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On The Syntax Of Adjuncts In Abstracts
Of Research Articles: A Cross-Disciplinary Study

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Résumé

L'objectif de cet article est d'étudier la syntaxe des groupes adverbiaux. Bien qu'ils soient optionnels dans la structure de la phrase et qu'ils aient plusieurs formes grammaticales, ils sont considérés comme moments de choix syntactique. On cherche à démontrer que c'est le contexte qui agit sur ce choix là, particulièrement le genre d'écriture scientifique, le sous-genre de résumés d'articles scientifiques, et les différentes méthodologies de recherche. Ces variables sont testées dans un corpus représentant deux disciplines différentes par leurs méthodologies (médecine et sociologie). Des méthodes quantitatives et qualitatives sont employées dans l' analyse du corpus formé de résumés d'articles scientifiques de la médecine et de la sociologie pour pouvoir démontrer que le contexte joue un rôle important dans le choix des formes syntaxiques.

الخلاصة

تقدم هذه الورقة بحثا نحويا حول المركبات الظرفية في اللغة الانجليزية و ترتكز أساسا على جانبها الاختياري و تعدد أوجهها وهو ما يشكل مجالا لاختيارات عدة. و الهدف من هذا البحث هو ربط هذه الاختيارات بالسياق وهو في هذا الإطار الخطاب العلمي عامة و نوع الخلاصة خاصة إلي جانب المنهج البحثي. كما تدرس هذه الجوانب في مدونة تضم خلاصات لمقالات من العلوم الطبية وعلم الاجتماع وهما يمثلان نموذجين لمنهجيات مختلفة. وإجمالا تعتمد هذه الورقة على قراءة نوعية و كمية للمركبات الظرفية وتنتهي إلى ربط اختيارها بالسياق.

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1) FLSH, Sfax, University of Sfax. This article is extracted from a master's dissertation supervised by Dr. Akila Sellami Baklouti.

Abstract

The present paper seeks to study adjuncts from a syntactic perspective. Taking into account the fact that they are optional elements in the structure of the clause and that they can have different realisation forms, this study investigates this syntactic choice trying to link it to the context of use, which is in this case the genre of scientific writing, the domain of abstracts and the different research methodologies. In fact, the chosen disciplines, namely medical and social, have different research methodologies since they are instances of hard and soft sciences, respectively. Both qualitative and quantitative methods are used in the analysis of the adjuncts extracted from a corpus made up of research articles' abstracts in the medical and social sciences. The aim is to prove that the syntactic distribution of adjuncts is linked to the context of use.

1. Introduction

The view that grammar and context are interrelated is strongly defended. In fact, Hewings and Hewings (2005) claim that

grammatical choices in speech and writing are made in response to the opportunities and constraints provided by the context in which they occur, and in turn contribute to context. By observing grammatical variations in different contexts we can learn more about those contexts and, conversely, by studying relevant features of context we can learn about their influence in grammar (p.2).

The relation between grammar and context is revealed in the notion of choice about which Halliday (2003) says "the grammar is based on the notion of choice"[1] (p. 180). This can be seen mainly when different grammatical forms, having almost the same meaning, are offered to the speaker. The claim in this article is that the context is one factor that can influence the choice of a particular construction. In accordance with this view, the present paper seeks to study adjuncts because they offer to the writer the possibility of choice because, first, they are optional element in the structure of the clause, or "optional extras", to use Lyons' terminology (1968). The optionality of adjuncts is further stressed by the fact that verbs do not sub-categorise for adjuncts unlike the other elements of the sentence (subject, object, complement). This view is also expressed by role and reference grammar which situates adverbials[2] in the periphery of the clause.

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1) First published in *La Grammatica, La Lessicologia*, Bulzone Editore, 1969.

2) The term 'adverbial' encompasses adjuncts together with disjuncts, conjuncts and subjuncts. (Quirk et al., 2005).

CLAUSE

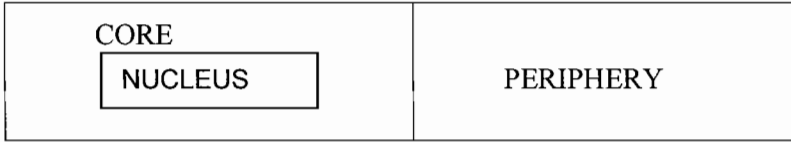| CORE		
NUCLEUS		PERIPHERY

Figure 1. Components of the layered structure of the clause

(Adapted from Van Valin and Lapolla, 1997, p.26)

In functional grammar, Halliday (2004) uses the term 'circumstantials' to refer to adjuncts. He maintains that they are "almost always optional augmentations of the clause rather than obligatory components" and that they are characterised by their freedom to occur in all types of process, with essentially the same significance wherever they occur. Still, Jackson (1992) adds that "circumstances are usually additional, gratuitous information about a situation, which we may include in a proposition, or not, as a matter of choice" (p.47). As a result of their optional character, the number of adverbials in a clause (and mainly adjuncts) cannot be limited, which accounts for their relative frequency, as claimed by Ford (1993). In accordance with these claims, the aim of this article is to study adjuncts with a focus on their frequencies.

In addition to the choice of whether or not to introduce an adjunct in the sentence, the writer or speaker faces a second syntactic choice, namely the structural form. An adjunct can take different forms, specified by Quirk et al. (2005):

1. Adverb phrase with closed-class adverb as head: We will stay there
2. Adverb phrase with open-class adverb as head: She telephoned (very) recently
3. Noun Phrases: Peter was playing last week
4. Prepositional phrases: Peter was playing with great skill
5. Verbless clause: she telephoned though obviously ill.
6. Non-finite verb clauses, where the verb can be:
7. infinitive: Peter was playing to win
   a. – ing participle:
      – she telephoned while waiting for the plane (with a conjunction)

– She telephoned hoping for a job (without a conjunction)

    b. – ed participle: if urged by our friends, we will stay

8. Finite clause: She telephoned after she had seen the announcement.

<div align="right">(Quirk et al., 2005, p.489).</div>

Adjuncts can have different realisations ranging from clausal to phrasal ones (Halliday, 1994; 2004). What is special about these grammatical elements is that almost the same semantic content can be expressed using different syntactic forms. To illustrate this point, Halliday (1994) gives the following example

    c. dependent finite clause: when you reach the monument...

    d. dependent non-finite clause: (On) reaching the monument, ...

    e. prepositional phrase: At the monument...

<div align="right">(Adapted from Halliday, 1994, p.241)</div>

Although structurally different, these realisations convey almost the same meaning. Halliday (ibid) claims that there is a gradual loss of information as one moves from the finite dependent clause to the prepositional phrase. The difference between the first and the second sentences is caused by the loss of medium, mood, subject and tense whereas in the third sentence, there is no transitivity, no mood and no tense.

For this purpose, a scale ranging from the most explicit (Finite clause) to the least explicit (phrasal) forms is built. The choice of the syntactic item from this scale depends on how explicit the writer wants to be; that is the choice of the form depends on the meaning that the writer wants to express.
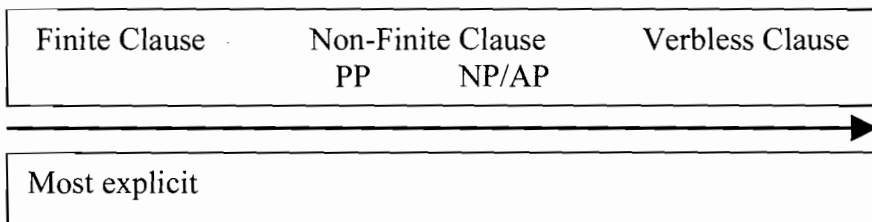
Finite Clause	Non-Finite Clause	Verbless Clause
	PP NP/AP	

→

Most explicit

Figure 2: syntactic realisation of adjunct ranging from most explicit to the least explicit.

In dealing with the syntactic forms of adverbials, Quirk et al. (2005) investigated the different realisations in speech and writing. They came up with the following conclusions

1. There are two forms that are mostly used: prepositional phrases and closed-class items.

2. Speech and writing material do not differ greatly either in overall occurrence or in the distribution of realisation types.

3. But while speech has a higher proportion of noun phrases, written material has a higher proportion of prepositional phrases and non-finite/verbless clauses.

4. Less expected is the higher proportion of finite clauses in spoken material, which runs counter to the widespread belief that the frequency of subordinate clauses is a good indication of relative 'syntactic complexity', and that impromptu speech is syntactically less complex than written English (Quirk et al., 2005, p.490).

The choices resulting from the use of adjuncts and their syntactic forms are linked to the context, as mentioned earlier. The context in the case of the selected corpus is that of scientific writing, in general, and abstracts, in particular. Another variable is taken into consideration while dealing with the context is the difference between disciplines reflected in the research methodologies.

First, the language of science is to be precise, clear, forthright, concise, familiar and fluid, as maintained by Alley (1996, p.11). In addition to these features, the domain of abstracts requires compactness, since they are short summaries of the whole article. Moreover, abstracts are said to be "front matter" to use Swales' terminology (1990) since they help the reader decide 'whether, why and how to read' the rest of the article (Yudkin, 2006, p. 45). Sometimes, like the case of the abstracts studied in this research, the abstract help sell the article since the journals where they are published offer only the abstract for free.

Finally, what can also influence the choice of the grammatical forms is the research paradigm. The abstracts belong to two different disciplines; the medical and the social, which make use of two different paradigms. In medical science, the approach is mainly scientific as it is characterised by the search for general laws "predicting future

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educational outcomes" (Ernest, 1994; Kumar, 1996). In social sciences, however, research is mainly interpretative where "the particular is intended to illustrate the general" (Ernest, 1994).

2. Corpus study

After overviewing the different syntactic forms that an adjunct can have, the objective of this part is to show that the context of use has an influence on grammar which is manifested in the notion of choice.

2.1. Corpus description

The corpus under study is a collection of abstracts of research articles from the domains of medical and social sciences. Made up of nearly 3700 words, the abstracts are randomly collected from online journals in March 2007 (the medical abstracts are taken from www.biowizard.com, while the sociology abstracts are from www.BlackwellSynergyt-Abstracts.htm). Both websites offer the abstracts of the articles for free. However, the full version of the article requires a subscription to the journal (the reader needs to pay a sum of money to get the full version). Thus, the corpus contains two main parts, equal in terms of number of words. The first is made up of 9 medical abstracts while the second has 14 abstracts from sociology.

The choice of abstracts of published articles as a corpus to work on is motivated by the genre of this type of writing. In fact, an abstract is a summary of the main parts of the article. However, there are many restrictions on the number of words that should be contained in an abstract, because it is a condensed form of writing. On the other hand, the abstract should contain a maximum of information about the methodology and the main findings of the paper in order to attract the readership.

2.2. Methodology

In order to study the adjuncts in the corpus, all the occurrences were extracted and then assigned codes and numbers (the code shows whether the adjunct belongs to the medical sub-corpus (M.) or social one (H.)). These adjuncts are then reclassified by nature (PP, NP, FC, etc.) and meaning (place, time, etc.).

As the present research seeks to prove empirically that the syntax of adjuncts is motivated by the context of use. The methodology consists

in studying the different syntactic realisations of adjuncts following three main steps. First, the general distribution is studied in order to identify the difference in frequencies. Second, these results are compared to a similar investigation done by Quirk et al. (2005) on casual speech and writing. The difference between the results is explained in terms of generic norms (casual versus scientific writing). The third step of the analysis consists in studying the most important realisations separately. While focusing on particular instances from the corpus, the syntactic analysis is linked to the genre of scientific writing and abstracts and to disciplinary variations.

2.3. Syntactic realisation

The analysis is divided into three main steps; the general distribution, the comparison to Quirk et al.'s findings and the analysis of the syntactic categories.

2.3.1. General distribution

After extracting all the adjuncts from the corpus, the following table is obtained:

	Medical Sub-corpus	Social Sub-corpus	Total
Closed-class adverbs	3	0	3
Open-class adverbs or AP	13	8	21
NP	0	1	1
PP	66	57	123
Verbless clauses	0	1	1
NFC	14	22	36
FC	12	10	22
Total number of adjuncts	108	99	207

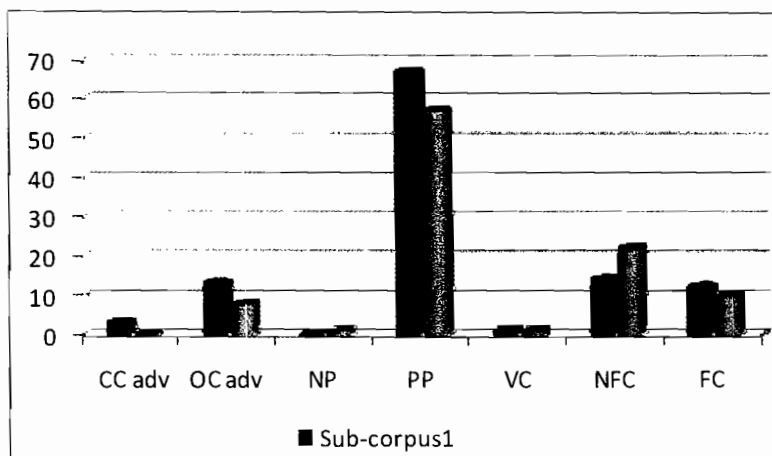**Table 1. Syntactic realisations of adjuncts in sub-corpora 1 and 2.**

Figure 3. Syntactic realisations of adjuncts in sub-corpora 1 and 2.

Table 1 and figure 3 show that, first, the syntactic distribution of adjuncts can be classified into three main categories where the first includes those with the highest number of occurrences. Within this category, the only form is PP. The second category comprises the realisations that are not as frequent as the first category but still have a considerable rate (between 20 and 36 occurrences) such as AP, NFC, and FC. The third category is made up of the realisations that are almost rare in the corpus; specifically closed-class adverbs, NPs, and verbless clauses.

Second, both sub-corpora do not differ greatly either in general distribution or in the realisation types. This is explained by the fact that they belong to the same form of writing, namely formal scientific writing. But while sub-corpus 1 has a slightly higher proportion of prepositional phrases, adverbs and FCs, sub-corpus 2 contains more NFCs.

Moreover, NFCs outnumber FCs, which is also proved by Quirk et al. (2005). This type of writing is supposed to be highly formal. In fact, the authors of written prose have the opportunity to revise in order to provide a more condensed version of the text. In the case of abstracts, compactness is also required seeing that the writer has to say as much as possible in as little space as possible. But this compactness should not lead to ambiguity; in fact, person, number and modal auxiliary should be recoverable from the context, as specified by Quirk et al. (2005). Besides, the relation between the superordinate and the subordinate clauses has to be clear.

Furthermore, compared to the other clausal realisations, verbless clauses are the least used. These types of clauses are more condensed

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than NFC. The writers of abstracts do not opt for them because of the possible ambiguity they can create. Also, closed-class adverbs are not frequently used. This can be caused by their status as deictic elements referring to the 'here' and 'now' of the article. Such information is not the focus of the writers; not only because it is offered by the website which publishes the article, but also because it is not important in its scientific assessment. Moreover, NPs are almost absent; only one NP is used in the human sciences sub-corpus. This may be because NPs are seen as reductions of PPs where the preposition that links the NP to the rest of the sentence is omitted, thus leaving the prepositional meaning unspecified. Therefore, it is possible to say that the absence of NPs is balanced with the overuse of PPs, which bring with them additional precision and specificity.

Comparing the phrasal to the clausal realisations, both sub-corpora use more phrasal adjuncts (74 per cent in sub-corpus 1 and 67 per cent in sub-corpus 2 are phrasal), which can be linked to the compactness preferred in the genre of scientific writing the domain of abstracts.

2.3.2. Comparison to Quirk et al. 's findings

The results found in the general distribution are compared to those found by Quirk et al. (2005) on casual speech and writing:

	Quirk et. al.'s findings : casual speech and writing		Scientific corpus	
	number of occurrences	percentage	number	percentage
PP	594	40%	123	60%
CC adv	524	36%	3	1%
OC adv	142	10%	21	10%
NP	30	2%	1	0%
FC	130	9%	22	11%
NFC	45	3%	37	18%

Table 2. Comparison of the distributions of adjuncts in casual language and scientific writing[3].

3) The number of occurrences is not taken into account because the corpora differ in terms of size: only the percentages are comparable.

Table 2 shows that unlike OC adverbs, NPs and FCs, which have almost the same distribution across both corpora, PPs, CC adverbs and NFCs differ greatly. Since the present article is trying to explore the characteristics of the language of science, the light will be shed on those realisations which make the difference between the corpora. By computing the difference between these realisations, it can be said that the overuse of PPs and NFCs in the scientific corpus (more frequent by 20 per cent and 15 per cent, respectively) is balanced by the use of CC adverbs in casual language (more frequent by 35 per cent).

On the one hand, CC adverbs are almost absent in scientific writing which can be attributed to their imprecise nature. In fact, they are used to show the here and now of the speaker, which seems to be unimportant in the scientific corpus. Furthermore, the use of these "deictic elements" (Lyons, 1968) includes the reference to the writer of the abstract. However, this type of writing "involves an objective exploration of ideas that transcends the individual" (Hyland, 2002).

On the other hand, PPs as well as NFCs seem to characterise scientific discourse. Focusing first on PPs, these forms seem to be important as Quirk (1986) claims, when dealing with locative adverbials, that this class "arguably refers most precisely" (p.41). The use of these forms can be explained by the nature of scientific writing which requires more precision than casual speech and writing.

Moving to the NFCs, these forms are richer in meaning if compared to CC adverbs. In fact, unlike CC adverbs which are the least precise of all the phrasal realisations, NFCs are clausal, which means that they carry more meanings, as specified by Halliday (1994). Moreover, compared to the other clausal realisations (FCs and verbless clauses), NFCs seem to be more precise than VCs and more compact than FCs. As a result, the use of this form in the corpus goes hand in hand with the requirements of scientific and abstracts writings.

For a deeper analysis of these forms (PPs and NFCs), the following sections try to explore individual instances from the corpus.

2.3.3. Prepositional phrases

In order to compare the different possibilities and thus, to account for the grammatical choice, the analysis of prepositional phrases is linked to the meanings that they express. The meanings are taken into

consideration because adjuncts have different semantic functions and because meaning and context, in general, are responsible for the choice of form. In what follows, table 3 summarises the most important meanings expressed by PPs; the other meanings are not considered for space constraints.

	Sub-corpus 1		Sub-corpus 2	
	Meanings	**Occurrences**	**Meanings**	**Occurrences**
PPs	Place	39 (56%)	Place	31 (58%)
	Time	8 (12%)	Time	5 (9%)
	Means	8 (12%)	Comparison	5 (9%)

**Table 3: Most important meanings expressed
by PPs in sub-corpora 1&2.**

Table 3 shows that most PPs are used to express place. There seems to be a correlation between this form and the meaning of place because the analysis shows that 95 per cent of the place adjuncts are realised by PPs, while the other cases are adverbs. The reliance on this form again shows the desire of abstracts' writers to avoid ambiguity and subjectivity.

Knowing that a PP is composed of a preposition and a complement, the focus is now turned to the study of these complements in order to reveal the differences between the sub-corpora. The analysis shows that prepositional complements denoting place can either refer to real places (lymphoma, periphery, cell, cytoplasm, location, home, schools) or metaphorical ones (study, model, teams, sample, society). The following table summarises the distribution of congruent and metaphorical prepositional complements according to sub-corpora (Halliday, 1994, p. 341).

	Congruent	**Metaphorical**
Sub-corpus1	30	7
Sub-corpus 2	9	24

**Table 4: Distribution of congruent and metaphorical meanings
according to sub-corpora 1&2.**

In order to check whether there is a correlation between the use of congruent and metaphorical meanings and the type of corpus, Yule's coefficient is calculated using the following rule: $Q= (A-B) / (A+B)$

This coefficient is applied on table 4, the following result is obtained:

$A= 30×24= 720$

$B= 9×7 = 63$

$Q= (A-B) / (A+B) = (720 – 63) / (720 + 63) = 657/783 = \mathbf{0.839}$

Seeing that the coefficient can vary between -1 and +1, and that it is doubtful or null when its value lies between -0.30 and +0.30, the present result is highly significant. The test shows that $Q = 0.83$ thus proving the presence of a correlation between the medical sub-corpus and the congruent prepositional complement on the one hand, and the social abstracts and the metaphorical complements on the other hand. The difference between the sub-corpora can be attributed to the focus of each discipline. In fact, the use of congruent place adjunct in medical abstract can be linked to the nature of this science which studies congruent elements from the human body. However, social sciences focus on concepts such as "society, gender, team" which are not concrete elements. When used in PPs, these elements become rather metaphorical since prepositions are primarily used with real places. It is the context that influences the choice of meaning and form.

In addition to place, other prepositional phrases are used to express time. The following table contains the adjuncts of time having the form of prepositional phrases in both sub-corpora.

	Sub-corpus 1	Sub-corpus 2
The prepositional phrases	M.11during induction of peripheral tolerance.	H.12. After the relocation
	M.13. in the peripheral induction of regulatory phenotypes	H.24. In May 2002
	M.15. Upon priming in the presence of TGF-beta	H.42. over time
	M.25. prior to conversion to CD25(+) cells	H.48. at Time 1 and 2
	M.28. during early phase of priming	H.55. over

	Sub-corpus 1	Sub-corpus 2
	M.57. in antigen receptor-mediated NFkappaB activation	time
	M.97. Until now	
	M.100 in the activation of NF-kappaB	

**Table 5. Prepositional phrases expressing time
in sub-corpora 1 and 2**

Focusing on table 5, what can be first noted is the frequency of time adjuncts. In fact, in the medical sub-corpus temporal prepositional phrases are more numerous than those in the social abstracts (8 versus 5). This means that the variable of time is more important in medical sciences than it is in social sciences, which can be linked to the difference in disciplines. In fact, in medicine, while conducting experiments the variable of time is very important, unlike research in social sciences. This shows that the choice of adjuncts is linked to the context.

Focusing on the components of the PPs, for almost all the cases (except M.15. and M.97), the form is that of a "preposition + noun phrase". What differs between the first and second sub-corpus is actually the NP. In the social abstracts, the NP is made of a det (optional) and one noun forming the head of the phrase which is not the case in the medical sciences. In fact, the NPs are rather expanded, which means that they are carrying additional information (e.g.: induction of peripheral tolerance, peripheral induction of regulatory phenotypes, antigen receptor-mediated NFkappaB activation). These NPs can be seen as instances of "grammatical metaphor" because they are instances of nominalisation (turning a verb phrase into a noun phrase) (Halliday, 1994, p.366). Halliday maintains that the notion of grammatical metaphor is linked to scientific writing and may have emerged from it. The difference between the sub-corpora, as regards the composition of NPs, is again linked to the difference in disciplines: medical abstracts tend to provide the maximum of information for the sake of precision. The use of prepositional phrases in these cases, where too much information is carried, means that the authors are trying to condense their abstracts to the maximum without sacrificing precision.

Unlike place and time which are used in both sub-corpora, the third element is not the same, in fact, in the medical abstracts, means

adjuncts are third, while in the social abstracts, comparison adjuncts are more commonly used. Means adjuncts, as their name indicates, are used to reveal the means by which an experiment was done. Comparison adjuncts are used to compare a participant or a research, for example, to another one. Again this can be explained by the difference in the field of research; medical sciences are based on clinical experiments performed mainly in laboratories, and therefore, the means by which the experiments are performed are important in the description of the experiments. Comparison adjuncts express manner through comparing one entity to the other (**H.1** as a possible key 'factor', **H.10** As a coping 'strategy', **H.16** as a 'place' of restoration, **H.63** as a 'moderator' of transformational). In these cases what is being compared is an entity or a state. Linked to the genre of scientific writing, these adjuncts are used to introduce and characterise the variables of the article such as the setting and the participants. Instead of describing the manner with which an action was performed, they actually characterise it through comparing entities. The comparison is caused by the fact that sociology studies real life phenomena that need to be introduced effectively to the reader. This shows how the meanings and forms of adjuncts are shaped by the different disciplines.

In addition to prepositional phrases, the present article focuses on NFCs since they help characterise the scientific type of writing.

2.3.4. Non-Finite Clauses

The analysis shows that NFCs are more numerous in sub-corpus 2 (table 1). For a deeper analysis of these adjuncts, the following table contains a description of the most important meanings expressed.

	Sub-corpus 1		Sub-corpus 2	
	Meanings	**Occurrences**	**Meanings**	**Occurrences**
NFCs	**Result**	4 (29%)	**Circumstance**	9 (41%)
	Purpose	3 (21%)	**Purpose**	5 (23%)
	Circumstance	3 (21%)		

Table 6: Most important meanings expressed
by NFCs in sub-corpora 1&2.

Table 6 shows that the meaning which is widely used in sub-corpus 2, thus resulting in the decrease of the number of NFCs, is that of

circumstance. The syntactic realisation of the adjuncts of circumstance shows that among the twelve cases in both sub-corpora, four clauses are realised by a non-finite 'ing' clause while the other eight occurrences are non-finite ed-participle clauses. Ed-participle clauses are inherently passive; while 'ing' clauses are not necessarily progressive; they indicate a fact or an action. According to Quirk et al. (1972), both realisations pertain to the realm of the real, compared to to-infinitive clauses. However, circumstance adjunct are ambiguous since their meaning can be either cause or time despite the fact that Quirk et al. (1972) claim that "the difference between temporal and causal interpretations depends on whether the verb is dynamic or stative" (ibid, p. 762). But they also state that 'in scientific literature…the use of 'unattached participles' is such a convenient solecism as to be almost accepted as an institution' (ibid, p. 758). Therefore, although accepted in the realm of scientific literature, these syntactic compressions result in ambiguity. Following the claim maintained in this study, meaning motivates form; so it may be argued that the meaning expressed in these adjuncts is ambiguous on purpose.

In order to find out the reason for this ambiguity, the following adjuncts of circumstance are analyzed:

H.11. Investigating this tradeoff between stress mitigation and the constraint of restoration

H.30. Interpreted in accordance with the differential vulnerability and exposure hypotheses

H.59. Based on prior research

H.61. indicating that recruiters' perceptions of applicants' academic qualifications, work experience, and extracurricular activities interacted to predict recruiters' perceptions of applicants' employability

H.64. Based on survey data collected from 825 employees from China (n = 213)

H.88. followed by extended kin siblings, and relatives, who acted as what we call "reinforcers," "substitutes," or "contrasts" to the roles that parents played in religious socialization

H.93. derived from a sample of Israeli-Jewish men

H.98. taking into account the effect of hegemonic meaning system

H.94. situated in local images of hegemonic masculinity in Zionist ideology

While trying to find out the subjects of these adjuncts, two main groups can be distinguished. The first one contains those NFCs which have easily-identified subjects. For instance, H.61, H.93 and H.98 have the same subjects as their superordinate clauses. However, in the second group, which is made of the other 5 cases of adjuncts, the subjects are not mentioned before in the respective sentences. The analysis shows that the absent subjects are no other than the speaking persons; i.e. the researchers. Therefore, the ambiguity caused by the absence of the subject can be either a stylistic choice by the writer to avoid redundancy or one way to avoid referring to the speaking person, a condition necessary to claim objectivity. In both cases, the overall effect is to provide an abstract that answers the requirements of the genres of scientific and abstract writing.

In addition to circumstance, adjuncts of purpose are used in both sub-corpora unlike those expressing result which occur only in the medical abstracts. Adjuncts of purpose are realised by to-infinitive clauses, which are putative and hypothetical, while adjuncts of result are rather realised by ing-clauses, representing the real or actual mode of non-finiteness (Halliday, 1994, p. 252). The choice of form shows that the aspect created by the ing-form or the to-infinitive is responsible for the difference in meaning created between purpose and result clauses.

H.2. to develop a questionnaire,

H.3. to measure (aspects of) reflexivity,

H.8. to assess reflexivity,

Versus **M.19**. so distinguishing this population from activated CD25(+) effector cells,

M.84. thereby contributing to the pathogenesis of MALT lymphoma.

Besides, the choice of meaning shows that there is a difference between sub-corpora; for while the medical sub-corpus states some of its results, the second sub-corpus does not; it just gives glimpses of the aims of the study. The medical sub-corpus is more overt in stating the results than the second which can be attributed to the fact that stating the results in medical sciences is not an end in itself since the experiments done to reach that end are crucial to understand those results. However, this is not the case in social sciences since the results can be understood without the

procedure. On the other hand, the use of purpose adjuncts can, in general, be explained by the characteristic of abstracts, in fact, they should not replace the whole article.

Conclusion

While trying to investigate the relation of grammar to context, the present paper focuses on the grammatical category of adjuncts seen as instances of choice not only because of their optionality but also due to the range of syntactic forms they allow. The data analysis shows that the context of scientific writing, the different disciplines and the domain of abstract writing cause a difference in the distribution of adjuncts. This can be checked through the use of particular forms more than the others and through a comparison made with a similar investigation on casual speech and writing. These results are further emphasised in the study of the most frequent forms, namely prepositional phrases and non finite clauses.

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