person on the street knows one", interpreters' activities do differ from the common listener's. Although interpreting constitutes a regular case of ostensive-

inferential communication, it has its own distinct characteristics, one of which has already been identified: in order for the interpreter to find relevance in the same way that the speaker finds it, the interpreter needs to build a cognitive environment that resembles the speaker's as closely as possible. The interpreter needs to adapt to the speaker more than any ususal listener needs to. While interpreting, the interpreter must hold all assumptions following from the speaker's utterances as more authoritative than their own. The result is that all the assumptions conveyed in the speaker's message and in contrast with those held previously by the interpreter will eradicate those earlier assumptions (be it temporarily). The more similar the two cognitive environments, the more successful the interpreter will be at anticipating, the easier it will be to obtain simultaneity.

One consequence of this view is that the interpreter does not just actively integrate the speaker's new information into the old information like common good listeners do. In fact, from the old information that the interpreter holds, only those assumptions should be readily retrievable (and actually used in inferential processes) that are similar to the speaker's. In some cases, then, the interpreter may have to suppress some assumptions of their own. In all cases, the interpreter needs to hold all incoming information from the speaker in the same way that the speaker holds it, whether that is in an attitude of belief or disbelief. To summarize, the interpreter consciously or unconsciously manipulates his own cognitive environment in a manner that is not natural to an individual.

Another consequence can be found at the moment when the corresponding constituent representing the anticipated item is actually produced by the speaker, i.e. when the interpreter finds out that his inference process was correct. At that moment, the constituent no longer acts as a deletion / addition / contextual implication in the way that the item will act for a non-anticipating member of the audience. The only cognitive relevance of the item will be one of strengthening: indeed, the interpreter interprets at that moment a piece of information that – to him — is definitely already manifest. The application of an anticipation strategy (and preparation in general) therefore increases the degree of relevance of a speech to the interpreter in terms of increasing one particular type of contextual effects, i.e. the number of strengthenings. I conclude then that it is this specific cognitive aspect, i.e. a high number of stengthenings rather than deletions, additions or contextual implications, which distinguishes an interpreting event from other communication events.

6. Summary

Although the speculative character of the discussion presented will definitely not yield a complete clarification of the process of anticipation in de Bot's terms, it may help establish a better notion of anticipation, the cognitive tasks involved and the aims interpreters set themselves. In addition, the relevance-theoretic approach has identified some of the cognitive tasks as typical of interpreting as distinguished from 'normal communication'.

Notes

1. Van Dam uses anticipation in a broader sense: she includes anticipating structural gaps; the 'sentence reduction phase' is, however, very much reminiscent of saucissonage. In other words, this is a completely different mental activity, and its verbal outcome can hardly be called the earlier production of a constituent that is produced by the speaker only later.

2. Setton writes explicitly that anticipation is usually "the *expression* of a spontaneous inference" (Setton, 1999: 241, my italics).

3. Although Van Besien claims his view belongs to the process-oriented one, his basic point of departure remains the interpreter's actual production.

4. Note that Wilss's concept of 'syntactic anticipation' is not a particular type of linguistic anticipation. It is actually a pedagogically relevant concept (Vandepitte Ms).

5. Gile (1995b: 115) claims that interpreting from SOV-languages into SVO-languages is harder, because of "the syntactic importance and informational load carried by the verb" (quoted by Setton, 1999: 186). Anticipating objects from a verb, however, does not immediately seem easier. Let's say, for instance, that, basing ourselves on Setton's S8 example, an English-German interpreter hears *Subsidy fraud is enshrined in*, then the interpreter needs much more specific background information for correct anticipation. In fact, anticipation seems so hard here, that I would advise saussissonage instead. In other words, interpreting from an SOV-language into an SVO-language allows for anticipation even better. Nevertheless, anticipation from an SVO-language into an SOV-language is theoretically possible, and anticipation exercises for training that kind of interpreting directionality are suggested in Vandepitte ms.

6. Setton (1999: 270):
   "Simultaneous Interpreting Principle of (Pragmatic) Incrementality"
   To produce speech before an utterance is complete, a simultaneous interpreter may draw either on a contextualised model, or on a logical or propositional form, which are more or less enriched stages of representation of a recent utterance. Different types of meaning (logical, thematic and pragmatic) may come in any order, and pragmatic and prosodic features relevant to the interpretation of a string can inform formulation before parts of its semantic representation".

7. A person's cognitive environment includes all assumptions that are readily available to them in a given situation.

8. And this is possible if the interpreter already knows the speaker, has heard him in the morning, for example, as opposed to an interpreter producing a mock session (cf. Setton, 1999: 177).

9. This *active* search for optimal relevance clearly reflects Van Dam's notion of anticipation as related to active listening, thinking ahead of the speaker (1989: 172).

10. The word *enshrined*, for instance, may not be acceptable to everyone since its religious connotation is not relevant, as one referee pointed out.

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