

## GRAMMATICAL COHESION IN FRENCH JOURNAL ABSTRACTS AND THEIR ENGLISH EQUIVALENCE

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**Abstract:** *As one of the key sub-genres in academic discourse, the research article's abstract, has attracted the attention of scholars within the linguistics and applied linguistics literature. This has led to the upsurge in studies that have explored this all-important genre, with different analytical lenses and focuses. Dominant among these studies are those that have explored connectivity in the abstracts of research articles. However, the literature reveals a dearth of studies on the use of cohesive devices in source and target languages, specifically those written in French and their translated versions in English. This study therefore explored grammatical cohesion in research article abstracts written in French and English. The study specifically did a contrastive analysis of the types, frequency and functions of grammatical cohesive devices in these two sub-corpora. In all, a total of 40 research article abstracts formed the corpus of the study; twenty of these taken from erudit.org and another twenty taking from persee.org. Halliday and Hasan's (1976) cohesive theory was used as the framework to analyse instances of grammatical cohesive devices in the abstracts written in the source language – French – and their translated versions in the target language – English. The findings showed that the French corpus tend to use a slightly higher number of cohesive devices than their English counterparts. It was also found that the most dominant grammatical cohesive device within the two sub-corpora were references, which were in turn dominated by personal references, followed by demonstrative and comparative references. Next were the conjunctive devices which were also dominated by additive (especially *et*, and its English equivalent, *and*), temporal, causative, and adversative conjuncts in that order. The least used cohesive devices in each of the two sub-corpora were ellipsis and substitution. The findings add to the ongoing debate on how the act of translating a text in a source language to a target language affects the use of cohesive devices, especially, grammatical cohesive devices.*

**Keywords:** Cohesion; Contrastive Rhetoric; Translation; Translation Studies; Texture

## 1. General Introduction

Communicating through verbal means (spoken or written), is said to be effective when a speaker or a writer is able to effectively utilize linguistic resources to connect sentential units into a unified whole. For a text to be considered as well organized, it is expected to demonstrate a high level of connectivity and this connectivity can be achieved through discourse forming or cohesive devices (Srichuay & William, 2016). Srichuay and William (2016) argue that cohesive devices play key role in text cohesion and coherence since their effective use can give a text texture. Texture is the quality that makes a text 'hang together' as a text (Forey, 2009:1). It is a situation whereby meaning is transformed into a manageable form of discourse rather than "spilling out formlessly in every possible direction" (Halliday, 1994: 311). Martin (2001) sees texture and cohesion as two linguistic terms that are related as he believes that cohesion is one aspect of the study of texture in texts.

Cohesion has been defined from different perspectives by scholars like Bloor and Bloor (1995), Fairclough (1995), Grundy (2000), Halliday and Matthiessen (2004), Osisanwo (2003), Quirk and Greenbaum (1973) and Verschueren (1999). In defining "cohesion", these scholars highlight "what sets a text apart from randomly selected sentences; that is, what binds a text together" (Amenorvi, 2011:16-17). The underlying principle of cohesion therefore reflects texts that are logically and semantically connected to form a unified whole.

Despite the numerous definitions of cohesion since the inception of text analysis, it is Halliday and Hasan's (1976) definition that popularized and offered a detailed and organized view on what goes into that grammatical concept (Amenorvi, 2011; Chaalal and Beghoul, 2018). Halliday and Hasan (1976:4) consider cohesion as a semantic concept since they believe that:

cohesion occurs when the interpretation of some element in the discourse is dependent on that of another. The one presupposes the other, in the sense that it cannot be effectively decoded except by recourse to it. When this happens, a relation of cohesion is set up, and the two elements, the presupposing and the presupposed, are thereby at least potentially integrated into a text.

Halliday and Hasan (1976) demonstrate that cohesion is purely a semantic concept which reflects the semantic ties that are formed within a text. Cohesion cannot be achieved in a vacuum but it can be realized in a text through the use of cohesive devices, which are known to be "the formal means of connecting parts of texts so as to favour the creation of a meaningful continuum" (Arhire, 2017:156). Halliday and Hasan (1976) group cohesive devices into two broad categories – lexical and grammatical. In other words, cohesion can be achieved partly through grammar and partly through lexical items. This view of Halliday and Hasan (1976) is confirmed by Baker (1992) when he defines cohesion as the network of lexical, grammatical and other relations that create bonds in a text.

Cohesion has been examined in L1 and L2 contexts (Carrio-Pastor, 2013; Zhao, 2017; Ersanli, 2015; Vogel, 2008; Quaddumi,1995; Mohamed-Sayidina, 2010; Amenorvi, 2011), challenges of students in the use of cohesive devices (Fengjie,

Xiuying & Chuangze, 2014; Faradhibah & Nur, 2017), across different genres (Alghamidi, 2014, Meurer, 2003; Norment Jr., 2002; Rahimi, 2011) and disciplines (Peacock, 2010; Gray, 2010; Hyland, 2008; Gao, 2016), and at different proficiency levels (Yang & Sun, 2012; Neuner, 1987; Mohammed, 2015) .

Aside from these areas, one other interesting area that writers have explored is the inter-lingual one: source language (SL) and its translated version in a given target language (TL) (Chaalal, 2017; Dameria (2014; Moindjie, 2019). The overall objective of such studies is to find out whether translating a text from one language to the other has any effect on the use of cohesive devices. This focus hinges on the theoretical basis of intercultural or contrastive rhetoric (I/CR) that “different languages had their own specific and culturally bound conventions and patterns of writing” (Wang, 2006:13). Connor (1996: 5), therefore, asserts that “language and writing are cultural phenomena. As a direct consequence, each language has rhetorical conventions unique to it. Furthermore... the linguistic and rhetorical conventions of the first language interfere with writing in the second language.” Although academic texts have adequately been explored as far as cohesion in translation is concerned, there is a dearth of research on cohesion in research articles written in a given language and their translated version in another language. This research gap appears very surprising as a result of the special role abstracts play in the structure of research articles as they (abstracts) determine the degree of readership of the research article (Amoakohene and Afful, 2021). It is, therefore, not surprising that some journals demand researchers to compose their (researchers) abstracts in two or more parallel languages so as to increase the readership of articles that those abstracts appear. This study therefore examines grammatical cohesive devices in research articles’ abstracts written in French and their parallel translated versions in English. The subsequent sections of this study explore concepts like grammatical and lexical cohesion. They also cater for the review of previous related studies, the focus of the study in the form of research questions, the methodological approaches used, as well as the result and discussion sections.

### **1.1 Grammatical Cohesion**

Grammatical cohesion appears in the form of words, utterances and phrases that connect one sentential unit to the other in a text (Rofi’ah, 2015). It comprises ellipsis, substitution, references and conjunction (Amoakohene, 2020). McCarthy (1996: 43) defines ellipsis as “the omission of elements normally required by the grammar which the speaker/writer assumes is obvious from the context and therefore need not be raised”. It is a unique type of sentential unit where aspect of that sentential unit is purposefully left out by the writer or speaker to avoid redundancy (Bevis, 2018). Bevis (2018) posits that the elliptical part of the sentential unit can semantically be retrieved from the previous discourse. Ellipsis manifests in three forms and these forms correlate with the part of the sentence that is ellipited (Halliday & Hasan, 1976). Ellipsis that occurs within the nominal position of a sentence is known as nominal ellipsis; when it occurs in the verbal element, it is considered as verbal ellipsis and when it affects an entire clausal element, it gives an instance of clausal ellipsis. Substitution, on the other hand, occurs when a word or phrase is substituted for another and like ellipsis,

substitution also manifests in three forms: verbal substitution, nominal substitution and clausal substitution (Almutairi, 2017).

Reference, as posited by Halliday and Hasan (1989) manifests in the form of bonds that are created between a unit of a text and a given grammatical unit by reference to which this bond is interpreted in the given instance. References link up to something else for their interpretation and they occur when readers have to retrieve the identity of what is being said from either within or outside the text (Almutairi, 2017). When the referent of a reference is situated in the text-internal or external world (Ädel, 2006), it is described as endophoric or exophoric respectively (Halliday & Hasan, 1976). A reference, whether endophoric or exophoric, manifests in four different forms: personal reference, comparative reference, demonstrative reference and the definite article. However, for the purpose of this study, we focused on only personal reference, comparative reference and demonstrative reference and our analysis were limited to only references within the text.

With regard to conjunction, scholars see it as a grammatical unit that exists between sentences or clauses in a given discourse. Generally, conjunctions establish strong connective ties between or among sentential or supra-sentential units by the virtue of their specific semantic connotations (Hyland, 2005; Quirk et al., 1985). This cohesive agent can be categorized into four sub-types: additive conjunction, adversative conjunction, causal conjunction and temporal conjunction (Halliday & Hasan, 1976).

## **1.2. Lexical Cohesion**

Morris and Hirst (1991:21) conceptualize lexical cohesion as “the result of chains of related words that contribute to the continuity of lexical meaning”. Different from grammatical cohesion, lexical cohesion manifests in two broad categories – lexical reiteration and collocation (Halliday & Hasan, 1976). Lexical reiteration is defined by Halliday and Hasan (1976: 278) as “the repetition of a lexical item, at one end of the scale; the use of a general word to refer back to a lexical item, at the other end of the scale; and a number of things in between – the use of a synonym, or superordinate”. Jiayu and Zhang (2019) also argue that lexical cohesion manifests in the form of repetition, hyponymy, synonymy, antonymy and meronymy. Collocation on the other hand, has gone through different phases of definition within the applied linguistics literature. It is generally regarded as a habitual co-occurrence of lexical items or group of words within a given discourse (Barker, 1992; Schmit, 2000). Thornbury (2002) also postulates that words are considered collocates when they occur together with more than chance frequency. In this case, lexical items that are considered to be collocates are frequently seen together within the same textual environment. McCarthy (1990), and McCarthy and O’Dell (2008) argue that writers’ ability to use collocation effectively makes their texts more natural and accurate.

## **2. Review of Previous Studies**

Studies on cohesion in texts written in a source language and their (texts) translated versions in a given target language abound in the applied linguistics

literature. For example, Zhou and Sun (2019) used Halliday and Hasan's (1976) cohesive theory to analyze cohesion in 30 advertisements written in English and the translated versions of these advertisements in Chinese. The findings showed that the advertisements written in the source language had more instances of references and conjunctions than their translated versions. However, the advertisements in the target language relied more on ellipsis as a cohesive agent than the source language's advertisements. Despite these differences, the two data sets share similarities as far as the usages of substitution and lexical cohesive devices are concerned.

Also, Chaalal (2018) investigated cohesive devices in United Nations' legal texts written in Arabic and their translated versions in English. Similar to Zhou and Sun (2019), Chaalal (2018) utilized Halliday and Hasan's (1976) cohesive theory, and he found that the translated versions of the United Nations' legal texts in English had more instances of explicitation and implicitation. In other words, three types of shifts, namely addition, omission and substitution were realized in the United Nations' legal texts written in the target language. The findings also revealed a significant difference in the use of cohesive devices within the two languages. The reasons for the significant difference in the use of cohesive devices within the two sub-corpora as argued by Chaalal (2018) stemmed from the fact that each language has its own cohesive devices and make use of these cohesive devices following its own rules. Still within the textual metafunction framework of Halliday and Hasan's (1976) Systemic Functional Linguistics, Querol (2003) shed light on how substitution as a grammatical cohesive device featured in English literature as well as the mechanisms that translators employed to translate English literature into Spanish. The data for the study comprised three literary works. The findings revealed that nominal and verbal substitutions were the most common types of substitution in the English literary texts. However, the translated Spanish versions of nominal and verbal substitutions mostly manifested in another grammatical cohesive device, mostly in the form of ellipsis. This finding is in tandem with Chaalal's (2017) study.

Zhao et al. (2009) also analyzed the similarities and differences in cohesive devices used in English medical texts and their translated versions in Chinese. The researchers used Halliday and Hasan's (1976) cohesive theory to analyze parallel corpus consisting of 15 English medical texts and their translated version in Chinese. The results showed that both the English medical texts and their Chinese translated equivalent shared more similarities than differences as far as the use of cohesive devices is concerned. The only difference found in the inter-lingual subcorpora concerned the distribution of references. This finding contrasts that of Chaalal (2017) and Querol (2003) as they (Chaalal, 2017; Querol, 2003) argued that the different grammatical systems of different languages significantly affect the use of linguistics elements like cohesion in source texts and their translated versions in a given target language.

In addition to the above-mentioned studies, Najjar (2015) also investigated instances of repetition as a lexical cohesive device in the English translation of the Arabic novel *Adrift on the Nile*. The purpose of Najjar (2015) studies was to find out if the meanings and functions of instances of repetition are lost or maintained in the translation process of the novel into the target language. The results confirmed that

the 'repetitions' were utilized cohesively for confirmation, assurance, and warning as well as a texture creation agent. However, some repetitions were both lost and maintained in the translation process, and the translation strategies applied included the use of synonym, near-synonym, deletion, pronominalization and paraphrase. Najjar (2015) further confirmed that the translator preferred "variation" in the use of lexical items rather than "repetition". Moindjie (2019) on the other hand, studied personal reference as a grammatical cohesive agent in two literary texts – *Madame Bovary* and *Strait is the Gate* – written in French and translated into English. It was found that English employed more cohesive personal reference than the French. This finding as posited by Moindjie (2019) is as a result of language distinctiveness like abstractness and verbosity of French as against the concreteness and conciseness of English. It was also confirmed that some shifts which occurred in translating personal reference from French into English are mandatory as they are required by language uniqueness and language norms found under the translator's autonomy.

Similar to Moindjie (2019), Dameria (2014) also studied cohesion in biology abstracts written in Indonesia and their translated version in English. He analysed ten theses abstracts written in these two languages, and found all five instances of cohesive devices as projected by Halliday and Hasan (1976). Dominant among these cohesive devices across the two sub-corpora was grammatical cohesion. The Indonesian abstracts heavily relied on substitution followed by reference, conjunction and ellipsis whilst their English translated versions mostly used reference followed by substitution, conjunction and ellipsis. The two sub-corpora shared some similarities in the use of repetition, meronymy, synonym, hyponymy and antonym.

It is clear that scholars have adequately examined the type and sub-types of cohesive devices used in texts written in source languages and their corresponding translated versions in target languages. Other studies have also revealed the differences and similarities that exist in the use of cohesive devices in source texts and their translated versions in a given target language. The applied linguistics literature also reveals enormous research on the strategies that translators use to translate cohesive device in texts written in a given language and the translated versions of these texts into a target language. The literature indicates that studies on cohesion in translation have largely focused on legal, medical texts and literary and journalistic texts, leaving academic texts underexplored. Consequently, this study examines grammatical cohesion in RA abstracts in French and its translated English versions.

### **3. Research Questions**

The study will be guided by these two research questions;

- What are the types and functions of grammatical cohesive devices used in abstracts written in French and their parallel translated versions in English?
- What are the differences and similarities in the use of grammatical cohesive devices of abstracts written in French and their parallel translated versions in English?

## 4. Methods

### 4.1. Design, Corpus and Procedures

The study relied on the corpus-assisted discourse studies (CADS) approach which involves the use of the “methods of corpus linguistics to facilitate discourse analysis of large volumes of textual data” (Baker & McEnery, 2019: 215). The text under investigation in this study involve research article (RA) abstracts written in French and their parallel translated versions in English. These texts were drawn from two French language publishing sites: *erudit.org* and *persee.org*. In all, a total of 40 RA abstracts formed the corpus of the study; twenty of these taken from *erudit.org* and another twenty from *persee.org*.

These 40 abstracts were converted to plain texts so as to enable us use the AntConc software (version 3.5.8) to analyse them. For the purpose of this study, we used Halliday and Hasan’s (1976) cohesive theory as the framework to identify the instances of grammatical cohesion in the abstracts written in the source language and their translated versions in the target language. The AntConc software was used to identify instances of grammatical cohesion like references and conjunctions whereas cases of ellipsis and substitution which could not be identified by the use of the software were analysed manually.

## 5. Results and Discussion

This paper investigates the types of grammatical cohesive devices in some French RA abstracts and their English equivalents. It further explores the functions as well as the differences and similarities in the type of cohesive devices across the two groups of abstracts. This section provides descriptive findings of the data.

*Table 1: Distribution of Cohesive Devices across the two sub-corpora*

<b>Types of Cohesive Device</b>	<b>French Abstracts</b>	<b>English Abstracts</b>
<b>Reference</b>	236 (54.50%)	224 (49.0%)
<b>Substitution</b>	7 (1.62%)	6 (1.3%)
<b>Ellipsis</b>	5 (1.15%)	3 (0.7%)
<b>Conjunction</b>	185 (42.73%)	224 (49.0%)
<b>Total</b>	433 (100%)	457 (100%)

Table 1 gives an account of the distribution of the four grammatical cohesive devices in varying proportions across the subcorpora. As it can be observed, both data sets are dominated by the use of references, 236 (55%) occurrences in the French abstracts as against 224 (49%) in the English abstracts. The dominance of reference concurs with the findings of some previous studies (Ahmad et al., 2019; Kirana et al., 2020). References are closely followed in frequency by conjunctive devices. The results show that the English abstracts favour the use of conjunctions

as they feature 224 (49%) times as against their French counterparts 185 (43%). It could be argued that despite the highly-controlled nature of RA abstracts, there was some attempt on the writers' part to establish some formal and logical connections within their texts. The least used cohesive devices, as seen from the analysis, are substitution (2.92%) and ellipsis (1.85%). Substitution and ellipsis appearing as the least cohesive devices in the two sub-corpora is not surprising as it confirms the claim made by Halliday and Hasan (1976) that those two cohesive devices feature more in spoken texts than in written texts.

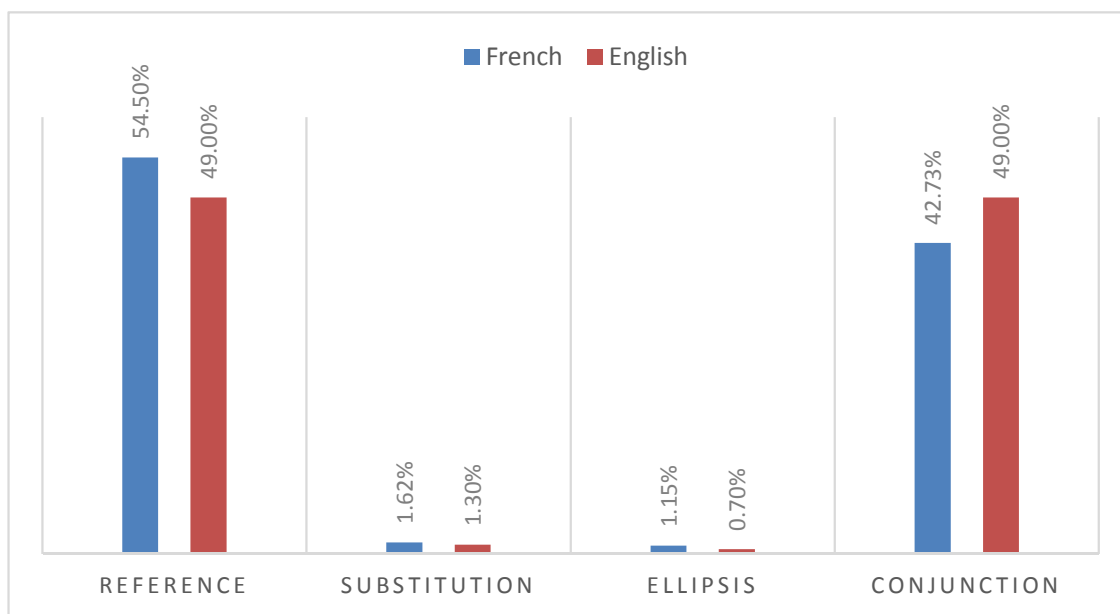


Figure 1: Distribution of grammatical cohesive devices

In total, there were 433 cohesion markers in the French abstracts as against 457 in the English ones. It is, however, clear that both languages seem to have preferences for certain cohesive devices. This corroborates James' (1980, p. 109) [cited in Xi, 2010: p. 143] view that, "while every language has at its disposal a set of devices for maintaining textual cohesion, different languages have preferences for certain type of these devices and neglect certain others".

### Instances of references in the two sub-corpora

Table 2: Distribution of References

Type of Reference	French	English
<b>Comparatives</b>	42 (17.80%)	37 (16.52%)
<b>Demonstratives</b>	79 (33.47%)	69 (30.80%)
<b>Personal</b>	115 (48.73%)	118 (52.68%)
<b>Total</b>	236 (100%)	224 (100%)



Table 2 shows that French abstracts employed more references (236), especially personal pronouns (115) and demonstrative adjectives (79) than their English counterparts. Personal and demonstrative pronouns are used in the data sets to refer to items within the text. Like previous studies (Van Bonn & Swales, 2007), we found that French personal pronouns were mostly first person plural (e.g., *nous / notre / nos*) even when the RAs were single-authored (cf. 15, 16, 21, 28, 35, 36, 37, 38), except in cases where the impersonal references were used.

The prevalence of more demonstratives in the French corpus than that of the English could be explained by the following linguistic differences: whereas English uses basically four demonstrative adjectives (e.g., *this, these, that, those*), French abstracts use multiple variants of demonstrative adjectives (e.g., *ce, cet, cette, ces*) and demonstrative pronouns (e.g., *celui, ceux, celle, celles, ceci, cela (ça)*). The French variations are mostly based on gender and number as is shown in the following examples from the data:

- |   |  |
|---|--|
| <p>1. <b>...ce</b> texte examine quelques séquences d'un débat télévisé...</p>            | <p><b>...this</b> paper examines sequences from a TV debate...</p>                 |
| <p>2. <b>Cet</b> article étudie deux opératrices particulières...</p>                     | <p><b>This</b> article examines two particular operators...</p>                    |
| <p>3. <b>Ces</b> constats permettent de mettre en évidence...</p>                         | <p>Based on <b>these</b> observations, it is thus demonstrated that...</p>         |
| <p>4. <b>...cette</b> ingénierie rituelle d'un certain nombre de liturgies...</p>         | <p><b>...this</b> ritual of engineering a number of liturgies...</p>               |
| <p>5. <b>Cette</b> contribution questionne le caractère opératoire de la catégorie...</p> | <p><b>This</b> article aims at evaluating the profitability of the category...</p> |

In Extract 1, 'ce' (this) is placed in front of 'texte', a masculine singular noun beginning with a consonant while in Extract 2, 'cet' (this) is placed in front of 'article' which is a masculine singular noun beginning with a vowel sound. 'Ces' (these) is used in Extract 3 because of 'constats', which is a plural noun (masculine) whereas 'cette' (this) is used in Extracts 4 and 5 because of the feminine gender of 'ingénierie' and 'contribution' respectively. Again, whereas English uses two singular possessive pronouns (e.g., *his / her*) and one plural possessive pronoun (e.g., *their*), French uses multiple variants based on gender and number (e.g., *son / sa, ses / leurs*). The use of demonstrative references in the abstracts "implies that their authors use those structures not only to achieve better textual cohesion and density of expression, but also to guide their readers through the text" (Maglov, 2019, p. 117).

Existential personal pronouns (e.g., I, you, he, she and they) also possess a dual nature, depending on gender and number. Thus, whenever the English abstract uses the impersonal pronoun (*it*) or the third-person plural (*they*) as references, the

French abstracts contain *il / elle* or *le / la* (in the objective case) and their plural forms, *ils / elles* or *les* (in the objective case). Some examples are shown below:

- |  |   |
|--|---|
| <p>6. ...<b>ils</b> le font à l'aune de normes socialement et historiquement déterminées...</p>                                | <p>...<b>they</b> do so on the basis of sociologically and historically determined norms...</p>   |
| <p>7. ...cet article suggère de repenser le rapport de la polémique a l'argumentation rhétorique... Il tente de montrer...</p> | <p>... this article suggests reexamining the relationship between polemical discourse and rhetorical argumentation... It endeavors to show...</p> |

Extract 6 demonstrates the use of the plural marker ‘*ils*’ as a reference in the corpus while in Extract 7, *il* (*it*) makes anaphoric reference to *cet article* (*this article*) to form a cohesive tie. A reference item that is used anaphorically “sets up a semantic relationship with something mentioned in the preceding text; and this enables the reference item to be interpreted, as either identical with the referent or in some way contrasting with it” (Halliday & Matthiessen, 2014, p. 635). The least reference marker in the corpus is the comparative, both for the French (42 instances) and English abstracts (37 instances). Since references are “directives” indicating “the identity of the particular thing or class of things being referred to” (Halliday & Hasan, 1976, p. 31), we can infer that French RA writers establish cohesion by using reference items in their abstracts. It is also important to note that in the analysis of the corpus, the personal reference *il*, in *il s’agit (s’agira) de*, *il faut que* and *il semble que* were not taken into account as we considered those to be fixed (idiomatic) expressions rather than individual elements. The same was done for their English equivalence.

### Instances of substitution in the two sub-corpora

The results revealed three forms of substitution across the two sub-corpora and these include nominal substitution (e.g., *one, ones, same*), clausal substitution (e.g., *so, not*), and verbal substitution (e.g., *do, does* and *done*).

Table 3: Frequency of Substitution

Type of Cohesive Device	French	English
Nominal	4 (57.14%)	4 (66.67%)
Clausal	0	0
Verbal	3 (42.86%)	2 (33.33%)
Total	7 (100%)	6 (100%)

Table 3 shows that four instances of nominal substitution were recorded in the French abstracts and four in their English translations. No cases of clausal substitution were recorded in two subcorpora. However, three instances of verbal

substitution were recorded in the French abstracts while two instances of verbal substitution were recorded in their English equivalents.

It is suggested that the discorsal structure of the selected abstracts may have been influenced by some linguistic conditioning or structural concerns; thus, it appears that steps were taken, in the English translation of the abstracts concerned, to order the sentences in such a way as to ensure that the phrasal structure in the original French abstract is maintained. Whether or not this act of syntactic ordering on the translator's part was deliberate or purely unintentional may have to be determined in/by subsequent studies. It is also interesting to note that despite these syntactic considerations, no semantic errors were committed in the English equivalents.

### Ellipsis

Table 4 presents details on the distribution of ellipsis in the two subcorpora.

*Table 4: Frequency of Ellipsis*

Type of Cohesive Device	French	English
Nominal	5 (100%)	3 (100%)
Clausal	0	0
Verbal	0	0
Total	5 (100%)	3 (100%)

We found eight occurrences of nominal ellipsis in the entire corpus: five in the French abstracts and three in the English but verbal and clausal ellipsis were completely absent in the two subcorpora. Even though ellipsis contributes to the semantic structure of the discourse, it confers a lexico-grammatical relationship, not a semantic one on the discourse. Unlike reference, which “can reach back a long way in the text and extend over a long passage”, ellipsis is “largely limited to the immediately preceding clause” (Halliday & Matthiessen, 2014, p. 642). The less utilization of both ellipsis and substitution as connective agents in the two subcorpora implies that in both languages formal communication in written form rarely use ellipsis and substitution as connective agents. This finding confirms earlier assertion by Halliday & Hasan (1976), Buitkiene (2005) Rostami Abusaeedi (2010) that ellipsis and substitution are sparing in written texts but very dominant in spoken discourse.

Some examples of nominal ellipsis drawn from our corpus are as follows:

8. *L'échange polémique comporte un deuxième axe, étroitement lié au premier...*
  9. *Trois grandes « scénographies locutives » structurent toujours cet ordre publicitaire. La première est*
- Three main “locutives scenographies” structure this advertising order...the second*

*le message...la **seconde**  
correspond au règne de la  
société de consommation...*

*corresponds to the reign of the  
consumer society...*

**10. These** will be analyzed in terms of ritualization.

**11. I then analyze** courtesy exchanges that occur when a speaker interrupts **another...**

In Extract 8, 'axe' is substituted with 'premier', thereby eliminating the needless repetition of the 'axe'; in Extract 9, the numeratives (in bold) are used in place of "locutives scénographiques", a nominal group. Also, in Extracts 10 and 11, 'these' are used to replace 'courtesy exchanges' and 'another' is replacing 'speaker'. It is instructive to note that all the instances of nominal ellipsis in the French corpus were numerative while there was English diversity in the English version. Those in the English version included 'another', 'second', and the deictic 'these'. The latter referring to 'courtesy exchanges' functions as the head of an elliptical nominal group in the corpus.

### **Instances of Conjunction in the two sub-corpora**

The findings revealed that the writers employed three types of conjunctions or conjunctive relations: elaborating, extending, and enhancing. Table 5 presents instances of conjunctions as found in the corpus.

*Table 5: Frequency of Conjunctions*

<b>Type of Cohesive Device</b>	<b>French</b>	<b>English</b>
<b>Additive</b>	154 (79.38%)	135 (76.27%)
<b>Adversative</b>	6 (3.09%)	7 (3.95%)
<b>Causal</b>	10 (5.15%)	15 (8.47%)
<b>Temporal</b>	24 (12.37%)	20 (11.31%)
<b>Total</b>	194 (100%)	224 (100%)

It is shown in Table 5 that a majority (79%) of the French conjuncts were additive, which is slightly higher than the English additive conjuncts (76%). The most commonly used additive conjunct in the French abstracts was 'et', occurring 145 times, which accounted for 94% of the total additive conjuncts employed in the corpus. French, according to Bachschmidt (1999), seems to unroll on a rhetoric focused on facts and deductive reasoning, as compared to its Anglo-Saxon counterpart where emphasis is placed on complex topical and inductive phraseology.

Even though the analysis of the corpus revealed more additive conjuncts in the French abstracts (154) than their English equivalence (135), a careful analysis of the English occurrences reveals that the English additive conjuncts were more diversified than the French abstracts. The fact that most of the conjuncts were additive is not surprising in that these cohesive markers or semantic conjuncts are mainly used to "structure the content of a text, order it and thus make it easier to

orient in it” (Klimova & Hubackova, 2014, p. 666). We also found that adversative conjunctions were the least used in the two subcorpora. Halliday and Hasan (1976, p. 226) maintain that “conjunctive elements are cohesive not in themselves but indirectly...but they express certain meanings which presuppose the presence of other components in the discourse”. It is clear from the analysis that French uses fewer conjunctions (179) than English (224). More so, English language causal conjunctions recorded in the corpus were slightly higher (8.5%) than their French counterparts (6%) in the corpus. In the case of temporal conjuncts, the French abstracts listed 24 (13.41%) as against 20 (11.31%) in English.

## Conclusion

Cohesion markers, comprising anaphora, logical connectors/connectives, and punctuation marks, play a crucial role in the linear translation of one’s thoughts in a written text such as the RA abstracts (Favart, 2005). In this paper, we examined grammatical cohesion in 40 French RA abstracts and their English translations. French, a “language with longstanding rhetorical and academic traditions and in continued academic use in most Francophone countries and regions around the world”, has suffered from a limited attention to its RA abstracts (Van Bonn & Swales, 2007, p. 95). This study, which focused only on grammatical cohesion in a relatively small sample of French language RA abstracts, is an attempt to contribute to the existing sparse literature on French language abstracts.

From the results of the analysis of the corpus, we found that that French journal abstracts employ more cohesive devices than their English counterparts. The most dominant cohesive devices from the corpus were references, which were in turn dominated by personal references, followed by demonstrative and comparative references. Next were the conjunctive devices. These were also dominated by additive (especially *et*, and its English equivalent, *and*), temporal, causative, and adversative conjuncts in that order. The least used cohesive devices were ellipsis and substitution.

It would be useful to investigate lexical cohesion in cross-linguistic RA abstracts. Also, another study could be carried out to ascertain whether preference for certain grammatical cohesive devices to the neglect of others is due to purely linguistic or disciplinary differences, national proclivities, or translation strategies employed by authors. Since this study was done on only the abstracts of French RAs, a study of grammatical cohesion can also focus on other aspects of the French RAs such as the introduction, literature review, methodology, discussion, and conclusion. In the face of increasing pressure on non-English language authors to publish abstracts in English (Melander et al., 1997; Ventola, 1994) with its attendant discursal challenges (Birch-Bécaas, 1996; Salager-Meyer, 1990), further studies could also be carried out on translation strategies or principles employed by machine-generated or author-written translations of abstracts from one language to another and whether those strategies have effects – linguistic and stylistic – on the resultant texts.

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