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Departamento de Filología Inglesa y Alemana
Facultad de Filosofía y Letras
Universidad de Zaragoza
50009 Zaragoza · Spain
Tel. 976 762413 – 976 761525
Fax. 976 761519
E-mail:
editors@miscelaneajournal.net
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A CONTRASTIVE GENRE-BASED APPROACH TO THE RHETORICAL STRUCTURE AND USE OF INTERACTIONAL METADISCOURSE IN THE RESULTS AND DISCUSSION SECTION OF *FOOD SCIENCE & TECHNOLOGY* PAPERS

UNA APROXIMACIÓN CONTRASTIVA A LA ESTRUCTURA RETÓRICA Y EL USO DE ELEMENTOS METADISCURSIVOS INTERPERSONALES EN LA SECCIÓN DE RESULTADOS Y DISCUSIÓN DE ARTÍCULOS DE INVESTIGACIÓN EN LA DISCIPLINA DE *CIENCIA Y TECNOLOGÍA DE LOS ALIMENTOS*

MARÍA DE LOS MILAGROS DEL SAZ-RUBIO
Universitat Politècnica de València
masaru@idm.upv.es

Abstract

This paper describes a genre-based exploration of the rhetorical structure and use of interpersonal metadiscourse features in the Results and Discussion sections of 32 research articles written in English from the discipline of Food Science & Technology. The rhetorical moves and steps enacted in this section are first looked into. Following this, I have quantitatively assessed the researchers' use of some interactional metadiscoursal units, drawing on Hyland's framework (2005a, 2005b). As the corpus of analysis is made up of 16 papers authored by English L1 researchers, while another 16 have been written by Spanish researchers with English as their L2, it is also my aim to account for any differences with regard to the presence and frequency of use of the different moves/steps identified, and of the interactional metadiscoursal features selected for analysis in each of the two sub-corpora. Possible cross-cultural variations identified in the L1 and L2 corpus will be discussed. Findings indicate that results are presented and discussed mainly through obligatory Moves 2 and 3, and, to a lesser extent, Move 1. This exploratory approach has shown statistically significant differences for the categories of hedges and authorial presence, making them the strategies most often deployed by researchers with English as their L1.

Keywords: results and discussion section, metadiscourse, stance, interpersonal, rhetorical structure, L1 and L2 texts.

Resumen

En este artículo se analiza la estructura retórica de la sección denominada Resultados y Conclusiones de un corpus de artículos científicos pertenecientes a la disciplina de la Ciencia y la Tecnología de los Alimentos. Asimismo, se analizan de forma cuantitativa las diferentes categorías metadiscursivas empleadas en esta sección siguiendo el modelo de Hyland (2005a, 2005b) sobre metadiscurso interpersonal y posicionamiento. Puesto que el corpus está compuesto por 16 artículos escritos por investigadores cuya lengua materna es el inglés y otros 16 escritos por españoles, se pretende establecer si existe alguna diferencia en la presencia y/o frecuencia del uso de los diferentes movimientos que componen el patrón retórico de esta sección, o en el uso que los investigadores hacen de los elementos metadiscursivos analizados. Tras el análisis se ha observado que los resultados se presentan y comentan mediante dos movimientos obligatorios, el 2 y el 3, y en menor medida a través del 1. En cuanto al uso de elementos metadiscursivos, se han encontrado diferencias estadísticamente significativas en el uso de mitigadores y en el grado en el que los autores se hacen presentes, estrategias ambas que utilizan con mayor frecuencia los hablantes cuya lengua materna es el inglés.

Palabras clave: sección de resultados y conclusiones, metadiscurso, posicionamiento, interpersonal, patrón retórico, textos escritos en inglés como L1 o L2.

1. Introduction

Nowadays, it is indisputable that the research article (henceforth RA) is the academic genre *par excellence* for researchers who wish to communicate new knowledge, make their research visible (Swales 1990; Hyland 2000; Salager-Meyer 2001) and achieve professional advancement. To facilitate this, researchers need to be familiar with the rhetorical structure of the different parts that make up a RA and with the use of particular interpersonal features which will help them forward their views and persuade their interlocutors of the validity of their research within the process of knowledge construction. In the last three decades, research on the linguistic and structural features of RAs has been pervasive, with a special focus on the moves that make up its different sections. The starting point for this was the view that the RA is not a monolithic genre (Swales 2004), given that the different sections that integrate it possess their own specific linguistic and rhetorical configuration. To illustrate this point, the writing of sections such as the introduction and discussion/conclusion have been perceived as challenging for

researchers who do not have English as their first language (cf. Knorr-Cetina 1981; Gilbert and Mulkay 1984) as they have been seen as "potentially critical to the acceptance or rejection of their articles, whatever the merits of their actual findings might be" (Flowerdew 1999: 259).

However, being aware of the rhetorical organization of the RA needs to be accompanied by a mastery of the English language, as the writing conventions in English for Academic Purposes and English for Specific Purposes "have been affected by the dominance of that language across an array of fields and settings" (McIntosh et al. 2017: 12). In other words, English not only acquired the status of an international language for science and technology long ago (cf. Johns and Dudley-Evans 1991; Grabe and Kaplan 1996) but has also managed to maintain this status.[1] This fact inevitably predisposes Spanish researchers to use English in an attempt to assure publication and a wider dissemination and visibility of their research (cf. Curry and Lillis 2004 and Pérez-Llantada et al. 2011), while clearly leaving them at a disadvantage (cf. Mur-Dueñas 2012). This topic has been largely dealt with within the field of contrastive academic rhetoric (cf. Connor 1996), nowadays referred to as intercultural rhetoric: "the study of written discourse between and among individuals with different cultural backgrounds" (Connor 2011: 1).

As a consequence of this increasing number of non-native researchers, as well as of the widely held belief that rhetoric and writing styles are culturally embedded, we have witnessed the growth of a prolific body of intercultural and cross-disciplinary research within the framework of intercultural rhetoric with a focus on the genre of the RA. The main objective of these studies has been to help other researchers to better grasp the way meaning is negotiated between writers and their audiences, as well as to help them to become familiar with the textual/rhetorical organisation of RAs.

Contrastive research on the schematic structure and the use of the discursive features that non-native English researchers deploy when writing their research papers for international journals has also been quite pervasive and has aimed at unveiling existing differences in the writing practices of researchers who belong to different cultural and linguistic backgrounds when writing in English as an L2. Likewise, with regard to Spanish and English, Lorés-Sanz (2011a, 2011b) has explored the use of the authorial voice in a corpus of RAs written by English L1 researchers, and by Spanish scholars writing in Spanish and English in the discipline of Business Management. Martínez (2005), in a similar vein, has compared the use of first person pronouns in the different sections of Biology RAs written by English L1 and L2 scholars. Mur-Dueñas (2009, 2012, 2016) has looked into how logical markers and topicalisers are employed in L1 (Spanish and English) and L2

(English), whereas Carciu (2009) carried out an intercultural study of first-person plural references in the field of Biomedicine as used by English and Spanish researchers writing in English. Murillo (2012) explored reformulation markers in Business Management from an intercultural perspective with English and Spanish L1 scholars, and Spanish researchers with English L2.

Despite this body of contrastive research, I know of no previous study that focuses on the rhetorical structure of the merged Results and Discussion sections of RAs or that assesses how interactional metadiscoursal features are deployed in the discipline of Food Science & Technology (henceforth, FSc&Tec) in L1/L2.[2] Hence, this study aims to first unveil the rhetorical use of moves/steps and their communicative functions to later assess the way researchers report and comment on empirical findings in the Results and Discussion section (henceforth R&D) by looking into their use of a series of interactional metadiscourse categories from a quantitative perspective. However, before moving onto the next section, several clarifications are in order.

First of all, the reason for conflating the study of the rhetorical structure of the R&D sections together with the metadiscoursive units that are employed in them stems from the fact that it is in these sections that the researchers' credibility and persona (Cherry 1988) are at stake. In other words, new findings need to be reported, justified, explained and contextualized within the wider scientific community, preferably in a tentative manner, and thus a lot of interpersonal effort is invested. On the other hand, even though studies on the R&D sections have normally focused on RAs which follow the IMRD section, it is very common to find RAs where both sections have coalesced. As Lin and Evans' (2011) research highlighted in their analysis of the generic structure of 433 empirical papers "IMRD is far from being the default option for organizing contemporary empirical RAs" (2011: 153). Hence, the discipline under analysis illustrates this trend quite well, as potential authors are explicitly urged to merge both sections into one.[3]

Secondly, considering that scientific publications in this discipline are exclusively produced and consumed in English (as attested in informal interviews with expert academics in the field), the approach taken here is of a contrastive nature, as researchers belong to two different cultural contexts, one involving L1 and the other L2. Thus, this article aims to add to the already abundant literature on English for Academic Purposes as well as to the field of intercultural rhetoric by shedding light on the academic practices which scholars engage in within a specific discipline.

More precisely, it is my ultimate aim to assess whether the similarities and/or differences in the frequency and use of the rhetorical moves/steps and of some interactional metadiscourse features stem from different rhetorical writing patterns

in both groups of researchers. In this vein, I will provide a preliminary template for the rhetorical structure of this section which could be deemed to be representative of the writing conventions in the field and which could prove useful especially for non-native writers, considering the growing demand for the instruction of non-native English speakers in the field of English for Academic Purposes (Hyland and Hamps-Lyons 2002). Likewise, I hope to unveil quantitative differences in the use of certain metadiscourse features as a persuasive tool in the establishment of an interactional relationship with the scientific audience.

2. Theoretical Background to the Study

In this section I will briefly outline the most relevant studies dealing with the organization and rhetorical analysis of the section entitled "Results and Discussion" to reveal the communicative functions or purposes of both sections in the different disciplines analysed (see Appendix I). Then, I will present Hyland's (2005a, 2005b) classification of interpersonal markers as key theoretical tenets upon which this paper rests.

2.1. Results and Discussion Sections

The RA authors in the discipline under analysis seem to have made a conscious choice to merge the Results and Discussion sections into one. Thus, the rhetorical structure deployed in these RAs is expected to incorporate several of the different rhetorical moves and steps found in both sections in previous studies. Due to space restrictions, a thorough revision of all the previous studies which have tackled the two sections under analysis is not feasible.

From a rhetorical point of view, the results section is the place "where writers choose to make their new knowledge claims through the presentation, explanation, and interpretation of numerical data" (Brett 1994: 48). There have been several studies exclusively devoted to the results section such as Brett's (1994), Williams' (1999), Swales and Feak's (1999), or Weissberg and Buker's (1990), while other studies have approached this section as part of an analysis of the whole RA structure (cf. Yang and Edwards 1995; Nwogu 1997; Posteguillo 1999; or Yang and Allison 2003). What all these studies have shown is that findings are not only reported but also commented upon. Brett's analysis of sociology RAs identified 16 communicative categories divided into three main groups, with only one obligatory communicative category, the *Statement of Finding/Result*. He found a much more complex rhetorical structure than that suggested by Weissberg and Buker's research (1990), which incorporated just three elements. Yang and Edwards'

(1995) and Posteguillo's (1999) findings were supportive of Brett's moves. These studies highlighted the fact that moves are organised cyclically, with the reporting of a finding acting as an obligatory step normally preceded by a pointer and /or followed by comment categories. For his part, Williams (1999) approached the analysis of a reduced sample of biomedical RAs taking Brett's model as a starting point but modifying it by extending the subtypes under Statement of Finding and by incorporating the category "numerical" and eliminating some of the moves, which were not relevant for the discipline under study.[4]

The discussion section has been considered as an explicitly rhetorical and persuasive unit. Authors such as Berkenkotter and Huckin (1995: 41) have asserted that the discussion section has a rhetorical structure which reverses the CARS structure of the Introductions, as suggested by Swales (1990). That is, the findings seem to occupy a niche, while comparing previous findings in the literature, to finally establish additional territory with the implications of the study or further venues for research. As Basturkmen (2012: 135) states, in the discussion section "writers stake claims about how their results integrate with and contribute to disciplinary knowledge". In a way, this is a key section for researchers as it is here where their findings gain greater significance against a wider scientific context. Studies on the Discussion section are pervasive and include those on disciplinary variation by Holmes (1997), Hopkins and Dudley-Evans (1988), Lindeberg (1994), Peng (1987), Swales (1990), Dudley-Evans (1994), Lewin et al. (2001), Dubois (1997), Swales and Luebs (2002), Yang and Desmond (2003), Lim (2010), Kanoksilapatham (2003) or Basturkmen (2012). These studies have all agreed on the fact that discussion sections are best defined as made up of cycles of moves around the reporting of findings, although the studies point to different moves in different disciplines. Holmes, for example, (1997) analysed 30 RAs from the disciplines of history, political science and sociology, while Peacock (2002) approached the analysis of the communicative moves in seven disciplines (Physics, Biology, Environmental Science, Business, Language and Linguistics, Public and Social Administration, and Law). Both studies drew on a modified version of Hopkins and Dudley-Evans' 11 moves for natural science discussion sections which is summarized in Appendix I. For their part, Yang and Allison (2003) carried out a genre analysis of post-methodology sections (i.e., results, discussion of results and conclusions) together with the rhetorical choices that characterize them in a corpus of RAs in the field of Applied Linguistics. Although different communicative functions were reported for each of the sections, the authors identified a similar set of some six or seven moves occurring across all final sections, although the move *Commenting on Results* was reported to be more often employed in the discussion of results, than in the other sections.

2.2. A Framework of Analysis: the Rhetorical Structure of Food Science and Technology R&D Sections

As an uncharted discipline was being targeted in this article, all the different proposals and taxonomies reported by move researchers and mentioned in section 2.1 have been taken as a point of departure for the analysis of the 32 RAs which make up my corpus. The aim was to incorporate all the possible moves and/or steps which may best help define the rhetorical structure of the R&D sections in the field under analysis. More specifically, the 11-move framework first proposed by Hopkins and Dudley-Evans (1988) and those by Holmes (1997), Peacock (2002) and Basturkmen (2012) have been considered for the discussion sections. Likewise, for the results section, Brett's model (1994), slightly modified to account for disciplinary variation by Williams (1999), has also been taken into account. Yang and Allison's model presents a rhetorical outline of the two sections while also improving previous models by offering a two-layer analysis which differentiates between moves and steps.

My own proposal of moves for the analysis of R&D sections in the field of FSc&Tec is shown in Figure 1 below and is the result of an analysis of the discipline at hand through direct observation of the data under examination. The labels selected for each of the moves and steps are the ones which, in my opinion, best described the communicative function of each of the moves and steps that make up the rhetorical organization of the two sections under analysis (see Appendix II for some examples).

MOVES	STEPS
Move 1: Background Information	Step 1 Established knowledge about the topic of investigation or procedure
	[Step 2 Restating the aims]
	[Step 3 Occupying a niche]
	Step 4 Indicating procedure and materials [with references to previous studies]
Move 2: Reporting Results	Step 5 Presenting results plus mention of tables/graphs
	Step 6 Presenting results
	Step 7 Presenting results with reference to previous literature

MOVES	STEPS
Move 3: Commenting on Results	Step 8 Comparing or backing up findings with previous studies
	Step 9 Commenting on an (un)expected outcome
	[Step 10 Justifying an (un)expected outcome]
	[Step 11 Explaining results]
	Step 12 Commenting on results
Move 4: Evaluating Results	[Step 13 Summarizing results]
	[Step 14 Indicating limitations of the study]
	[Step 15 Indicating significance of the study]
	[Step 16 Pointing to further research]

Figure 1. The rhetorical structure of the R&D section in FSc&Tec RAs[5]

2.3. Interactional Metadiscoursal Units

Metadiscourse is an important rhetorical, subjective and culture-bound means for the production of any type of discourse (cf. Hyland 1996a, 1998). Metadiscourse has been defined as "the cover term for the self-reflective expressions used to negotiate interactional meanings in a text, assisting the writer (or speaker) to express a viewpoint and engage with readers as members of a particular community" (Hyland 2005a: 37). Two main categories of metadiscourse have been traditionally identified: *textual* and *interpersonal* metadiscourse (Vande Kopple 1985). While *textual* metadiscourse is more concerned with discourse organization and with guiding the reader through the text, the *interpersonal* category puts the onus on the relationship between the writer and reader, while also allowing the former to project his/her degree of commitment with the propositional content conveyed (Cheng and Steffensen 1996). However, more recent models of metadiscourse, especially Hyland's (2005b) and Hyland and Tse's (2004: 161), have viewed metadiscourse as "self-reflective linguistic expressions referring to the evolving

text, to the writer and to the imagined readers of that text" (Hyland 2004: 133). In a word, all metadiscourse is interpersonal, hence, opposing the more traditional view sketched above. Hyland's framework distinguishes between *interactive* and *interactional* metadiscourse features. The interactive dimension "concerns the writer's awareness of a participating audience and the ways he or she seeks to accommodate its probable knowledge, interests, rhetorical expectations and processing abilities" (Hyland 2005b: 49). On the other hand, interactional metadiscourse is concerned with the ways the writers comment on their own messages to make their views known, while revealing "the extent to which the writer works to jointly construct the text with the reader" (Hyland 2005b: 49). In the field of academic writing, interactional metadiscorse has proved to be key in persuading the audience of the validity of one's research achievements while protecting the researcher from unwanted criticism from other members in the scientific community (Hyland 2005a). In other words, results and their interpretations need to be presented in ways which "readers are likely to find persuasive, and so writers must draw on these to express their positions, represent themselves, and engage their audiences" (Hyland 2005a: 176). With all this in mind, attention to the interpersonal dimension of academic writing will be carried out here by looking at *stance*, as one of the interactional macro-functions identified by Hyland (2005a):

> *Stance* concerns writer-oriented features of interaction and refers to the ways academics annotate their texts to comment on the possible accuracy or credibility of a claim, the extent they want to commit themselves to it, or the attitude they want to convey to an entity, a proposition, or the reader. (Hyland 2005a: 178)

Stance is enacted through the use of interactional metadiscourse features such as *hedging* and *boosting devices*, together with *attitudinal markers* and *self-mentions*,[6] as central to the building of a successful argument. Looking into the frequency of use of these devices in the two sub corpora is a preliminary step and helps to account for the discoursal preferences of the disciplinary community under investigation.

Likewise, considering that the corpus is made up of articles written by researchers from two different cultures, some variation might be expected in their use of these metadiscoursal categories and in the way researchers construct the text in a joint effort with their intended audience (Hyland 2005b).

Hedges (*likely, perhaps, quite, might*) are resources which weaken the writer's commitment to a proposition, and help the researcher present information as opinion rather than fact, while allowing room for disagreement or counterargument (Hyland 1996b, 1998). *Boosters* (*obviously, clearly, demonstrate*), in contrast, convey the degree of the writer's certainty with the proposition conveyed and

mark involvement and solidarity with the audience. *Attitudinal markers* (*unfortunately, hopefully, remarkable, appropriate*), however, are more concerned with affective meanings rather than with epistemic ones, and convey the writer's attitude of surprise, agreement, importance, and frustration with regard to the proposition. *Self-mentions* (*we, our, I, me*) reveal the degree of explicit authorial presence in the text.

3. Research Methods

3.1. Corpus Collection Procedure

32 empirical RAs from four high-impact internationally refereed journals were collected on the basis of the three criteria stated by Nwogu (1997), i.e., representativity, reputation and accessibility. Eight articles per journal were selected, four written by English L1 native researchers, a conclusion reached by taking into account their names (native to the country concerned), but most importantly by the fact that their affiliation was with an institution in an English-speaking country, drawing on Wood's (2001) criteria. The other four articles were written by English L2 Spanish researchers, a conclusion arrived at by drawing on the same criteria.

The corpus, which comprised the post-methodology sections of results and discussion, yielded 62,076 words, 29,040 for the non-native speakers corpus (NNSs) and 33,036 for the native speakers' (NSs) one. The articles were electronically retrieved and the corpus included publications from the years 2016-2018.

The journals selected are representative of the discipline under analysis and belong to the publishing house Elsevier: *International Journal of Gastronomy and Food Science*, *Food Bioscience*, *Journal of Food Engineering* and *International Dairy Journal*. These journals explicitly recommended the inclusion of a Results and Discussion section while also suggesting that "[a] combined Results and Discussion section is often appropriate". Thus, authors are left to choose the structure they consider most suitable for their RA. The findings obtained here are only extendable to similar RAs in the field.

3.2. Data Analysis Procedure

This study draws on Swales' (1990, 2004) seminal move-step work and the notion of move is taken as a starting point in line with previous research (cf. Nwogu 1991; Holmes 1997). A move is defined as "a discoursal or rhetorical unit that performs

a coherent communicative function in a written or spoken discourse" (Swales 2004: 228). Thus, moves are functional elements and they can be realized by a clause, a sentence or even several sentences (Swales 2004).

The main approach followed has been a top-down approach (Pho 2008; Vázquez-Orta 2010) where content is taken as the basic aspect for the identification of moves. Later, in a bottom-up approach, linguistic features, typographical aspects and the boundaries between sections and sub-sections have been considered to a lesser extent to identify different moves (cf. Mauranen 1993; Connor et al. 1995; Nwogu 1997; Kanoksilapatham 2005; Li and Ge 2009; and Lim 2014 for similar insights).[7]

In order to code the R&D sections, all the papers were read and parsed into moves, and the moves broken down into steps. In order to avoid the subjectivity that the analysis of a sole researcher may bring to the study, a Linguistics PhD student was asked to code the R&D sections of 16 RAs according to the coding scheme presented in Figure 1. Kappa value was calculated and intercoder reliability exceeded 80% (0.8655), hence indicating an outstanding level of interrater agreement (Landis and Koch 1977).

Then, the frequencies of the different moves and steps were calculated to determine whether they occurred frequently enough to be considered obligatory or optional with a cut-off frequency set up at 60% (Kanoksilpatham 2005). Afterwards, several tests were applied to account for the presence and/or absence of the 16 steps in each of the sub-corpora, and to assess use of step frequency in the two sub-corpora. Chi-square was employed to establish whether the occurrence of a particular step was similar in the two sub-corpora.

In order to identify the different interactional metadiscoursal categories, I carried out an electronic computer search with WordSmith 5.0 and a personal manual reading of the different sections to verify that the elements were used as metadiscourse (see Appendix III). In order to account for any statistical difference between the frequencies of use that writers from the two cultural contexts make of these features, their raw frequencies were normalized per 10,000 words and chi-square was calculated with a significance value of $p \leq 0.05$.

4. Results and Discussion

4.1. The Results and Discussion Section: Results from the Move/Step Analysis

A structure of four rhetorical moves has been identified (see Figure 1). Moves 2-3-4 appear in sequential order and Move 2 constitutes the *core* or *head move*. This

move deals with the presentation of results in an objective way (Step 6), sometimes with the help of pointers such as tables, graphs, etc. (Step 5) and, in some cases, together with reference to previous literature (Step 7). In contrast, Move 3, which occurs in post-head position, deals with the comments on the results, through the use of evaluative or hedging devices, and hence, the researchers' view, or attitude towards their findings is conveyed, i.e., for example by comparing findings with previous studies in an explicit way (Step 7), by commenting on the (un)expectedness of a finding (Step 9) or by justifying the findings or commenting on them with the use of interpersonal devices (Steps 10, 11). Move 3 is logically followed by Move 4 whenever this move is used. Move 4 has the purpose of evaluating the contribution of the findings by either summarizing them (Step 13), by pointing to limitations (Step 14), to their significance within the field (Step 15), and/or to the need for further research (Step 16). In contrast, Move 1 is a preparatory stage which normally occurs in pre-head position, although it can be placed at any point in the cycle, i.e., in post-Move 2 and 3 positions (cf. Hopkins and Dudley-Evans 1988 for a similar insight). This move provides a background (Step 1) where aims are restated (Step 2) and a niche is signalled and occupied (Step 3).

The coding process of the 32 RAs yielded a total of 2,024 step counts. Moves 2 and 3 displayed the highest frequency in their use of steps, 40.6% and 40.7%, respectively; followed by Move 1, which accounted for around one third (15.3%) of the steps identified in Moves 2 and 3, followed by Move 4, where step use was restricted to 3.5%. Accordingly, the steps most frequently deployed in the corpus are Steps 5 (12%) and 6 (24.5%) within Move 2, which are aimed at presenting results; Steps 8 (11.3%) and 12 (23.3%) within Move 3, by means of which researchers comment on findings and compare or back them up with previous findings; and Step 4 (10%) within Move 1, in order to indicate the procedure carried out and the materials employed. These findings indicate that the majority of the steps enacted by researchers aim at achieving the communicative functions of Moves 2 and 3, which stand out as the most complex from a rhetorical point of view since it is here that researchers invest greater effort in reporting and commenting on their results. These two moves concentrate most of the obligatory steps identified, and these steps tend to be quite pervasively employed due to the fact that several cycles are initiated for the reporting of new findings.

As to the optional or compulsory status of the moves/steps, all the papers deploy Moves 2 and 3 (100% of use frequency), whereas Moves 1 and 4 are also obligatory with a frequency of use of 96.9% and 71.8%, respectively. With regard to step use, Figure 2 below shows that Steps 1, 4-9 and 12 are obligatory, while the rest of the steps are optional, considering that the threshold for a step to be obligatory has been set at 60%:

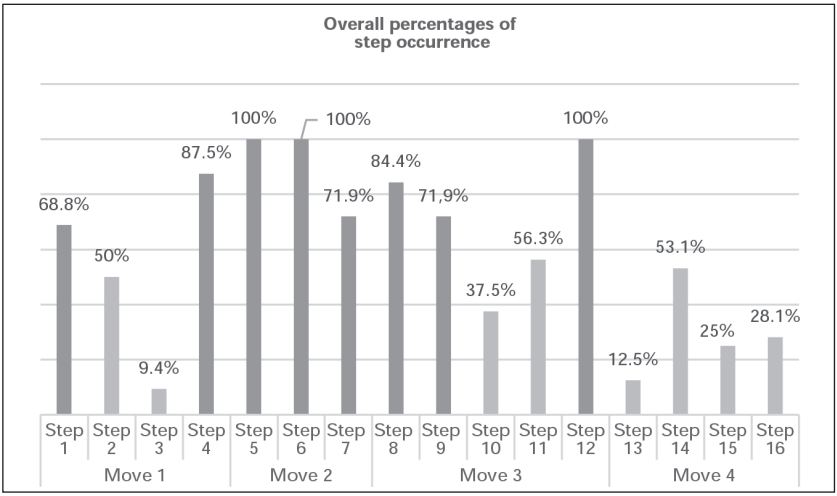

Figure 2. Percentage of occurrence of steps per move

With regard to the existence of a fixed order in the presentation of steps, it has been difficult to isolate a consistent structural pattern common to all the RAs, especially in the use of steps and the order in which they are employed. This lack of uniformity could be explained when it is seen that in 84.4% of the RAs analysed, the R&D section is further divided into several sub-sections (from a minimum of two to a maximum of seven). Thus, each sub-section reports and comments on quite a large number of findings (new cycles), as the type of research carried out is experimental in nature, and imposes its own rhetorical structure regarding the choice and order of moves and steps. Notwithstanding, cycles move in an inside-out trajectory by stating findings, placing them within the established literature, commenting on them and assessing their significance.

A comparison of step frequency in the two sub-corpora indicates (Figure 3) that there is a moderately higher presence of Steps 1, 9, 10 and 13 in the NSs corpus —compared to that of the NNSs. In other words, English L1 researchers resort more often to the presentation of established knowledge about the topic of investigation, while commenting and justifying unexpected results and summarizing findings more frequently than the English L2 academics. In contrast, NNSs employ optional Steps 15 and 16 more frequently than the NSs group to indicate further avenues for research and study limitations. Despite this, the results for the

chi-square test showed no statistically significant relationship between the presence of any particular step and the native language of the researcher. Step 13 however is absent from the NNSs corpora, thus indicating that researchers in this group do not tend to summarize their findings.

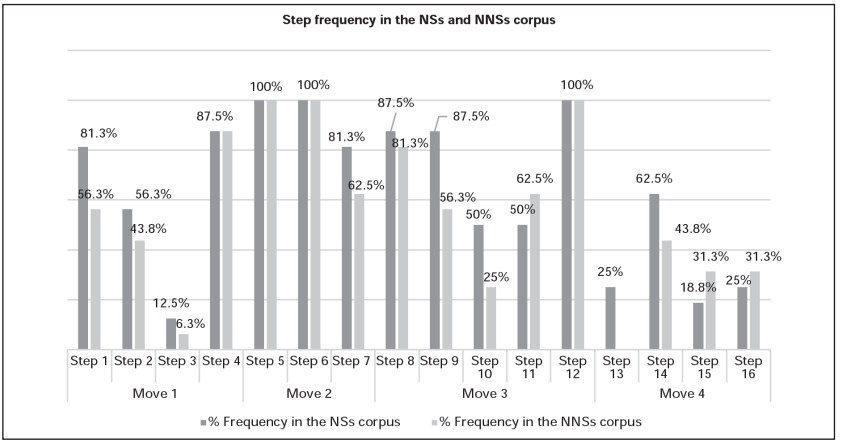

Figure 3. Comparison of step presence in the NSs and NNSs corpora

In what follows, I will describe qualitatively the use of the different steps within each of the moves.

4.1.1. *Move 1*

Within Move 1, Step 1 is obligatory (68.8%) and displays a higher presence in the NSs group (81.3% versus 56.3% for NNSs). Its communicative function allows researchers to present and contextualize their findings within an existing body of knowledge. This step tends to be found in initial position before outcomes are reported, as can be seen in Examples 1-2 below. This step is frequently accompanied by citation (indirect referencing) in an attempt to support claims by highlighting the work of others in the field. These knowledge statements are normally deployed with present simple and/or perfect tenses:

1. *3.2 Functional properties of hydrolysates. 3.21. Solubility.* [Step 1] *It is known that enzymatic methods can improve functional properties of protein.* (02FoodBioSp).
2. *Browning reactions during* flambé. [Step 1] *Browning reactions are hypothesized to occur during flambé, with the justification that the flame temperature greatly exceeds the temperatures needed for these reactions (Olson 2004)* (04JofGastEng).

Step 2 is an optional step which, if it occurs, always occurs before Moves 2/3; NSs deploy it with a frequency of 56.3% compared to a frequency of 43.8% for the NNSs group. For those RAs which are not divided into further sub-sections, this step restates the aims already mentioned in the introduction (Example 3) but it can also serve as a reminder, either before the different finding sections are presented, or within these sub-sections. The restatement of an aim (normally with the past tenses) is normally combined with a statement about the procedure or method followed to obtain such an objective (see Examples 3 and 4):

3. Results and Discussion. Fruits. [Step 2] In this paper, *we described the fermentation of apple dices with R. oryzae*. […] [Step 4] *The hereby research presents* R. oryzae strains *as an option to obtain alternative alcoholic products from cooked rice fermentation with particular sensorial characteristics* (01JofGastSp).

Step 3, *Occupying a niche*, is also an optional step (9.4% of frequency). It is enacted twice as often in the NSs corpus (12.5%) as in the NNSs one (6.3%) as illustrated in Example 4:

4. Results and Discussion. Fruits. This product features an ERG concentration higher than that of the starting material but lower than that found in other natural sources (Ey et al. 2007). [Step 3] *Therefore, the development of efficient concentration processes to increase the ERG concentration is needed*. [Step 2+Step 4] In an attempt to solve this problem, *we have studied the preparation of ERG-enriched extracts using WBM as a raw material and using enzymes and membrane technology for product recovery* (03FoodBioSp).

Step 4, *Indicating procedures and materials*, has been found to be obligatory with 87.5% of occurrence in both corpora either before or after Move 2, that is, after the presentation of the finding and normally initiating a new cycle (cf. Williams 1999 for similar insights). As Kanoksilapatham (2005) stated in her analysis of the rhetorical structure of Biomedical RAs, it is common to list the methods, techniques or experimental procedures adopted as part of the study carried out as they clearly have an effect on the findings obtained. This step also tends to occur together with the presentation of aims (see Example 3 above). Williams (1999) also observes that this step together with that of 'summarizing' are typical steps in the Discussion sections in a corpus of Biomedical RAs:

5. *3.6.* Optimization of the formulation. [Step 4] *First, it was decided to maximize the total antioxidant activity as it is not only dependent on anthocyanin content.* Regarding colour, *the colorimetric coordinates of raw strawberries were selected as the target,* because the original red colour of strawberries was required in the final product (04FoodBioSp).

At times, researchers feel the need to justify their choice of procedure, as in Example 6 below, with references to previous studies which may have relied on the same methods, or by highlighting the flaws in previous procedures or methods as a way of backing up the suitability of the one they have adopted:

6. *3.2.* [Step 5] *Previously, Wang, Hirmo, Willen, and Wadstrom (2001) and Horemans et al. (2012) demonstrated that a concentration of 25 mg mL-1 of defatted MFGM was required to cause 50e80% inhibition of H. pylori adherence to HeLa S3 cell monolayers and NCI- N87 cells, respectively.* Therefore, an initial concentration of 5 mg mL-1 dMFGM was selected for our study. (08JofIntDairEng).

4.1.2. *Move 2*

Move 2 is the head core move (see Brett's study [1994] for a similar insight), it is obligatory and deals with the reporting of results through three compulsory Steps 5, 6 and 7. Steps 5 and 6 are present in all the articles analysed and include reference to tables and graphs in an attempt to guide the reader through the text. Step 7 (81.3% for the NSs corpus and 62.5% for the NNS one) allows writers to engage in prior knowledge to imply that their findings are sound and as a way of backing them up through indirect citation and thus, it could be argued that it functions as a face-saving device:

7. 3.3. Microscopic surface analysis. [Step 5] The ability of the hydrolysates to inhibit DPP-IV activity was evaluated and *the results obtained are shown in Table 5* (03FoodBioSp).
8. [Step 7] Rancidity in cheese has been attributed to an excessive or unbalanced lipolysis, which leads to an excess of FFAs producing off- flavours *(Fox & Wallace 1997; Fox et al. 2004; McSweeney & Sousa 2000).* [Step 5 & 7] *Butanoic acid, present in higher relative abundance in rancid off-flavour cheeses than in the other tested cheeses (Table 3), has often been described as a key odorant with cheesy or putrid odours (Barron et al. 2005b; Thomsen et al. 2012)* (06IntDairyJournalEng).

The most interesting aspect of this move is that the presentation of a finding starts a new cycle which is normally followed by an evaluation of the finding but which can also be followed and/or preceded by steps from Move 1.

4.1.3. *Move 3*

A total number of 823 instances have been identified (40.7% of the steps found in the total corpus), which makes Move 3 the most frequent one as it is also an obligatory move. Move 3 constitutes a highly interpersonal section where hedging, boosting and attitudinal devices are profusely deployed when dealing with findings and their interpretations. Step 8 fulfils the communicative purpose of explicitly comparing the findings with others from previous studies as a way of backing up the relevance of the ones reported, while also acknowledging previous research. Step 8 is employed by the two groups of researchers (87.5% NSs versus. 81.3% for NNSs):

9. [Step 8] *Two previous studies have considered ethanol losses during flambé. Our current results are more similar to those of Augustin et al. (1992),* who observed that only 15% of ethanol is lost during flambé preparation of Cherries Jubilee. *In contrast, a Cooks Illustrated article reported that 79% of ethanol is lost during preparation of a cognac-based sauce for Steak Diane (Olson 2004).* (04JofGastEng).

The function of Step 9 is to allow researchers to comment on findings which are either expected or unexpected. However, NSs deploy it with a frequency of 87.5% whereas NNSs do not seem to resort to its use so pervasively (only 56.3%). This step was also found in Williams' study (1999) after the presentation of findings under the label "Non-validation of Finding". Step 10 provides an explanation for the expectedness/unexpectedness of the findings and NSs employ them twice as much (50%) as their NNs (25%) counterparts possibly in an attempt to provide an explanation for the difference in results, and also in order to get the reader to accept the results more easily. Step 11 is deployed to provide an explanation for findings (cf. Hopkins and Dudley-Evans 1988; Brett 1994), that is, researchers show an understanding of the underlying causes of such a result and thus providing a mitigating factor in case the finding differs from what has been reported in previous work. This step is normally deployed with the help of linking words such as "due to, in relation to, as a consequence", and hedges such as the epistemic adjective "likely", or the epistemic modal verb "could" to tentatively account for the explanation provided. NNs use this step with a slightly higher frequency than the NSs (50% versus 62.5%):

> 10.[Step 9] *However, we did observe that an air temperature decrease around the nozzle from 23.7 ^{0}C to 19.9 ^{0}C had a large impact on bridging,* with an increase in spanning distance of around 1e2 mm consistent across all tests. [Step 10] *This is likely due to* the turbulent airflow adding variability to the system and altering the solidification of the chocolate (02JofFoodEngEng).

Step 12 clearly embodies the writer's opinion or evaluation with regard to particular findings, which can be expressed through a balanced combination of hedging, boosting or attitudinal markers. Its frequency of use reaches 100% for both groups of academics and this step is normally enacted after the presentation of the finding:

> 11.[Step 12] Thus, the result *observed* in this experiment is *likely due to* the reduced time period in which dMFGM and E. coli strains were in contact, compared with the standard competition assay. This *would lead* to reduced competitive binding of dMFGM and HT-29 cell adhesins for E. coli O157:H7 cell receptors. The lack of a pre-incubation step reduces the ability of the dMFGM fraction to inhibit bacterial binding to host cells. However, *it is interesting* that a reduction was still *evident* instantaneously (03JofInDairySp).

4.1.4. *Move 4*

Move 4 provides an evaluation of the results through some of its non-compulsory steps. Step 13 summarizes results and is absent from the NNSs corpus. Step 14 is employed with a higher frequency in the NSs corpus (62.5% versus. 43.8%) to indicate the limitations of the study (see 12 below). Steps 15 and 16 are employed to indicate the significance of the study and avenues for further research, and their presence is slightly higher in the NNSs corpus (31.3% versus 18.8% and 31.3% versus 25%), although not statistically significant:

12.[Steps 15-16] Although these studies indicate the anti-infective activity of the dMFGM fraction against EHEC could also be viable in vivo, *further studies are required to validate this. This hypothesis requires further investigation*. (08JofIntDairyEng).

One possible explanation for the optionality in the case of Steps 15 and 16 could be that these researchers are publishing in high-impact journals and thus, they do not feel the need to justify the limitations of their work, as a way of protecting themselves from possible or potential criticism. Another reason might be that they are also established researchers. The fact that Step 16 is not exploited from a rhetorical point of view in this discipline could well be explained by considering, as Huckin stated in Swales (1990), that the recommendation for what to do next is "a move being increasingly abandoned by US scientists because they do not wish to give advantage to others in an increasingly competitive market for research grants" (Swales 1990: 173).

4.2. Interpersonal Metadiscourse in the Results and Discussion Section: a Quantitative Analysis

The quantitative analysis shows that the interpersonal metadiscourse features analysed are employed with an overall frequency of 388.6 per 10,000 words in the corpus analysed. Hedges stand out as the most frequent category (216.3), followed by boosters (105.0), attitude markers (49.5) and authorial presence (17.2).

In view of these findings, it could be said that in the R&D section of FSc&Tech, writers are mostly concerned with the mitigation or tentative presentation of their findings, and at other times with the expression of authorial confidence and engagement with the propositions conveyed through boosters and, to a lesser extent, attitudinal markers, as illustrated in Table 1 below:

Interpersonal Metadiscourse features	NNSs raw/normalized frequencies	NSs raw/normalized frequencies	p-value
Hedging Devices	569/195.9	774/234.3	**0.001**
Boosting Devices	281/96.8	371/112.3	0.061
Attitudinal Markers	146/50.3	161/48.7	0.786
Personal Presence	37/12.7	70/21.2	**0.011**
Total	569/195.9	774/234.3	**0.001**

Table 1. Raw and normalized frequencies of interactional metadiscourse categories per 10,000 words

Overall, the NSs group employed more interpersonal metadiscourse than their Spanish counterparts in the sections under analysis (417.1 versus 356.1 per 10,000

words) and this difference is statistically significant (p-value 0.001). In the same line, Abdollahzadeh's study (2011) on interpersonal metadiscourse used by Iranian and English academics in the discussion sections of RAs published in English applied linguistics journals showed a higher use of metadiscourse by English academics compared to the Iranian researchers (p. 0.005). These findings (439.6 versus 295.4) corroborated previous cross-cultural research by Mur-Dueñas (2011) on the use of interactional metadiscourse by academics with English/Spanish L1 in the field of Business Management.

The quantitative analysis has shown that hedging devices make up the category most pervasively employed both by NSs and NNs (234.3 versus 195.9 per 10,000 words), and the p-value for the chi-square has shown a statistically significant difference between both groups (p. 0.001). This finding also corroborates those in Mur-Dueñas' (2011) study where hedging values were 200.1 versus 126.7 for NSs and NNSs, respectively. It follows from this finding that NSs are more conscious of the need to present their knowledge in a tentative manner in an attempt to avoid sounding too categorical or to avoid appearing to impose on the other academics in the audience and so, they resort to signalling that results could be opposed or contradicted, thus leaving the door open for disagreement. In contrast, academics in the NNSs group, even if publishing in the same journal, do not seem to view hedging as such a necessary strategy, possibly due to L1 rhetorical interference or to a lack of awareness of what the most productive rhetorical practices are in the target culture when it comes to constructing knowledge (Bazerman 1988). Vázquez-Orta (2010) also reported that English L1 academics hedged their discourse more heavily than their Spanish counterparts across the different sections of Business Management RAs, although he only focused on modal verbs and was dealing with two different cultural contexts of publication.

The categories of boosters is the second feature most pervasively employed by both groups of researchers (112.3 versus 96.8 per 10,000 words) and even if the p-value does not point to any statistical difference, NSs tend to use it with a higher frequency. This category seems to be enacted almost twice as much in the discipline of FSc&Tech than in that of Business Administration (54.2 versus 72.2, for NSs and NNSs, respectively) as reported in Mur-Dueñas (2011), and is probably a feature of disciplinary variation. Its frequency use in this discipline indicates that researchers convey their findings in an assertive way, expressing their commitment to the propositional content conveyed.

Although no studies dealing with this section in the discipline under analysis have been carried out, other contrastive studies on the use of these metadiscoursal categories have indicated that English writers tend to use hedges and boosters more frequently than non-native English researchers (cf. Vassileva 2005; Atai and

Sadr 2008; Chen and Baker 2010; Vázquez-Orta 2010; Ädel and Erman 2012), especially Spanish researchers with English as their L2 (Oliver del Olmo 2014; Carrió-Pastor 2016).

In contrast, attitudinal markers are employed with a similar frequency in the NSs and NNSs corpora (50.3 versus 48.7 per 10,000 words). Mur-Dueñas (2010, 2011) also found a great similarity in the frequency of use of attitude markers in Business RAs written by English and Spanish academics (8.1 versus 7.7 per 1,000 words), which indicates that this is a popular metadiscoursal feature frequently employed by researchers from both cultures. Thus, it can be concluded that cultural differences do not seem to be at work when it comes to the explicit evaluation of findings and to the expression of the writer's attitude towards the content presented. Researchers seem to share a mutual set of disciplinary values when publishing their papers and the different writing cultures do not seem to have affected their use of this feature.

Finally, regarding the authorial presence in the two corpora, the NSs corpus uses self-mention devices with a frequency of 21.7, versus 12.7 for the NNSs corpus, with a statistically significant value of 0.011. The difference is especially noteworthy in the use of the exclusive plural form[8] of the personal pronoun "we", which is employed with a frequency of 0.5 in the NNSs corpus versus 1.1 in the NSs corpus (p. 0.006). This finding reveals that authorial presence with the personal pronoun "we" is not a preferred option for non-native speakers in the R&D section (cf. Hyland 2002; Martínez 2005 for similar insights), whereas it is a frequent choice in the NSs corpora when it comes to assuming responsibility for the findings or claims enacted. This is partially in contrast to the research carried out by Carciu (2009) in a corpus of medicine RAs, where she observed that NNSs made their presence more visible especially in the introductory section of RAs, thus reifying the belief that cultural background may influence authorial visibility.

A closer look at the contextual uses of "we" in the corpus also reveals that its use is mainly oriented towards the presentation of the aims of the research and the procedures employed in 41.2% of the cases, and to the presentation of results in 58.8% of the instances. However, in the NSs corpus, 63.9% of the instances occur in the high risk activity of commenting on findings, whereas 36.1% of the uses fall within Move 1 to reintroduce the aim of the paper or describe procedural aspects. In contrast, in the NNSs corpora, 53.3% of the uses of "we" seem to be oriented towards presenting the aims or describing procedures, low-risk activities with regard to facework, whereas 46.7% of the uses deal with the comments and discussion of results. So, it seems that the two different groups respond in slightly different ways to the underlying motivation of pragmatic politeness as the rationale for authorial presence in this section.

Statistically significant values have also been found for the use of some hedging adjectives (*quite, about, almost, apparent*, etc.) and hedging verbs (*observe, suggest, deduce*, etc.) as displayed in Table 2:

Hedging Devices	NNSs corpus/ per 10,000 wds	NSs corpus/per 10,000 wds	Total amount	p-value
Modal Verbs	203/69.9	249/75.4	452/72.8	0.427
Adverbs	141/48.6	191/57.8	332/53.5	0.095
Adjectives	81/27.9	128/38.7	209/33.7	**0.025**
Verbs	114/39.3	184/55.7	298/48.0	**0.003**
Nouns	1/0.3	4/1.2	5/0.8	0.38
Other expressions	29/10.0	18/5.4	47/7.6	**0.04**
Total	*569/195.6*	*774/234.3*	*1343/216.3*	**0.001**

Table 2. Raw and normalized frequencies of hedging devices

However, hedging modal verbs are employed in a similar fashion in both cultural contexts. This may indicate that the Spanish researchers are aware of the context of publication and of the rhetorical conventions of the genre in which they are writing. This finding, to a certain extent, contradicts previous research which has shown that hedging devices are not employed in the same way when comparing academic texts in English and in other languages (Kreutz and Harres 1997; Vassileva 1997; Vold 2006; Vázquez-Orta 2010; Usoniene and Sinkuniene 2014). With regard to the frequency of use of the epistemic modal verbs *could* and *may*, there is a marked difference. In the NSs corpus *may* displays a frequency of 2.3 words per 10,000, whereas in the NNSs corpus its frequency is reduced to 0.6 (p. 0.001) (cf. Vassileva 2005 for similar insights), which indicates that the Spanish non-native writers fail to make use of this common modal verb to express tentativeness. In contrast, *could* is used by the NNSs with a frequency of 2.3 words versus 1.3 for the NSs (p. 0.002). The frequency of use of "can" (1.3 NSs versus 2.0 NNSs, p. 0.052) and "might" (0.3 for both corpora, p. 0.773) has been found to be similar.

5. Concluding Remarks

The contrastive genre-based approach to the rhetorical structure and use of interpersonal metadiscourse in the R&D sections of FSc&Tec RAs has come up with

some interesting findings. First of all, the combination of obligatory/optional moves and steps found in the corpus has allowed me to arrive at a preliminary template which is indicative of certain common rhetorical patterns for this section in both sub-corpora. This research has also shown that in spite of the cultural differences exerted by the writing conventions of the researchers' L1 languages, both Spanish and English academics abide by the same disciplinary norms and/or conventions with regard to the rhetorical structure of the R&D section in the field of FSc&Tech. This was something I expected, considering that we are dealing with academics writing in a specific context of publication, and whose work is rigorously assessed accustoming them to the shared disciplinary values or beliefs that are most prominent in the writing conventions of this community. In other words, the writing of the R&D sections is dictated by common overarching goals and procedures, and thus, academics from the two cultural groups shared beliefs and disciplinary norms which are far more influential than their specific cultural and linguistic idiosyncrasies.

Despite the fact that all the moves have been found to be obligatory, there is some slight variation when it comes to the use of some steps within moves which might be indicative of the fact that the English L1 academics organize their R&D sections in a more rhetorically complex way in comparison to their Spanish counterparts, as they seem to rely on a wider spectrum of steps. Possible explanations could be the fact that even though they are publishing for an international audience, Spanish researchers are less aware of the rhetorical possibilities that some steps may offer them to make their writing more persuasive when publishing research in English. However, considering the number of RAs which make up the corpus, this preliminary template should be further tested with a larger corpus of analysis.

Secondly, although the quantitative findings regarding the use of metadiscoursal features are best seen as tentative, they have helped us corroborate Lee and Casal's (2014) belief that "most cross-cultural examinations show that metadiscoursal realizations in different languages diverge more than converge". In fact, what this study has made manifest is that NSs employ metadiscoursal features more pervasively than their Spanish counterparts and that there are differences regarding the way these academics employ some of the interactional metadiscourse features analysed when writing the R&D sections of their FSc&Tec RAs in English. This seems to point to a higher awareness on the part of English academics for the need to carefully evaluate, justify or explain their findings in order to convey a more credible representation of their work and themselves while socially signalling their commitment to the propositional information conveyed. The fact that Spanish researchers deploy fewer metadiscourse features might be the result of their not having fully mastered the necessary ability to strongly signal such an interaction between the writer and the reader, due to, perhaps, a different perception of the

conventions for scientific and/or academic writing or due to interference from their L1 systems.

On the other hand, the considerable amount of metadiscoursal features employed in the sections under analysis could be well explained by bearing in mind the complexities of the rhetorical functions carried out in this section. In other words, as this section is mainly concerned with the presentation and evaluation of findings, a considerable amount of hedging devices are employed together with the use of boosters, especially in Move 3. Boosting devices may be seen, too, as necessary as in a competitive world where academics need to signal their commitment and attitude towards the findings portrayed. Similarly, caution expressed through mitigating devices is also required to avoid sounding too categorical in the presentation, evaluation or contextualization of findings, considering that they may pose a threat to previous research or challenge well-established knowledge in the field.

Thirdly, this study also contributes to cross-cultural studies by presenting a preliminary analysis of the discipline of FSc&Tec, thus adding to already existing research on disciplinary variation. By focusing attention on the non-conventional section of Results and Discussion, this paper has shown the importance of accounting for the rhetorical structure of RAs published in internationally recognized journals and whose rhetorical layout lies beyond the traditional IMRD structure.

Finally, this paper opens up several avenues for further research. The exploratory quantitative approach carried out should be complemented with a qualitative analysis in a larger corpus. Likewise, interviews with researchers in the field may help shed light on the epistemology and research practices of the discourse community under analysis and on their motivations for the lack of authorial presence, or on their preferences for certain hedging categories and for the deployment of certain steps within moves. Also, the findings reported here should be interpreted as having potential pedagogical applications in the field of English for Academic Purposes both for instructors and PhD students, as they could be the basis for the elaboration of pedagogical materials to make non-native academics aware of the way hedging and boosting are carried out in the discipline under analysis.

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Notes

[1]. In spite of this, one of the frameworks which has gained attention in the fields of writing in EAP and ESP is *English as a Lingua Franca* (cf. Jenkins et al. 2011; Cogo and Dewey 2012; Seidlhofer 2012, among others) which "envisions a world in which rigid NES norms are replaced by more flexible, internationally-oriented patterns that facilitate communication between users of different varieties of English, with negotiation and accommodation being keys to success" (McIntosh et al. 2017: 13).

[2]. Lafuente-Millán (2008) includes this field of study in his paper on the evaluation of hedges, boosters and approximators together with three other disciplines.

[3]. In fact, in a sample of 50 RAs, I have found that both sections coalesce in 90% of the cases for the journals *Food Bioscience* and *Journal of Food Engineering*, whereas 86% of the papers in the *International Journal of Dairy* and 85% of those published in the *International Journal of Gastronomy and Food Science* tend to merge both sections.

[4]. Williams' interest was to assess the frequency of the categories rather than their linguistic realizations.

[5]. Optional steps are signalled with square brackets.

[6]. Hyland's framework of interactional metadiscourse also includes *engagement markers* (reader pronouns, directives, questions, etc.) under the macro-function of *engagement* but they fall outside the scope of this study.

[7]. It should be stated that it was not the aim of this article to provide a detail analysis of the linguistic realizations of each move and step, mainly due to space limitations.

[8]. Exclusive uses are those which refer to the researchers of the paper and do not include the reader (cf. Hardwood 2005).

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Appendix I. Different taxonomies of the communicative functions of the Results and Discussion sections

Weissberg and Buker (1990)
Results Section

Element 1: Statement in the present tense that locates the figure(s).
Element 2: Past tense statement that presents the most important findings.
Element 3: Statements that comment on the results (generalise, explain or compare)

Brett (1994) and Williams (1999)
Results Section

1. Metatextual
0.1. Pointer
0.2. Structure of Section
2. Presentation Categories
0.3. Procedural
[0.4] Hypothesis Restated
1.1. Statement of Finding
(a) Comparison
(b) Time-related change
(c) Relationship between variables
[(d) Numerical]
2.1. Substantiation of Finding
2.2. Non-validation of Finding
3. Comment Categories
3.0. Explanation of Finding
3.1. Comparison of Finding with Literature
(a) Same
(b) Neither the same nor different
(c) Different
3.2. Evaluation of Findings: Hypothesis
(a) Same
(b) Different
[3.3. Further question(s) raised by Finding]
3.4. Implications of Finding
[3.5. Summarising]

Hopkins and Dudley-Evans (1988)
Discussion Section

1. Background Information
2. Statement of Result
3. (Un)expected Outcome
4. Reference to Previous Research (Comparison)
5. Explanation of Unsatisfactory Result
6. Exemplification
7. Deduction
8. Hypothesis
9. Reference to Previous Research (Support)
10. Recommendation
11. Justification

Holmes (1997)
Discussion section

1. Background Information
2. Statement of Result
3. (Un)expected Outcome
4. Reference to Previous Research (Comparison)
5. Explanation of Unsatisfactory Result
6. Generalization
7. Recommendation
8. Outlining Parallel or Subsequent Developments

Peacock (2002)
Discussion Section

1. Information Move (background about theory/research/aims/methodology)
2. Finding
3. Expected or unexpected outcome
4. Reference to previous research
5. Explanation
6. Claim or contribution to research
7. Limitation
8. Recommendation

Yang and Allison (2003)

Results Section	*Discussion Section*
M1 Preparatory information (graphs, tables, statistical procedure)	**M1 Background information**
M2 Reporting results	**M2 Reporting results**
M3 Commenting on results • Interpreting results • Comparing results with literature • Evaluating results • Accounting for results	**M3 Summarizing results**
M4 Summarizing results	**M4 Commenting on results** • Interpreting results • Comparing results with literature • Accounting for results • Evaluating results
M5 Evaluating the study • Indicating limitations • Indicating significance	**M5 Summarizing the study**
M6 Deduction • Recommending further research	**M6 Evaluating the study** • Indicating limitations • Indicating significance/advantage • Evaluating methodology
	M7 Deduction from results • Making suggestions • Recommending research • Drawing pedagogic implication

Appendix II. The rhetorical structure of the R&D section in FSc&Tec RAs

MOVES	STEPS
Move 1: Background Information	**Step 1 Established knowledge about the topic of investigation or procedure** *The pH-stat method, has been commonly used to characterize the amount of free fatty acids (FFAs) released under simulated intestinal conditions. Generally, this methodology has been proved to successfully work with o/w emulsions, when fat digestion is catalyzed by lipases (Charoen et al., 2012; McClements, Decker, Park, & Weiss, 2008; Waraho et al., 2011).* (Food Bio01_Sp)
	[Step 2 Restating the aims] *The goal of the study was to identify differences between industrially processed and artisan Procedure GFB. Nappings.* (JofGast02_Eng) *In this work, three different proteases were used to solubilize cooked shrimp protein.* (FoodBio03_Sp)
	[Step 3 Occupying a niche] *Therefore, the development of efficient concentration processes to increase the ERG concentration is needed. In an attempt to solve this problem, we have studied the preparation of ERG-enriched extracts using WBM as a raw material and using enzymes and membrane technology for product recovery.* (FoodBio04_Sp)
	Step 4 Indicating procedure and materials [with references to previous studies] *Lyophilised and spray-dried powders with ERG concentrations of 3.4370.2 and 2.8470.3 mg ERG/g of dry weight, respectively, can be obtained from WBM, as we have previously reported (Cremades et al., 2012). This product features an ERG concentration higher than that of the starting material but lower than that found in other natural sources (Ey et al., 2007).* (FoodBio04_Sp)

Move 2 Reporting Results

Step 5 Presenting results plus mention of tables/graphs

The observed loss of ethanol and water is reported in Table 1. (JofGast04_Eng)

Step 6 Presenting results

For the vodka study, the mean ethanol loss in the flambé *(ignited) samples was 11.1 g, or 34.7% of the initial 32 g of ethanol.* (JofGast04_Eng)

Step 7 Presenting results with reference to previous literature

All milk samples showed a mono-modal particle size/number distribution with a number mean varying from 125 to 142 nm (data not shown), typical of that reported previously for bovine milk (O'Connell & Fox, 2000). This trend concurs with that reported by Gaygadzhiev et al. (2012), who found that the addition of 0.1% (w/w) sodium caseinate to skim milk did not significantly alter the apparent diameter, as measured using dynamic light scattering. (JofIntDairy05_Eng)

Move 3 Commenting on Results

Step 8 Comparing or backing up findings with previous studies

Tabilo-Munizaga and Barbosa-Cánovas (2004) studied the textural parameters of pressurized (400 and 650 MPa) and heat-treated (90 °C, 40 *min) PW and AP surimi gels. They found that the cohesiveness value was close to 1 in all treatments, but the test was performed to 25% compression in order to avoid fracture.*
Compared to both the studies, our study clearly distinguished the cohesiveness according to heating rates, this implies that the 50% compression rate would be more suitable to estimate the cohesive nature of gels. (Food-Bio04_Eng)

Step 9 Commenting on an (un)expected outcome

However the hardness of PW surimi-carrot mixed gels heated at 160 °C/min *was greater than that of heated at 60* °C/min *in carrot content of 9% ($P < 0.05$), this implies that the diced carrot interfere with the heat transfer during ohmic heating* (Food Bio04_Eng)

[Step 10 Justifying an (un)expected outcome]

Despite not having found the specific catalyst we were looking for, the impact of the indigenous microbes to

our environment is evident. In sequencing of all miso made in this environment, one common fungal strain has been found. While not traditionally associated with miso made in Japan, it is extremely common in other fermentative processes specifically the initial fermentation of cacao. (JofGast03_Eng)

The progress curves of lipolysis illustrate that the rate of the enzymatic reaction and the extent of fat digestion, are strongly dependent on both the pH of the medium and the biliary concentration used, as one would have expected. (FoodBio01_Sp)

[Step 11 Explaining results]

This effect could be partially due to the more stable structure of the protein network in the bubble walls due to the achieved protein crosslinking. (JofGast02_Sp)

Step 12 Commenting on results

The cohesiveness values of mixed gels heated at 160 °C/min *PW and 3* °C/min *AP sample were close to 1, indicating they are highly cohesive as an almost full recovery was obtained at the second compression.* (Food Bio04_Eng)

These results suggest that the dMFGM fraction requires a certain period of time to exert its maximal inhibitory effect on E. coli cellular association. Indeed, a previous study indicated that optimum binding of a particular coli O157:H7 strain, CL-49, to mucins occurs at 37 oC for 2 h at pH 6.5 (Sajjan & Forstner, 1990). Thus, the result observed in this experiment is likely due to the reduced time period in which dMFGM and E. coli strains were in contact, compared with the standard competition assay. This would lead to reduced competitive binding of dMFGM and HT-29 cell adhesins for E. coli O157:H7 cell receptors. (JofInDairy03_Eng)

Move 4 Evaluating Results

[Step 13 Summarizing results]

Summarizing, the three parameters influenced the velocity of the reaction with the major reaction rates reached at high intestinal pH (7 or 8). (FoodBio01_Sp)

[Step 14 Indicating limitations of the study]

As commented before, these zones in the spectrum belong to chlorophylls and water absorbance, respec-

tively. However, predictive models need to be investigated for use in quantitative analyses capable of identifying nectarine ripeness. (JofFoodEng03_Sp)
This particular method of quantifying residual foulant is analogous to the optical method completed in the fluorescence microscopy portion of the study. As another form of a 2-dimensional analysis, it can only detect how much surface area has foulant on it but not how tall said foulant is. (Jof FoodEng04_Eng)

[Step 15 Indicating significance of the study]

All this confirmed the great influence of these physiological parameters (intestinal pH and bile concentration) on the lipolysis of fat. (FoodBio01_Sp)

This reduction in processing time with TS may offer potential and significant advantages in the brewing industry in terms of productivity gains. (JofFoodEng_01_Eng).

[Step 16 Pointing to further research]

Further investigations are required to determine more information on the different glycan receptors used by each serotype which would allow the subsequent tailoring of anti-adhesives to target a wide variety of pathogens. (JofIntDairy03_Eng)

Further analysis using the AFM data height mapping should be the next step in quantification of nanofoulants on surface in a 3-dimensional approach. (Jof FoodEng04_Eng)

Appendix III. List of metadiscoural features

Attitudinal markers	Hedging verbs	Hedging adjectives	Hedging adverbs		Hedging nouns	Boosters
acceptable	calculate	about	a bit		probability	actually
admittedly	argue	almost	approximately	substantially	possibility	always
agree	deduce	apparent	basically	unlikely	assumption	believe
appreciably	estimate	around	commonly	usually	claim	certain
clearly	imply	feasible	considerably		estimate	clear
considerable	hypothesize	just	especially			clearly
considerably	infer	large /no large difference	fairly		Hedging expressions	conclude
completely	observe	little	frequently		to my/our	conclusive
correctly	predict	minor	generally		knowledge/to the best	confirm
curiously	propose	overall	just		of our knowledge	consider
desirable	report	partial	largely		at least	considerable
disagree	speculate	plausible	likely		as far as	consistent
dramatically	suggest	possible	mainly		in general	demonstrate
efficient	suppose	potential	mostly		unless	determine
effective	tend	presumable	often		from the point of view	emphasize
effectively		probable	only		in part	establish
entirely	Modal verbs	proposed	partially		under certain	evident
essential	can	quite	particularly		conditions	expect
even	could	relative	partly		although preliminary	highlight
(un)expected	may	slight	perhaps			hold
heavily	might	some	possibly			in fact
highly	should	tentative	potentially			indeed
important	would	uncertain	practically			indicate
interesting			presumably			found
interestingly	seem		primarily			know
of note	appear		probably			largely
prefer	will		quite			obviously
preferable	need		rarely			of course
remarkable			relatively			point out
significant			scarcely			potential
significantly			seemingly			prove
strongly			slightly			reveal
substantially			solely			show
surprising			some kind of			think
unsurprising			somewhat			true
surprisingly			somehow			
(un)usual						

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EL ROL DE LAS REDES SOCIALES EN LA COMPRENSIÓN ORAL DE SEGUNDAS LENGUAS CON SOPORTE MÓVIL

THE ROLE OF SOCIAL NETWORKS IN MOBILE-BASED SECOND LANGUAGE ORAL COMPREHENSION

ELENA BÁRCENA
Universidad Nacional de Educación a Distancia
mbarcena@flog.uned.es
TIMOTHY READ
Universidad Nacional de Educación a Distancia
tread@lsi.uned.es

Resumen

La comprensión oral es una competencia importante para quien estudia una segunda lengua, pero requiere una práctica y una orientación significativas. Existe un volumen considerable de literatura sobre los factores que intervienen, por un lado, en el desarrollo de la competencia oral, que pueden clasificarse como perceptuales, cognitivos o metacognitivos y, por otro, en las estrategias de la enseñanza y el aprendizaje que apoyan dicho proceso. Los autores de este artículo desarrollaron una *app* de aprendizaje asistido de lenguas (MALL según el acrónimo inglés), denominada ANT (*Audio News Trainer*), para apoyar a los estudiantes en dicho aprendizaje, ofreciéndoles grabaciones de audio con noticias de actualidad y actividades de aprendizaje relacionadas con ellas. Hay dos versiones de la aplicación, una es para el uso individual y otra está vinculada a Facebook para potenciar los aspectos psicopedagógicos relevantes en el desarrollo de la comprensión oral. En este artículo se exploran dos preguntas de investigación acerca del uso de dicha red social para motivar a los estudiantes y para ayudarles a que se autorregulen mejor respectivamente, utilizando cuestionarios y datos experimentales recopilados del uso de ANT. Los resultados obtenidos de estos análisis muestran que la interacción guiada entre estudiantes de una segunda lengua en la red social Facebook causa un impacto significativo en la motivación y en la autorregulación que acompañan la evolución de la comprensión oral.

Palabras clave: comprensión oral, aprendizaje de lenguas asistido por móviles, redes sociales, motivación, autorregulación.

Abstract

Oral comprehension is an important competence for a second language learner but one that requires significant practice and guidance. Considerable literature exists on the factors that appear to play a role in the development of oral comprehension, which can be classified as perceptual, cognitive or metacognitive, and in the teaching and learning strategies that support this process. A MALL (Mobile Assisted Language Learning) app, called the Audio News Trainer (ANT), was developed by the authors to support students in the development of oral comprehension, by presenting them with audio news recordings together with related learning activities. There are two versions of the app, one for individual use and another one that is connected to Facebook to reinforce psychopedagogical aspects relevant in the development of oral comprehension. Two research questions are explored in this article, regarding the use of this social network to motivate students and help them become more self-regulated; and they are addressed by means of questionnaires and experimental data gathered using ANT. The results obtained from such analyses show that the guided interaction between second language students in the social network Facebook made a significant impact in terms of the students' motivation and self-regulation measurable in their development of oral comprehension.

Keywords: oral comprehension, mobile-assisted language learning, social networks, motivation, self-regulation.

1. Introducción

Escuchar es una habilidad lingüístico-comunicativa fundamental para los hablantes nativos y para los no nativos. Es la que se suele emplear con mayor frecuencia en la comunicación diaria para actualizar nuestro conocimiento y entablar relaciones interpersonales. También se ha argumentado que es clave para ayudar a internalizar las reglas del lenguaje que conducen a la aparición de otras habilidades comunicativas (Ghaderpanahi 2012). Rost (2002: 2) define la *comprensión oral* como: "reframing the speaker's message in a way that's relevant to you". El proceso de comprensión oral supone la decodificación, reconstrucción y representación de un mensaje dado. Ocurre en apenas unos milisegundos desde la escucha e involucra una gama de procesos de atención, cognitivos y metacognitivos, que se centran en lo que se

está diciendo, relacionando lo perceptual con lo lingüístico y con el conocimiento del mundo real (Tsui y Fullilove 1998). Field (2009) dice que el significado se construye combinando procesos de arriba abajo (impulsados por el concepto) y de abajo arriba (impulsados por datos) mientras se está escuchando, involucrando la predicción en tiempo real de lo que se escuchará a continuación y utilizando el conocimiento que ya se tiene en forma de esquemas o de otras estructuras mentales (Gilakjani y Ahmadi 2011). Además, autores como Flowerdew y Miller (2005) o Vandergrift (2011) señalan factores que intervienen en el proceso de escucha, como la naturaleza de la tarea, el contexto y los rasgos individuales propios del sujeto. En comparación con otras destrezas lingüístico-comunicativas, la comprensión oral ha sido desatendida durante mucho tiempo por quienes investigan en el campo de la lingüística aplicada y de la búsqueda de métodos didácticos efectivos (Rost 2002). Esto se debe a que se trata de un proceso aún científicamente intangible en el que intervienen múltiples factores tanto objetivos (temáticos, interpersonales, situacionales) como subjetivos (perceptuales, cognitivos, metacognitivos). La opacidad de este proceso comporta la dificultad de controlar la ejecución del mismo y de mejorarla con precisión en el caso de quienes están aprendiendo y, en el caso de quienes enseñan, la dificultad de deconstruir, negociar y reconstruir de forma explícita el proceso ante sus estudiantes, tanto en el entorno educativo convencional presencial como fuera del aula.

En cuanto a las modalidades educativas y formativas para las segundas lenguas, en el siglo XXI se constata la existencia de una demanda global de soluciones educativas móviles y flexibles que aporten las múltiples ventajas del uso de los dispositivos móviles como herramientas de estudio, trabajo y comunicación para la vida de hoy. El uso de *smartphones* (o teléfonos inteligentes) y tabletas puede suponer un medio eficaz para la práctica y mejora de la comprensión oral, ya que aumenta las oportunidades de aprendizaje y práctica, fomenta la proactividad, puede aprovechar o prescindir de los cambiantes contextos del usuario y proporciona un acceso fácil a contenidos auditivos, con o sin interacción (Kukulska-Hulme 2006). Este y otros estudios han intentado demostrar la utilidad de los dispositivos móviles para apoyar con éxito las habilidades orales (p. ej. Demouy y Kukulska-Hulme 2010; Al-Jarf 2012; Hwang et al. 2014).

Una de las modalidades del aprendizaje de lenguas que resulta eficaz y motivadora es la colaborativa o social. Dentro de las múltiples opciones disponibles para llevarla a cabo destacan las redes sociales. Su potencial ya se ha presentado ampliamente en términos generales en la literatura especializada (p. ej. Sockett y Toffoli 2012; Lamy 2013). Además, existe una relación evidente entre las redes sociales y el aprendizaje, ya que la mayor parte de la comunicación que se realiza desde estos dispositivos es a través de herramientas sociales y ambos instrumentos confluyen

con el concepto de aprendizaje digital integrado en las relaciones interpersonales y en la vida digital.

Para investigar estas cuestiones aplicándolas a la comprensión oral, se desarrolló la *app* ANT (*Audio News Trainer)* en el seno del proyecto SO-CALL-ME,[1] cuyo objetivo era ayudar a los estudiantes a desarrollar su comprensión oral en inglés a través de *podcasts* de noticias de actualidad clasificados y accesibles desde un soporte móvil. El estudio se propuso, además, profundizar en el efecto de incluir una red social que posibilitara los beneficios del aprendizaje colaborativo. A tal fin, se crearon dos versiones de la misma *app*, una de uso exclusivamente individual, y otra conectada a Facebook, que permitía a los estudiantes enviar resúmenes de los audios escuchados a la página social de la *app* e interaccionar con otros estudiantes respecto de las escuchas realizadas. El estudio presentado en este artículo se centra en la investigación realizada para explorar la respuesta a dos preguntas acerca de la aportación de la fase social de la *app* en términos de dos factores psicopedagógicos que guardan relación directa con el aprendizaje entendido en términos de ganancia cognitiva: la motivación y la autorregulación (Warschauer 1997):

- ¿Motiva al estudiante de una segunda lengua a practicar la comprensión oral la interacción guiada en una red social integrada en una *app*?
- ¿Puede ayudarle el uso de dicho recurso y la metodología asociada a autorregularse mejor en el desarrollo de la competencia auditiva?

La *motivación* puede definirse como el proceso por el que alguien inicia, guía y mantiene comportamientos orientados hacia un objetivo de aprendizaje dado (Read y Kukulska-Hulme 2015). A menudo la actuación a la que conduce tiene aspectos relacionados con una mayor exposición al aprendizaje (analizable teniendo en cuenta la continuidad de la actividad, el incremento del número de escuchas, la duración y frecuencia de las sesiones de trabajo y el número de escuchas que engloba) y otros relacionados con la mejora del seguimiento de la metodología y la obtención progresiva de un patrón contextual (espacio-temporal, etc.). Unido al concepto de motivación se encuentra el de *autorregulación* o proceso de monitorización y control de nuestras concepciones y comportamientos de acuerdo con las demandas de un objetivo dado. La actuación a la que conduce tiene aspectos relacionados con la toma de conciencia de la utilidad formativa de la tecnología y la metodología disponibles y del propio progreso competencial, así como con la adopción de hábitos de uso y patrones acordes con la metodología propuesta (argumentativos, exploratorios, etc.). Como señalan Zimmerman y Schunk (2001), el buen estudiante actúa sobre la premisa de que la aptitud, el esfuerzo y el uso efectivo de estrategias le conducirán al éxito formativo que persigue. Existe un consenso generalizado en la comunidad experta de que tanto la motivación como la autorregulación son factores determinantes en la consecución de dicho éxito.

2. El desarrollo de la comprensión oral en una segunda lengua con apoyo tecnológico

Históricamente, los profesores de lenguas han trabajado en el aula la comprensión oral de segundas lenguas siguiendo un enfoque esencialmente conductista repetitivo (por ejemplo, Richards y Rodgers, 2014), en el cual, con el tiempo y los resultados, se va incrementando la complejidad del *input* y de las condiciones de la tarea. A medida que la metodología de la enseñanza de lenguas iba evolucionando, se ha ido adoptando, por lo general, un enfoque de corte cognitivista para el desarrollo de la comprensión oral (Rost 2002; Flowerdew y Miller 2005), centrado en la aplicación al proceso de escucha de estrategias específicas, que enfatizan los procesos cognitivos (técnicas de memorización, marcación, explicitación, etc.), la diferenciación entre la actuación del oyente antes, durante y después de la escucha (Grabe 2004) y la concienciación metacognitiva de los dos tipos de procesos: de arriba abajo y de abajo arriba (Goh 2008; Goh y Hu 2014). Estos últimos autores mencionados, que ofrecen el marco más completo y de fácil aplicabilidad didáctica, argumentan que los estudiantes necesitan desarrollar un conocimiento metacognitivo sobre cómo pueden usarse diversos tipos de información en paralelo para formar con éxito predicciones plausibles sobre lo que se escucha. Basándose en lo dicho por Goh y Hu (2014), varios expertos han determinado que centrarse en el desarrollo estratégico de episodios metacognitivos como componente fundamental de un aprendizaje autorregulado en condiciones experimentales mejora la comprensión oral, especialmente para los estudiantes menos experimentados o hábiles (Goh y Taib 2006). Como señalan Effeney et al. (2013), existe un gran volumen de literatura sobre cómo los estudiantes han de regular su aprendizaje, destacando la gestión eficiente del tiempo, la reflexión sobre las propias fortalezas y debilidades, la identificación del propio estilo de aprendizaje, el autocontrol, etc.

Zimmerman y Campillo (2003) presentaron un modelo de aprendizaje autorregulado trifásico, que puede considerarse en paralelo a las tres fases de la escucha mencionadas anteriormente, ya que, por lo general, el entrenamiento de la comprensión oral se enfoca a la aplicación de estrategias antes, durante y/o después de que se lleve a cabo la tarea de escucha (Vandergrift 2011). Gilakjani y Ahmadi (2011) sostienen que las previas ayudan a activar el conocimiento relevante del mundo real y brindan un apoyo preparatorio. Las que se realizan durante la escucha ayudan a usar información clave en la formación, validación y refutación de las predicciones. Finalmente, las posteriores, si bien hasta la fecha han recibido en general menos atención tanto por parte de quienes investigan como de quienes enseñan, ayudan extendiendo la retención del *input* y estimulando la interpretación y la reflexión. En todas ellas desempeña un papel relevante la motivación del

estudiante, es decir, la disposición o la voluntad de aplicar sus habilidades cognitivas y metacognitivas al proceso de aprendizaje de la forma más adecuada posible para la tarea en cuestión, sobre cualquier otra apetencia o consideración.

El desarrollo de la comprensión oral requiere una práctica extensa y, como tal, necesita entrenarse más allá de las posibilidades del tiempo limitado de los cursos formales. Por ello, el proceso de práctica y desarrollo de la comprensión oral puede verse favorecido por el uso de una tecnología móvil que permite acceder a una gran cantidad de audios disponibles en Internet, sin presiones temporales y fuera del aula, aunque, para que este enfoque sea efectivo en un contexto formal de aprendizaje, naturalmente debe apoyar y complementar las técnicas presenciales que se estén utilizando en la clase. Si bien existen decenas de *apps* para el desarrollo de la comprensión oral en una segunda lengua, la información disponible sobre ellas, el testimonio de los desarrolladores y la propia funcionalidad apuntan hacia una metodología generalmente *ad hoc*. Aunque no estén diseñadas específicamente para el dominio de las destrezas orales en una segunda lengua, existen varios marcos teóricos para el aprendizaje móvil, como el marco constructivista ecológico de Hoven y Palalas (2011), el marco conceptual para *apps* móviles propuesto por Kukulska-Hulme (2012) o el de Shanmugapriya y Tamilarasi (2013) para entornos ubicuos y el uso de servicios web. Cabe destacar el carácter analítico y la aplicabilidad intuitiva del segundo, que está definido de acuerdo con las características temporales y espaciales de los escenarios de uso de cada *app*.

Muchos estudios han demostrado que el uso de los dispositivos móviles puede apoyar con éxito el desarrollo de las habilidades orales en una segunda lengua. Así, por ejemplo, Kim (2013) mostró que un grupo de estudiantes que usaba *apps* en *smartphones* para la práctica de audio en inglés la mejoró más consistentemente que el correspondiente grupo de control. Azar y Nasiri (2014) presentaron datos sobre cómo el uso de audiolibros en formato móvil puede conducir a una mejora eficiente de la comprensión oral. Posteriormente ha habido casos de éxito similares (Bustillo et al. 2017); no obstante, el potencial global de esta tecnología, que refleja la forma móvil en que las personas están conectadas en línea hoy en día, probablemente no se ha alcanzado todavía, ya que MALL (acrónimo inglés de *Mobile Assisted Language Learning*), la modalidad didáctica que busca potenciar el aprendizaje de segundas lenguas aprovechando las ventajas y las oportunidades que brinda el uso estratégico de un dispositivo móvil, no forma parte de la mayoría de los cursos de segundas lenguas.

El ámbito de la comunicación y las relaciones interpersonales se ha transformado sustancialmente con la aparición de las redes sociales. De los 7,5 billones de habitantes en el mundo actualmente, 4,2 billones tienen acceso a internet y 3,03 billones son usuarios asiduos de redes sociales.[2] Esta disposición tan evidente por

estar interconectado ha contribuido a que con el tiempo las redes sociales hayan ido ganando presencia en ámbitos de las actividades humanas como el mercado laboral y el campo de la educación. Existe un cuerpo de investigación que muestra que las actividades guiadas en las redes sociales pueden potenciar distintos tipos de aprendizaje y, en particular, el de las segundas lenguas (Harrison 2013; Greenhow y Askari 2017), si bien el tema de la oralidad aún debe explorarse. La diferencia entre las principales redes sociales radica de manera creciente en la interfaz y el público, más que en la funcionalidad. Facebook es concretamente la red social más extendida en el mundo. A su vocación socializante, su configuración, microestructura, multimodalidad y acceso se une el hecho de que los contenidos recientes de una página en la que se ha intervenido (con un comentario o un "Me gusta", por ejemplo) aparecen en la propia cronología y actúan como un recordatorio implícito que favorece una nueva interacción. Asimismo, las notificaciones de las aportaciones de otros estudiantes que aparecen en la cronología del usuario pueden tener el mismo efecto motivador y fomentar la práctica y estudio de la segunda lengua, y posiblemente la comprensión oral, a medio y largo plazo.

3. Metodología

Los autores diseñaron y crearon la *app* ANT para la escucha formativa de *podcasts* de noticias elaboradas en países de habla inglesa. La elección del dominio buscó favorecer la universalidad y continuidad de su uso a medio y largo plazo. Los canales fueron seleccionados por la frecuencia con la que se actualizan y clasificados según su promedio de dificultad (definido por factores como el acento y la velocidad del habla) en tres niveles: elemental, intermedio y avanzado. Después de iniciar la sesión de trabajo con ANT, se le ofrecían al usuario *podcasts* de noticias de cada nivel para que eligiera uno y, tras la escucha, se le formulaban unas breves preguntas sobre esta para provocar un breve episodio metacognitivo, es decir, de reflexión y análisis sobre el propio conocimiento (cuyas respuestas eran grabadas por el sistema). Se creó una segunda versión de ANT añadiendo al proceso una fase final de participación e interacción social en Facebook directamente desde la *app*, con el fin de explorar los efectos producidos en la motivación y la autorregulación (por ejemplo, en la modificación de la intensidad, los cambios de hábitos o la mejora en el uso). En esta segunda versión, aparecía un cuadro de texto adicional al final donde los estudiantes debían proporcionar un breve resumen de lo que habían entendido, que se publicaba automáticamente en la página de Facebook de ANT. Posteriormente, el estudiante debía profundizar en la noticia que había escuchado, subir material en inglés procedente de la Web u otras redes sociales que apoyase su interpretación y debatir con otros estudiantes al respecto. También debía participar en otras entradas de forma similar.

La metodología utilizada para la investigación siguió un enfoque mixto (Robson 2002). En realidad, la investigación fue cuasi-experimental, ya que se manipularon diversas variables concretas sobre las que no se poseía un control total, como, por ejemplo, el tipo de población. Además, se trató de hacer un estudio eminentemente comparativo, puesto que se estudiaron las semejanzas y diferencias entre dos grupos con respecto a un mismo evento. Para llevarlo a cabo, se establecieron dos grupos, uno que funcionaba como grupo (cuasi-)experimental y el otro, como grupo de control. El estudio se llevó a cabo en el Curso de inglés de acceso a la universidad para mayores de 25 años de la UNED, por ser un escenario numeroso, amplio y diverso pero controlado. Los participantes solo tenían en común que eran mayores de 25 años y que tenían interés por obtener la certificación de acceso a la universidad, pero se diferenciaban en el grado de dedicación a los estudios, el estilo de aprendizaje, la profesión, la edad, el nivel socioeconómico, el nivel cultural, el país de procedencia o residencia y los objetivos formativos, caso de que los tuvieran una vez obtenida la certificación de acceso a la universidad. Además, el nivel de inglés de los estudiantes que realizaban el curso variaba de A1+ a B2+, siguiendo la nomenclatura del CEFR (Consejo de Europa 2001).

Inicialmente se inscribieron 90 estudiantes para participar en este estudio (sin haber probado ni visto la *app* previamente), si bien el número de participantes iría descendiendo progresivamente hasta 42, que fueron los que llegaron al final del experimento. Al comienzo se dividieron al azar en dos grupos de 45, uno para la versión de la *app* consistente en la escucha individual, pero no habilitada para Facebook, y otro para la versión con Facebook. A los estudiantes se les ofreció usar la *app* durante un período de diez semanas. Debe señalarse que la participación real de los estudiantes en el experimento refleja un alto nivel de motivación, ya que en realidad duró un total de once semanas e incluyó sus vacaciones navideñas (aunque se detuvo prácticamente toda la actividad con la *app* durante los días más señalados). Como puede verse, esta investigación tuvo un componente longitudinal (se siguió a los mismos sujetos desde su inscripción en el proyecto durante once semanas hasta la finalización de su participación) y transversal (se compararon las opiniones y ganancias de diferentes sujetos con la *app* en un mismo momento dado).

Se proporcionó ayuda documentada y orientación a ambos grupos. Una vez configurada la *app* con las grabaciones, los estudiantes recibieron guías (en formatos de texto y de video): una sobre la interfaz, estructura y funcionalidad de la *app* y otra sobre las estrategias perceptivas, cognitivas y metacognitivas para el desarrollo de la comprensión oral (por ejemplo, cómo seleccionar el nivel más adecuado y cómo progresar y qué estrategias de auto-entrenamiento emplear para una escucha intensiva o extensiva, según el caso). Ambas guías tenían por objeto que los estudiantes emprendieran sus sesiones de trabajo de una forma consciente

y autorregulada (Sánchez-Elvira et al. 2010). Además, se preparó y envió una tercera guía de aprendizaje social para el grupo que utilizaba la versión con Facebook (por ejemplo, se les enseñó a abrirse una cuenta en Facebook si no la tenían ya).

Los instrumentos para la recogida de datos fueron fundamentalmente los registros de datos y los cuestionarios. La *app* estaba conectada a Internet a través del servidor del proyecto, que registró la forma en que los estudiantes utilizaron ANT, incluyendo qué noticias escucharon y de qué nivel, cuándo y durante cuánto tiempo, las respuestas a las preguntas de la *app* sobre la última escucha y si habían enviado un resumen a la página de Facebook (en el caso de la versión mixta). En el caso de la segunda versión de ANT, esta información era complementada por la que proporcionaba la propia página de Facebook, la cual registraba todos los datos relacionados con los mensajes en la página (incluidos los "Me gusta", comentarios y contenidos relacionados, etc.), que se descargaron posteriormente como datos semi-estructurados utilizando el API Graph Explorer de Facebook. Facebook proporciona valiosos datos sobre el momento y el lugar en que se envía cada mensaje, el tipo de mensaje (comentario, imagen), el número de personas que lo ha leído y el número de personas que lo ha contestado. Además, una vez que la página de la aplicación alcanzó 30 "Me gusta", esta red abrió el acceso, como siempre lo hace por defecto, a la herramienta de análisis de datos *Insights,* que proporciona una gran cantidad de información sobre la interacción del usuario en la página como, por ejemplo, características de la autoría de los "Me gusta" y comentarios.

En cuanto a los cuestionarios, su diseño y sus características seguían las directrices de Cohen et al. (2013) para optimizar la recuperación posterior de los datos. A los estudiantes se les dieron dos cuestionarios diferentes, uno antes de comenzar a usar la *app* (el pre-cuestionario) y otro después (el post-cuestionario). Ambos consistían en una combinación de 28 preguntas, cada uno, de opción múltiple, que habían sido diseñadas para obtener datos que no se podían obtener directamente analizando los datos de uso de la *app*. El pre-cuestionario se rellenaba como parte del proceso de inscripción (preguntándole al estudiante sobre su nivel de inglés, estilo de aprendizaje, hábitos informativos sobre las noticias de actualidad, preferencias y expectativas). El post-cuestionario se rellenaba una vez terminado el experimento (y se le preguntaba fundamentalmente sobre la experiencia y el grado en el que se habían cumplido sus expectativas iniciales). Muchas de las preguntas se encontraban en ambos cuestionarios, aunque estos estaban estructurados de manera diferente, para comprobar si el periodo de trabajo con la *app* había cambiado sus opiniones, hábitos y comportamientos y cómo lo había hecho. Por ejemplo, se les preguntó sobre la forma en que emprendían el entrenamiento de su

comprensión oral antes de tomar parte en el estudio y cómo lo hacían después. También se les pidió que anotaran qué aspecto del proceso de escucha les había resultado más problemático (por ejemplo, la velocidad, el acento, el tema), con el fin de investigar si había consenso suficiente, lo cual supondría información de interés para futuros diseños y serviría también para propiciar la concienciación necesaria en los estudiantes, lo que beneficiaría su aprendizaje.

4. Análisis de los resultados

Los análisis cuantitativos de los datos relativos a las dos preguntas de investigación se realizaron con SPSS v.22. Para dar respuesta a la primera pregunta, se analizó el uso de las dos versiones de la *app,* sin y con la fase de trabajo en la red social Facebook, durante el período que duró el proyecto, apreciándose una marcada diferencia entre ambas. En la primera versión, solo 9 de los 45 estudiantes registrados (20 %) utilizaron realmente la aplicación, detectándose dos picos de abandono: uno entre el registro y la utilización de la *app* y otro, alrededor de la tercera semana. El total de escuchas de los 9 estudiantes fue de 121, lo que supone una media de 13,4 escuchas por participante. En la segunda versión, sin embargo, 33 de los 45 estudiantes (73 %) utilizaron la *app*, siendo detectado el abandono hacia el principio del periodo experimental. El total de escuchas de los 33 estudiantes que utilizaron esta versión de la *app* fue de 654, lo cual supone una media de 19,8 escuchas por participante, superior a la del otro grupo.

Sin embargo, una disminución tan pronunciada en la población que usó la *app* con respecto a la que originalmente se inscribió en el proyecto puede explicarse parcialmente. En cuanto a los que no participaron en absoluto (es decir, aquellos que ni siquiera descargaron la *app*), el hecho confirma y reproduce experiencias anteriores de trabajo con estudiantes de educación a distancia (Carrión Arias 2005). Estos estudiantes con bastante frecuencia se inscriben para participar en estudios y, después, por razones diferentes, no llegan a hacerlo. Las circunstancias de estos estudiantes, que suelen conciliar su formación con otras ocupaciones, como el ejercicio de una profesión, conllevan que, hasta cierto punto, su nivel de compromiso, y, por lo tanto, su participación en proyectos didácticos voluntarios, sea impredecible. A medida que cambian sus vidas laborales y privadas, también lo hacen su disponibilidad y las franjas horarias libres que tienen para dedicarse a las actividades académicas, como la colaboración en este experimento.

La diferencia en la disminución de los dos grupos tiene una probable relación con el valor motivacional de incluir Facebook en la aplicación y con las actividades guiadas, dada la similitud en todos los demás aspectos de ambas versiones. La

desviación estándar de cada grupo (versión individual 19,05 y versión con Facebook 18,1), tal como indican los datos recogidos, refleja que todos los estudiantes hicieron uso de la *app*, incluidos quienes solo la probaron una vez. Esto se puede apreciar en la diferencia que hay entre el número mínimo y el máximo de grabaciones escuchadas por cada grupo. Para determinar si las diferencias observadas eran estadísticamente significativas (y teniendo en cuenta las características de la distribución), se aplicó la prueba U de Mann-Whitney. Con una $p < 0.05$ y teniendo en cuenta los rangos promedio, se concluye que el grupo que utilizó la versión de la *app* con Facebook escuchó más grabaciones de audio que el grupo de aprendizaje individual. En cuanto a aquellos estudiantes de cualquiera de los dos grupos que se inscribieron para el experimento y participaron activamente en él, cabe destacar que todos valoraron positivamente en el foro del curso virtual la comodidad de tener la *app* instalada en uno de sus dispositivos de uso más cotidiano y familiar. Comentaron que el icono de la hormiga les servía como recordatorio para iniciar una nueva sesión de práctica y que las guías les fueron útiles para escuchar mejor y de forma más estratégica.

Para complementar el análisis de estos datos de uso, se hizo una comparación de cuánto tiempo pasaron realmente los estudiantes de cada grupo escuchando noticias en la *app*. Inicialmente, en el pre-cuestionario, la mayoría de los estudiantes en ambos grupos declararon que esperaban dedicar 30 minutos o más a cada sesión (incluyendo las actividades basadas en Facebook en el caso del grupo con la segunda versión de ANT). Sin embargo, los datos de la *app* mostraron que, en la mayoría de los casos, los estudiantes del grupo de aprendizaje individual solo la habían utilizado durante una media de 10 minutos en cada sesión, mientras que los estudiantes del grupo con el componente social, en general, habían logrado el objetivo de trabajar en sesiones de una media de casi 35 minutos. Las razones vertidas para esta diferencia en el correspondiente foro virtual por los estudiantes del primer grupo fueron variadas y reflejaban principalmente las dificultades que tenían para encontrar tiempo por razones profesionales o personales, como se ha sugerido arriba. Sin embargo, es razonable conjeturar que, dado que el uso de la versión de aprendizaje individual de la *app* era posiblemente menos gratificante que la versión habilitada para Facebook, el nivel de motivación de los estudiantes fuera menor.

También se puede recabar más evidencia sobre el nivel de motivación de los estudiantes analizando el valor que le dieron al uso de una red social con fines formativos comparando su respuesta a la pregunta n.º 9 en el post-cuestionario sobre si seguirían utilizando las redes sociales para el aprendizaje (para lo cual había tres respuestas posibles: "Sí", "No" y "No sé") y el número de grabaciones escuchadas por ellos con la *app*. Para este análisis se utilizó una ANOVA

unidireccional (con la respuesta a la pregunta como la variable independiente y el número de grabaciones escuchadas como la variable dependiente). El supuesto de homogeneidad de la varianza se comprobó mediante la prueba de Levene: F (2,30) = 2,79, p = 0,08. Se identifican diferencias significativas entre la intención por parte de los estudiantes de usar las redes sociales para aprender lenguas en el futuro y el número de grabaciones que se escucharon usando la versión de la *app* con Facebook en el nivel p <0,05 para las tres condiciones: F (2,30) = 4,32, p = 0,02. Se realizaron comparaciones *post hoc* utilizando la HSD de Tukey, identificándose las siguientes diferencias: (p <0,05): grupos Sí (M = 27,05, SD = 19,99) y No (M = 9,8, SD = 9,67). En otras palabras, los estudiantes que expresaron su intención de continuar utilizando las redes sociales habían escuchado un número significativamente mayor de grabaciones que aquellos que no tenían intención de hacerlo. Dado que la única diferencia entre las dos versiones de la *app* era el uso de Facebook, respecto a la primera pregunta de investigación formulada se puede concluir que existen datos empíricos que apuntan a que la inclusión del uso de redes sociales en una *app* de MALL motivó la práctica de la comprensión oral.

Para dar respuesta a la segunda pregunta de investigación, se analizaron los datos de los cuestionarios y los resultados del uso de la *app*. No fue posible discernir ninguna diferencia significativa entre los estudiantes que contestaron "Sí" o "No" a la pregunta de si seguirían usando las redes sociales con fines formativos y los que contestaron "No sé" y el número de grabaciones escuchadas por los correspondientes sujetos. Este resultado muestra que el uso de la *app* contribuyó a que la mayoría de los estudiantes se autorregulase mejor, en el sentido de que les hizo más conscientes de aquello que podía ayudarles a mejorar su aprendizaje y del valor de la interacción social en la consolidación de su propia evolución.

Se puede realizar una exploración adicional del valor que los estudiantes en el grupo de Facebook le dieron al hecho de interaccionar en la página de la red social de la *app* analizando la relación entre el número de grabaciones escuchadas y el número de "Me gusta" (236) o de comentarios (116) que se añadieron posteriormente. Se calculó la correlación de Pearson para evaluar la relación entre el número de grabaciones escuchadas y el número de "Me gusta" o de comentarios añadidos por dichos estudiantes (desde el dispositivo móvil, pero no directamente desde la *app*[3]). Hubo una correlación positiva entre las dos variables, r = 0,6, n = 33, p < 0,05. Por lo tanto, se pueden destacar dos aspectos del uso de la red social por parte de los estudiantes. En primer lugar, la relación entre el número de grabaciones escuchadas y el número de "Me gusta" o de comentarios añadidos por los estudiantes confirma la idea de que el proceso social interactivo es motivador para los estudiantes, ya que quienes estaban en Facebook escucharon más grabaciones. En segundo lugar, la intervención no era solo una comprobación

pasiva de lo que otros estudiantes habían concluido acerca de las noticias escuchadas, sino que les instaba a llevar a cabo un ejercicio exploratorio, argumentativo, valorativo, negociador, etc. Esto supuso un impacto en su forma de aprender, ya que se comportaron como oyentes más proactivos y autorregulados y no hubo necesidad de recordarles que siguieran escuchando e interaccionando.

En ambos cuestionarios hay una pregunta sobre el efecto de usar las redes sociales en la *app*. La precisión o granularidad de los datos de las respuestas a esta pregunta proviene de lo bien que un estudiante sea capaz de utilizar la introspección para informar sobre sus propios procesos cognitivos y atencionales, basados en gran medida en lo que puede recordar sobre su propia actuación. Por lo tanto, se podría argumentar que de las tres posibles respuestas a esta pregunta: "Sí", "No" y "No sé", un estudiante será capaz de diferenciar entre el hecho de que generalmente no presta mucha atención a la información contenida en las redes sociales o que sí se detiene a pensar o reflexionar sobre ella (posiblemente actualizando cualquier representación mental), pero no dedica mayor atención a esta cuestión. Esta distinción entre los dos posibles tipos de respuesta puede reflejarse en la manera en que se procesan los datos, agrupando la respuesta en dos conjuntos, es decir, "Sin efecto", que permanece igual, y "Pensar / Reflexionar", que agrupa las otras dos posibles respuestas. Los resultados del análisis de los datos, siguiendo la prueba Chi-cuadrado, muestran la existencia de diferencias entre las respuestas a la pre- y post-pregunta, χ^2 (1, N = 33) = 4.24, P = 0,04. De los 18 estudiantes que señalaron que hacían uso de la información que había en Facebook para comprender mejor las noticias de audio, 17 opinaron lo mismo después de usar la aplicación durante el período experimental y 1, no, lo cual supone un impacto mayoritario de la experiencia en la propia conciencia sobre el uso de este recurso una vez terminado el experimento. De los 15 que no hicieron uso de esa información, 5 se mantuvieron igual, mientras que 10 habían cambiado de opinión, lo cual evidencia un impacto notablemente menor. Una vez más, este resultado parece apoyar el argumento de que la vinculación a una red social en una *app* de MALL afecta positivamente la forma de aprender de los estudiantes. Su uso como parte de un proceso en el que los estudiantes comparan lo que creen haber entendido con lo que sus compañeros han compartido en Facebook y discuten cualquier diferencia de opinión, si es necesario, supone ahondar en una tercera fase del proceso de aprendizaje autorregulado, lo cual responde afirmativamente a la segunda pregunta de investigación.

A la pregunta n.º 13 del pre-cuestionario, sobre la frecuencia con la que escuchaban las noticias en el teléfono móvil antes de participar en el experimento, —que era el dominio que se eligió para la *app* con el fin de incentivar el interés por su uso a medio o largo plazo— la inmensa mayoría (más del 82 %) respondió que las

escuchaban al menos una vez por semana. Después del experimento, la mayoría de los estudiantes (64 %) todavía seguía escuchando las noticias al menos una vez por semana, pero un 18 % había dejado de hacerlo con la misma frecuencia y ahora las escuchaba menos de una vez a la semana. Es probable que este dato se debiera a que casi 1 de cada 5 estudiantes sustituyó una parte de sus sesiones de escucha habitual de noticias por ANT pero, dada la formulación de la pregunta, no es posible saberlo con total seguridad.

Con el fin de comprobar si los estudiantes habían prolongado su periodo habitual de escucha de noticias tras trabajar con ANT, se había elaborado una pregunta (n.º 14 del pre-cuestionario) cuyas respuestas revelaron que la inmensa mayoría las escuchaban al menos 15 minutos (aproximadamente un 41 % lo hacía más de 15 minutos y casi un 43 %, más de 30 minutos) antes de su experiencia con esta *app*. Las respuestas a la pregunta correspondiente en el post-cuestionario constataban el mismo resultado, con la única diferencia de que había aumentado el número de estudiantes que ahora escuchaban las noticias durante 30 minutos. Dado el hecho de que cada noticia en los *podcasts* de ANT dura entre 5 y 15 minutos, las respuestas sugieren que los estudiantes podrían haber pasado a ampliar su uso de la *app* a varias grabaciones en la misma sesión.

5. Discusión y conclusión

Este artículo ha presentado un trabajo de investigación que se llevó a cabo para explorar, en un contexto de aprendizaje digital y móvil, el efecto de dos aspectos psicopedagógicos que la literatura especializada relaciona con el aprendizaje eficaz de las segundas lenguas, a saber, la motivación y la autorregulación. Esta investigación se desarrolló en el contexto de dos versiones de una misma *app* de comprensión oral, una con acceso a una red social y otra sin él. La motivación de los estudiantes se midió a través de datos cuantitativos, como el tiempo dedicado a la actividad, el incremento en el número de escuchas, tanto de noticias diversas como de la misma noticia, y la duración y frecuencia de las sesiones de trabajo. También se analizaron la mejora del seguimiento de la metodología y la obtención progresiva de un patrón contextual de uso. En cuanto a la autorregulación, se midió a través de la toma de conciencia de la utilidad formativa de la tecnología y la metodología disponibles, así como del propio progreso competencial, de la adopción de hábitos de uso y de patrones acordes con la metodología propuesta.

Cuando tenían a su disposición la red social de la versión extendida de la *app*, un número significativamente reducido de estudiantes perdieron la motivación por trabajar su comprensión oral con la *app* hasta el extremo de abandonar el proyecto,

mientras que la mayoría escuchó más grabaciones de noticias de audio. También aumentó la duración de sus sesiones de escucha, aunque no la frecuencia, pero este incremento tuvo un efecto positivo directo en el seguimiento de la metodología, en el sentido de que los estudiantes siguieron en gran medida las indicaciones proporcionadas y se detectó su interés por ejecutar correctamente la tarea, aunque con notables limitaciones, dado que el trabajo fue poco inquisitivo y exploratorio, como suele ser el caso en MALL. En cuanto a la modificación de los hábitos de aprendizaje a partir del uso de la *app*, los estudiantes declararon que habían realizado algunos cambios significativos y que tenían intención de continuar en el futuro, extremo que no se ha podido comprobar dadas las circunstancias y la temporización de la investigación. A este respecto, resulta significativo que, cuando el período experimental estaba próximo a concluir, algunos de los estudiantes contactaron con el grupo de desarrolladores para saber si sería posible continuar usando la aplicación tras la finalización del estudio y otros se ofrecieron para seguir colaborando en futuros proyectos similares o relacionados con el asunto. Por último, se percibió que los estudiantes eran más conscientes, por un lado, de los elementos metodológicos y tecnológicos del escenario en el que habían estado aprendiendo y, por otro, de la forma en la que se habían adecuado a su propio perfil cognitivo individual.

Aunque la presencia de la interacción social en Facebook aumentó el uso de ANT tanto cuantitativa como cualitativamente, hay dos características de esta interacción que deberían estudiarse en futuros experimentos. En primer lugar, volvió a quedar patente que los usuarios esperan que un equipo docente les guíe y les apoye. También se evidenció la dependencia que tenían los usuarios del equipo docente en los mensajes que se subieron al grupo de Google y que se enviaron por correo electrónico, en los que pedían confirmación sobre el procedimiento metodológico o compartían impresiones espontáneamente sobre el propio progreso y las dificultades que iban encontrando. En segundo lugar, el equipo de desarrolladores había temido que el dominio de las noticias de actualidad impactase a los estudiantes a nivel personal y emocional de forma que surgiesen conflictos interpersonales. Durante el periodo que duró el cuasi-experimento, las grabaciones de noticias reflejaron casualmente acontecimientos potencialmente significativos que estaban ocurriendo en aquel momento (por ejemplo, la propagación del virus del Ébola, que se temía pudiera llegar a convertirse en una pandemia). El equipo de desarrolladores estaba alerta para intervenir si era necesario y pusieron a disposición de los estudiantes una netiqueta elaborada *ex profeso*. Sin embargo, no solo no hubo el menor conflicto social durante el cuasi-experimento, sino que los resúmenes y las subsiguientes interacciones de los alumnos carecieron de componente emocional alguno, así como de juicios de valor que hubieran podido esperarse. Este presumiblemente no habría sido el caso si los estudiantes hubieran

estado juntos discutiendo estos eventos cara a cara, por razones obvias. Sin embargo, las interacciones en línea fueron por lo general breves y estuvieron fuertemente controladas o monitorizadas por los correspondientes autores, lo que tuvo como resultado una página un tanto "academicista" y, en cierta medida, alejada de ese acercamiento a la *vida digital* que se suele buscar en los entornos no formales de *aprendizaje digital*.

Por último, sería de interés estudiar una posible correlación entre la participación de los estudiantes en Facebook y el progreso o ganancia cognitiva efectiva. Esto sería medible principalmente en términos del avance o de la progresión consistente en el nivel de los *podcasts* escuchados y de las respuestas a las preguntas de la *app* tras las escuchas, las respuestas directas a las preguntas relevantes en los post-cuestionarios y la interacción en Facebook con los compañeros. Dada la naturaleza integral de la lengua y su aprendizaje, unida a las cuestiones cubiertas en este estudio, quedan aún varios interrogantes que se irán abordando en proyectos sucesivos sobre la base de este, aprovechando los nuevos conceptos metodológicos, las herramientas tecnológicas y las claves culturales que surjan, así como los nuevos instrumentos de recogida de datos y análisis de la investigación en el campo de las Humanidades.

Notas

[1]. El trabajo presentado en este artículo contó con la participación del grupo de investigación ATLAS y, en particular, de Agnes Kukulska-Hulme y fue subvencionado por el Ministerio de Ciencia e Innovación. Programa Nacional de Proyectos de Investigación Fundamental en Humanidades (FFI2011-29829).

[2]. https://www.statista.com/topics/1164/social-networks/

[3]. Las instrucciones dadas para emprender el estudio especificaban que todas las interacciones en la red social debían tener lugar usando un dispositivo móvil y no un ordenador de sobremesa.

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Anexo 1. ANT Pre-cuestionario

1. ¿Consiente el uso anónimo de los datos que se obtengan de su participación en este proyecto de investigación? (Su participación en este proyecto depende del siguiente consentimiento)

Sí / No

2. ¿Cuál es su dirección de correo electrónico? (Es importante que teclee su dirección de correo electrónico con cuidado porque es la única vía de comunicación que tendremos con Vd. en este proyecto)
3. Por favor, indique su género.

Masculino / Femenino

4. Por favor, indique su edad.

Menor de 25 / 25-35 / 36-45 / 46-55 / Mayor de 55

5. ¿Cuál es su nivel de inglés?

A1 (Principiante Absoluto) / A2 (Básico) / B1 (Intermedio Bajo) / B2 (Intermedio Alto) / C1 (Avanzado) / C2 (Nativo o Cuasi nativo)

6. ¿Cuál es su situación laboral actual?

En activo / Estudiante / Jubilado / En búsqueda de empleo / Otro

7. ¿Tiene experiencia en la enseñanza de lenguas?

Sí / No

8. ¿Cuánto tiempo podría Vd. dedicarle a este proyecto?

Menos de 10 minutos al día / Hasta 30 minutos al día / Hasta 90 minutos al día / Más de 90 minutos al día

9. ¿Cuáles son sus expectativas acerca de la escucha de noticias en teléfonos móviles/ tabletas para mejorar su comprensión auditiva en inglés?

Ninguna / Bajas / Medias / Altas

10. ¿Por qué desea usted mejorar/practicar su comprensión auditiva en inglés? (Escoja las razones principales)

Por razones personales o privadas / Para manejarme mejor en la sociedad / Para hacer turismo internacional / Para obtener un certificado de conocimiento de inglés / Para usar en los estudios o el trabajo / Otras

11. ¿Qué red social usa Vd. actualmente, en caso de usar alguna? (En cualquier ordenador o teléfono móvil/ tableta) (Escoja las más comunes)

Ninguna / Facebook / Twitter / LinkedIn / Google+ / Tuenti / Otra

12. En todo caso, ¿con qué frecuencia usa las redes sociales?

Nunca / Menos de una vez a la semana / De 1 a 4 veces a la semana / Todos los días / Varias veces al día

13. ¿Con qué frecuencia escucha las noticias (en cualquier idioma)?

Nunca / Menos de una vez al mes / Menos de una vez a la semana / Al menos una vez a la semana

14. ¿Durante cuánto tiempo escucha las noticias (en cualquier idioma)?

Menos de un par de minutos / Entre 3 y 10 minutos / Al menos 15 minutos / Al menos 30 minutos

15. ¿Qué tipos de noticias escucha Vd.? (Escoja las principales)

Noticias generales locales y regionales / Noticias generales nacionales / Noticias generales internacionales / Política / Negocios y finanzas / Ciencia y tecnología / Sociedad / Cultura / Ocio y entretenimiento / Deportes / El tiempo / Famosos / Otros

16. ¿Usa Vd. su teléfono móvil/ tableta para el aprendizaje de idiomas?

Nunca / A veces, de forma informal / Sí, siguiendo un curso en regla / Informalmente y también como parte de un curso formal

17. ¿Qué medios usa Vd. en la actualidad para escuchar la lengua inglesa? (Escoja los principales)

La radio / La televisión / El ordenador o portátil / Un teléfono móvil o tableta / Otros:

18. Qué medios utiliza Vd. para escuchar las noticias? (Escoja los principales)

La radio / La televisión / El ordenador o portátil / Un teléfono móvil o tableta / Otros:

19. ¿Con qué frecuencia utiliza Vd. su teléfono móvil/ tableta para actividades que no sean llamadas telefónicas?

Menos de 5 minutos al día / Hasta 30 minutos al día / Hasta 90 minutos al día / Más de 90 minutos al día

20. ¿Dónde usa Vd. su teléfono móvil/ tableta?

En casa / En el centro donde estudio o trabajo / Durante mis viajes / Otros:

21. ¿Para qué utiliza su teléfono móvil/ tableta? (Escoja los principales usos)

Email, redes sociales / Navegar por Internet / Enviar mensajes de texto / Leer / Escuchar libros de audio o podcasts / Juegos / Música / Otros:

22. Si Vd. ya es usuario de Facebook, ¿para qué suele usarlo? (Escoja los usos principales)

Leer los mensajes de otra gente / Dar "Me gusta" a cosas que leo / Compartir lo que me gusta / Publicar yo mismo información o fotografías.

23. ¿Cuáles de los siguientes factores encuentra Vd. problemáticos cuando está escuchando inglés?

La baja calidad del sonido (Ruido, volumen, velocidad, acento, pronunciación) / Un contexto complicado (estar en movimiento, haciendo múltiples tareas, que sea una actividad sin planificar) / Perfil personal ("mal oído", mala memoria) / Temas complejos o poco familiares / Otros:

24. ¿Qué le ayuda a Vd. con tales problemas al escuchar inglés? (Escoja los principales)

No sé, no estoy seguro / Mejorar la calidad del sonido / Mejorar las circunstancias personales (dónde estoy, lo que estoy haciendo, etc.) / Consultar fuentes / Repetición / Aplicar mi propio conocimiento del tema / Deducir y predecir contenido / Otros:

25. ¿Cuáles de los siguientes factores encuentra Vd. más sencillos de resolver cuando está escuchando inglés? (Escoja los principales)

La baja calidad del sonido (Ruido, volumen, velocidad, acentos, pronunciación) / Un contexto complicado (estar en movimiento, haciendo múltiples tareas, que sea una actividad sin planificar) / Perfil personal ("mal oído", mala memoria) / Temas complejos o poco familiares / Otros:

26. ¿Qué estrategias encuentra Vd. más útiles para mejorar su comprensión auditiva de inglés (Escoja las principales)?

Mantenerme con actividades de audio fáciles que yo pueda entender / Leer más / Repetir la misma actividad más veces / Realizar actividades similares con más frecuencia / Reflexionar sobre la naturaleza de mis dificultades y buscar soluciones / Escuchar mientras me concentro en fragmentos particulares de información (¿quién?, ¿dónde?, ¿cuándo?, etc.) / Otros:

27. ¿Cómo suele Vd. escuchar inglés? (Seleccione las principales formas)

No intento entender lo que escucho / Lo dejo cuando se pone difícil / Repito el audio más veces / Me preparo buscando información / Busco las cosas que no entiendo / Compruebo lo que he entendido / Me concentro, selecciono y conecto la información fundamental

28. ¿Cuál es el efecto de las redes sociales (intercambio de información e ideas basado en Internet) generalmente en su conocimiento o formación?

No les doy mucha importancia / Me hace pensar en lo que yo creía que sabía / Me refuerza y a veces cambia mis ideas.

Anexo 2. ANT Post-cuestionario

1. ¿Cómo se llama? (Indique exactamente el nombre y apellidos que desea que aparezcan en su certificado)
2. ¿Cuál es su dirección de correo electrónico de la UNED? / Es importante que teclee su dirección de correo electrónico de la UNED con cuidado porque se usará para enviarle su certificado de participación)
3. ¿Cuál es su nivel de inglés actual?

A1 (Principiante Absoluto) / A2 (Básico) / B1 (Intermedio Bajo) / B2 (Intermedio Alto) / C1 (Avanzado) / C2 (Nativo o Cuasi nativo)

4. ¿Cuánto tiempo libre ha podido Vd. dedicarle a este proyecto?

Nada / Menos de 10 minutos al día / Hasta 30 minutos al día / Hasta 90 minutos al día / Más de 90 minutos al día

5. Si ha dedicado más o menos tiempo al proyecto del que esperaba, por favor, explique por qué:
6. Después de usar la app, ¿cuál es su opinión acerca de la escucha de noticias en teléfonos móviles/tablets para mejorar su comprensión auditiva en inglés?

No he usado ANT / Ninguna / Baja / Media / Alta

7. ¿Seguirá usando la app después de que acabe el periodo experimental? Por favor, explique su decisión.
8. Después de usar la app, ¿tiene intención de descargar o usar otras apps para desarrollar las destrezas de comprensión auditiva en inglés?

No he usado ANT / Seguro que no / Probablemente no / Probablemente sí / Seguro que sí

9. Después de usar la app, ¿tiene intención de usar las redes sociales para aprender? En caso afirmativo, explique cómo y para qué.
10. Después de usar la app, ¿Con qué frecuencia escucha las noticias (en cualquier idioma)?

No he usado ANT / Nunca / Menos de una vez al mes / Menos de una vez a la semana / Al menos una vez a la semana

11. Después de usar la app, ¿durante cuánto tiempo escucha las noticias (en cualquier idioma)?

No he usado ANT / Menos de un par de minutos / Entre 3 y 10 minutos / Al menos 15 minutos / Al menos 30 minutos

12. Después de usar la app, ¿usa Vd. un teléfono móvil/ tableta para el aprendizaje de idiomas?

No he usado ANT / Nunca / A veces, de forma informal / Sí, siguiendo un curso en regla / Informalmente y también como parte de un curso formal

13. Después de usar la app, ¿qué medios usa Vd. en la actualidad para escuchar la lengua inglesa? (Escoja los principales)

No he usado ANT / La radio / La televisión / El ordenador o el portátil / El teléfono móvil o tableta / Otros

14. Después de usar la app, ¿qué medios utiliza Vd. para escuchar las noticias? (Escoja los principales)

No he usado ANT / La radio / La televisión / El ordenador o el portátil / El teléfono móvil o tableta / Otros

15. ¿Con qué frecuencia utiliza Vd. su teléfono móvil/ tableta para actividades que no sean llamadas telefónicas?

No he usado ANT / Menos de 5 minutos al día / Hasta 30 minutos al día / Hasta 90 minutos al día / Más de 90 minutos al día

16. Después de usar la app, ¿cuánto tiempo libre dedica a desarrollar/practicar sus destrezas orales auditivas en inglés?

No he usado ANT / Menos de 5 minutos al día / Hasta 30 minutos al día / Hasta 90 minutos al día / Más de 90 minutos al día

17. Después de haber usado la app, ¿dónde usa Vd. su teléfono móvil/ tableta? (Escoja los principales contextos)

Selecciona todas las opciones que correspondan.
No he usado ANT / En casa / En el centro donde estudio o trabajo / Durante mis viajes / Otros

18. Después de haber usado la app, ¿para qué utiliza su teléfono móvil/ tableta? (Escoja los principales usos)

Selecciona todas las opciones que correspondan.
No he usado ANT / Email, redes sociales / Enviar mensajes de texto / Leer / Escuchar libros de audio, podcasts / Juegos / Música / Otros

19. Después de haber usado la app, ¿usa Vd. el teléfono móvil/ la tableta para el aprendizaje de lenguas? *

No he usado ANT / Nunca / A veces, pero informalmente / Sí, como parte de un curso

20. Después de usar la app, ¿qué tipo de contenido en inglés escucha?

No he usado ANT / Noticias de actualidad / Música / Películas / Deporte / Otros

21. Si Vd. ya es usuario de Facebook, ¿para qué suele usarlo? (Escoja los usos principales)

No he usado ANT / Leer los mensajes de otra gente / Dar "Me gusta" a cosas que leo / Compartir lo que me gusta / Publicar yo mismo información o fotografías

22. Después de usar la app, ¿cuáles de los siguientes factores encuentra Vd. problemáticos cuando está escuchando inglés? (Escoja los principales)

No he usado ANT / La baja calidad del sonido (ruido, volumen, velocidad, acento, pronunciación) / Un contexto complicado (estar en movimiento, haciendo múltiples tareas, que sea una actividad sin planificar) / Perfil personal ("mal oído", mala memoria) / Temas complejos o poco familiares / Otros

23. Después de usar la app, ¿qué le ayuda a Vd. con tales problemas al escuchar inglés? (Escoja los principales)

No he usado ANT / No sé, no estoy seguro / Mejorar la calidad del sonido / Mejorar las circunstancias personales (dónde estoy, lo que estoy haciendo, etc.) / Consultar fuentes / Repetición / Aplicar mi propio conocimiento del tema / Deducir y predecir contenido / Otros

24. Después de usar la app, ¿cuáles de los siguientes factores encuentra Vd. más sencillos de resolver cuando está escuchando inglés? (Escoja los principales)

No he usado ANT / La baja calidad del sonido (ruido, volumen, velocidad, acento, pronunciación) / Un contexto complicado (estar en movimiento, haciendo múltiples tareas, que sea una actividad sin planificar) / Perfil personal ("mal oído", mala memoria) / Temas complejos o poco familiares / Otros

25. Después de usar la app, ¿qué estrategias encuentra Vd. más útiles para mejorar su comprensión auditiva de inglés (Escoja las principales)?

No he usado ANT / Mantenerme con actividades de audio fáciles que yo pueda entender / Leer más / Repetir la misma actividad más veces / Realizar actividades similares con más frecuencia / Reflexionar sobre la naturaleza de mis dificultades y buscar soluciones / Escuchar mientras me concentro en fragmentos particulares de información (¿quién?, ¿dónde?, ¿cuándo?, etc.) / Otros

26. Después de usar la app, ¿cómo suele Vd. escuchar inglés? (Seleccione las principales formas)

No he usado ANT / No intento entender lo que he escuchado / Lo dejo cuando se pone difícil / Repito el audio más veces / Me preparo buscando información / Busco las cosas que no entiendo / Compruebo lo que he entendido / Me concentro, selecciono y conecto la información fundamental

27. Después de usar la app, ¿cuál es el efecto de las redes sociales (intercambio de información e ideas basado en Internet) generalmente en su conocimiento o formación?

No he usado ANT / No les doy mucha importancia / Me hace pensar en lo que yo creía que sabía / Me refuerza y a veces cambia mis ideas

28. Por favor, siéntase libre de decir lo que desee sobre este proyecto y su experiencia en él.

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VERB PHRASE ELLIPSIS AND REFLEXIVE ANAPHORA RESOLUTION IN SECOND LANGUAGE ACQUISITION: A STUDY OF SPANISH LEARNERS OF ENGLISH

LA ELIPSIS VERBAL Y LA RESOLUCIÓN DE LA ANÁFORA REFLEXIVA EN LA ADQUISICIÓN DE SEGUNDAS LENGUAS: UN ESTUDIO CON APRENDICES ESPAÑOLES DE INGLÉS

EVELYN GANDÓN-CHAPELA
Universidad de Cantabria
evelyn.gandon@unican.es

FRANCISCO GALLARDO-DEL-PUERTO
Universidad de Cantabria
francisco.gallardo@unican.es

Abstract

This paper analyses the choice of sloppy and strict interpretations of reflexive anaphora in verb phrase ellipsis from the perspective of Relevance Theory (RT) (Sperber and Wilson 1986, 1995, 2002, 2008; Wilson and Sperber 2002, 2004). Forty-four Spanish learners of English and 29 native speakers of English were administered two judgement tasks designed to gauge the effect of the Communicative Principle of Relevance on their interpretation of reflexive anaphora in bare, referential and non-referential contexts. Results showed that, in accordance with this principle, the sloppy interpretation is favoured in bare and non-referential contexts, while strict readings prevail in referential contexts, these preferences being less marked for L2 learners than for native speakers. Moreover, the sloppy interpretation is chosen more frequently when native speakers are given a non-referential context, whereas it decreases when L2 learners are provided with the very same context, indicating that the syntax-pragmatics interface makes up an information processing load and acts as a distractor for L2 English learners.

Keywords: VP-ellipsis, L2 English, reflexive anaphora, strict reading, sloppy reading, Relevance Theory.

Resumen

Este artículo analiza la elección de interpretaciones laxas y estrictas de la anáfora reflexiva en contextos de elipsis verbal desde la perspectiva de la Teoría de la Relevancia (Sperber y Wilson 1986, 1995, 2002, 2008; Wilson y Sperber 2002, 2004). Cuarenta y cuatro estudiantes de inglés españoles y veintinueve hablantes nativos de inglés realizaron dos tareas de juicio diseñadas para investigar el efecto del Principio Comunicativo de la Relevancia en su interpretación de la anáfora reflexiva en contextos simples, referenciales y no referenciales. Los resultados mostraron que, de acuerdo con este principio, la interpretación laxa se ve favorecida en los contextos simples y no referenciales, mientras que la interpretación estricta prevalece en los contextos referenciales, siendo estas preferencias menos marcadas en el caso de los hablantes no nativos. Además, la interpretación laxa aumenta cuando se presenta un contexto no referencial a los hablantes nativos, mientras que disminuye cuando se da ese mismo contexto a los estudiantes de L2, lo que parece indicar que la interfaz sintaxis-pragmática constituye una carga de procesamiento de información y actúa como un elemento que distrae en el caso de los estudiantes de inglés como L2.

Palabras clave: elipsis verbal, inglés como L2, anáfora reflexiva, interpretación estricta, interpretación laxa, Teoría de la Relevancia.

1. Introduction

Over the past fifty years, researchers have tried to decipher the different characteristics of ellipsis, i.e. the omission of subcategorised linguistic material when there is a linguistic or extralinguistic antecedent. This syntactic phenomenon has been approached not only from the perspective of diverse theoretical frameworks, namely Generative Grammar and Relevance Theory (RT henceforth), but also from that of applied linguistics, such as first and Second Language Acquisition (SLA henceforth). The present paper offers an analysis of the interplay between reflexive anaphora and verb phrase ellipsis (VP-ellipsis henceforth) in SLA from a relevance-theoretic perspective. More specifically, since this phenomenon, present in ambiguous sentences like *John defended himself and Bill did too*, has only been studied concerning L2 English learners whose mother tongues are Chinese (Ying 2003, 2005), Korean (Park 2016) and Cameroon English (Epoge 2012), we investigate the interpretations of reflexive anaphora in VP-ellipsis made by Spanish learners of English. These participants were administered two judgement tasks designed to gauge the effect of the Communicative Principle of Relevance on their interpretation of reflexive anaphora in various contextual situations.

In this paper we will first introduce the concept of 'ellipsis', and then describe the characteristics of VP-ellipsis and its interaction with reflexive anaphora (Section 2), which will be the focus of this study. In Section 3, we will offer a general description of the studies that have broached this interaction of VP-ellipsis with reflexive pronouns in the field of SLA, with a particular interest in research from the perspective of RT. In Section 4, we will present the research questions that have been object of this study. In Section 5, we will describe the methods used to gather the data. Sections 6 and 7 provide the analysis and discussion of the data respectively. Section 8 offers a summary of main findings, concluding remarks and issues for further research.

2. VP-ellipsis and Reflexive Anaphora

Ellipsis can be defined as a linguistic phenomenon in which expected, that is, subcategorised elements, have been omitted thanks to a linguistic or extralinguistic context that acts as the antecedent. Hence, in elliptical constructions there is a mismatch between meaning (the message one tries to convey) and sound (what is actually uttered) (Aelbrecht 2010). In other words, there is meaning without form: *significatio ex nihilo* ('meaning out of nothing') (Merchant 2013a: 1). Ellipsis is illustrated in (1):

(1) I wanted to go to Eve's birthday party but I couldn't ~~go to Eve's birthday party~~.

Example (1) is an instance of so-called VP-ellipsis in which the elided VP (*go to Eve's birthday party*) in the second conjunct can be retrieved from the first one, which serves as the antecedent (i.e. there is a linguistic context that permits the occurrence of ellipsis). This type of elliptical construction and its interaction with reflexive pronouns will be the focus of this paper, as will be explained in the remainder of this section.

VP-ellipsis has been the most widely discussed type of ellipsis in the Generative Grammar framework (see Hankamer and Sag 1976; Sag 1976; Williams 1977; Hardt 1993; Lobeck 1995; Johnson 2001; Carlson 2002; Aelbrecht 2009, 2010; Thoms 2011; Aelbrecht and Haegeman 2012; Merchant 2008, 2013a, 2013b). Its main characteristics are the following: (i) it involves the omission of a VP (examples (2)-(4) below) after the following licensors (those elements that allow for the omission of linguistic material): modal auxiliaries, auxiliaries *be*, *have* and *do*, and infinitival marker *to*; (ii) it is possible in contexts of subordination (as in (2)-(3)); and (iii) it can apply across sentence boundaries (examples (3) and (4)):

(2) Zeltia likes coffee and I think Yolanda does ~~like coffee~~ too.
(3) A: Can't you feel it?

B: Yes, I think I can ~~feel it~~.

(4) A: Have you phoned Donatella yesterday to tell her the good news?
B: No, I haven't ~~phoned Donatella yesterday to tell her the good news~~. Sorry, I forgot.

The literature on ellipsis has mainly dealt with two types of contexts where ambiguity seems to arise systematically: the interpretation of unmarked nominal expressions and the interpretation of pronouns (Bîlbîie 2011: 133). The first type of ambiguity reported in the literature can be instantiated by the following example taken from Carlson (2002: 204-205), which contains an object/subject ambiguity:

(5) Tasha called him more often than Sonya.

The remnant *Sonya* in (5) could be either the subject of the elliptical sentence (*Sonya called him more often*) or its object (*Tasha called him more often than she called Sonya*). Ambiguity lies in what type of interpretation will be chosen depending on the context where this sentence is uttered. These ambiguities have been reported for English but, according to Bîlbîie (2011: 133), they would pose fewer problems in languages which possess more morphosyntactic, lexical or prosodic marking. For example, she mentions Romanian, a language where, on the one hand, the interpretation of the pronouns in ellipsis is facilitated thanks to the use of different pronominal forms and, on the other, subjects and objects receive different case markings.

The second context in which ambiguity has been reported to arise systematically in English involves cases such as (6)-(7), where the omission of possessive and reflexive pronouns respectively offers the possibility of interpreting the second conjunct in a strict (examples (6)a and (7)a) or in a sloppy way (examples (6)b and (7)b):

(6) Mary$_i$ kissed her$_i$ children goodbye and Anne$_j$ did too.
(a) Anne$_j$ kissed her$_i$ children goodbye [strict interpretation]
(b) Anne$_j$ kissed her$_j$ children goodbye [sloppy interpretation]

(7) John$_i$ defended himself$_i$ and Bill$_j$ did too.
(a) Bill$_j$ defended John$_i$ [strict interpretation]
(b) Bill$_j$ defended Bill$_j$ [sloppy interpretation]

In example (6)a, the possessive pronoun *her* co-refers with Mary, that is, Anne kissed Mary's children, thus the possessive pronoun is interpreted strictly. In other words, it is as if one copied the material in the antecedent into the ellipsis site. However, in example (6)b, the possessive pronoun is interpreted sloppily, i.e. as a bound variable, because it would co-refer with Anne, meaning that Anne kissed her own children, and not Mary's. The very same ambiguity arises in example (7),

where the reflexive pronoun can be interpreted either strictly (*Bill defended John*) or sloppily (*Bill defended Bill*). On the one hand, the strict interpretation is set by Principle B of the Binding Theory (Radford 2009: 89): A (non-anaphoric) pronominal (expression) must be free within its local domain. On the other hand, the sloppy interpretation is set by principle A of the Binding Theory (Radford 2009: 89): An anaphor must be bound within its local domain.

Over the past thirty years, the interpretations of reflexive anaphora in cases of VP-ellipsis have been extensively studied from a theoretical point of view, especially in Generative Grammar (Dalrymple et al. 1991; Kitagawa 1991; Fiengo and May 1994; Johnson 2001; Murguia 2004; Dalrymple 2005). As pointed out by Ying (2005: 552), "it is relatively uncontroversial that reflexives have a sloppy reading, on the assumption that they function obligatorily as bound variables". However, the centre of the debate has been on the status of the strict reading. There have been mainly two approaches to the issue: a semantic approach and a syntactic one. As representatives of the former, Dalrymple et al. (1991) contend that a strict reading is possible depending on the semantic property of individual verbs. For instance, they drew a distinction between verbs such as *lock* and *defend* and claimed that whereas the former does not permit a strict reading, the latter does (Ying 2005: 552):

(8) Bill defended himself against the accusation, and John did, too.
(9) John locked himself in the bathroom when bad news arrived, but Bill would never do so.

Under Dalrymple et al.'s analysis, the verb *defend* allows for both a sloppy and a strict interpretation because this type of verb does not require co-reference between its subject and object. However, the verb *lock* does not permit a strict reading because it requires its subject and object to be co-referential. This semantic approach was confronted by Hestvik (1995), who maintained that it is not the semantic properties of lexical items that make strict readings available. This fact is instantiated in the following example, in which, as will be shown, the verb *locked* does allow for a strict interpretation (*before Bill could lock John in the bathroom*):

(10) John locked himself in the bathroom before Bill could.

Thus, a semantic approach to the issue based on the semantic properties of the different verbs was shown to fail to account for the data. This issue was also broached by Kitagawa (1991), who proposed a reconstruction of reflexive pronouns at LF.[1] She maintained that a feature [+anaphor] could be eliminated when copying into the ellipsis site the VP that acts as the antecedent. This way, the reflexive that acts as the antecedent could be reconstructed as a pronoun. In (11) the LF of (11)a would be (11)b under her analysis:

(11) a. John$_i$ likes himself$_i$, and Bill does too.
b. John$_i$ likes $_{[+a]}$ himself$_i$, and Bill likes $_{[-a]}$ him$_i$ too.

This idea was captured by Fiengo and May (1994), who developed a syntactic account of the phenomenon, known as "vehicle change". The main idea behind this proposal is very well summarised by Ying (2005: 553): "A reflexive, when copied from the first to the second clause, is allowed to change to a pronoun. Thus, vehicle change allows the strict reading by reconstructing the reflexive as a pronoun, which, as set by Principle B of Binding Theory, cannot be locally bound". Therefore, this offers an explanation as to why the reflexive *himself*, present in the overt VP in (11)a, can be reconstructed as the pronoun *him* in the ellipsis site in (11)b, co-referring with the nonlocal subject *John*.

In sum, theoretical linguistics has tried to provide an analysis that accounts for the existence of both strict and sloppy readings in cases of VP-ellipsis which contain reflexive pronouns, but, as pointed out by Ying (2005: 553): "neither account tells us how readers would interpret this strict-sloppy ambiguity". In consequence, examples like the ones instantiated in (7)-(11) and the interpretation they receive at the hands of native and non-native speakers of English have been objects of the present study, as will be shown from Section 4 onwards in detail. In the following section, we will offer a general overview of the studies that have dealt with VP-ellipsis, reflexive anaphora and their interaction in the field of SLA, paying particular attention to the relevance-theoretic approach.

3. VP-ellipsis and Reflexive Anaphora in SLA

VP-ellipsis has been approached from the perspective of both first language acquisition (FLA) and SLA. However, one could state that it is an understudied syntactic phenomenon within these fields of linguistics. Regarding FLA studies on VP-ellipsis, most research has been carried out from an experimental perspective and focused on children's early production and comprehension of VP-ellipsis in English[2] (Postman et al. 1997; Foley et al. 1997, 2003; Thornton and Wexler 1999; Matsuo and Duffield 2001). Still, some works have tackled the acquisition of the constraints of VP-ellipsis constructions versus those of VP-anaphora, namely, instances of pronominalisation, as in *John wanted someone to kiss him, but Mary didn't want to do it* (see Matsuo and Duffield 2001; Duffield and Matsuo 2009; Duffield et al. 2009).

As for SLA research on VP-ellipsis, some works have tested the interpretability of both the syntax-lexicon interface (**John is here, and Mary will too* vs. *John slept, and Mary will too*) and the syntax-semantics interface (**John slept, and Mary was*

too vs. *Peter saw your parents last week, but he hasn't since*) to check in which interface learners of different L2 proficiencies are more target-like (see Hawkins 2012 for L1 Arabic and Chinese learners of English and Al-Thubaiti 2009, 2010, 2018 for L1 Saudi Arabic).

Some L2 studies have investigated anaphora resolution at the syntax-discourse interface (Lozano 2002, 2016, 2018). In these studies, Greek and English learners of Spanish interpreted how overt/null pronouns and NP subjects refer to their antecedents in discourse, as in the following example:

(12) *El niño$_i$ vio a su hermano$_j$ mientras Ø$_{i/\#j}$ / él$_{\#i/j}$ jugaba en el jardín.*
"The boy saw his brother while Ø$_{i/\#j}$ / he$_{\#i/j}$ was playing in the garden"

Within the realm of anaphora studies, the acquisition of L2 reflexives has also been broached from the perspective of Generative Grammar (see Finer and Broselow 1986; Finer 1990; Hirakawa 1990; Thomas 1989, 1995; Yuan 1994, 1998; Bennett 1994; Lee and Schachter 1997; Maclaughlin 1998; Al Kafri 2013). More specifically, these works have tried to verify whether, in accordance with the principles of the Binding Theory, parameter resetting is possible and Universal Grammar (UG henceforth) is accessible in SLA. This research has provided contradictory results regarding the interpretation of reflexives by adult L2 learners and their access to UG in sentences like *John thought that Bill praised himself* (Yip and Tang 1998: 175), *Pinocchio is telling Donald Duck to point at himself/him* (Lee and Schachter 1997: 362) or *Simon says Jack should point to himself* (Al Kafri 2013: 118). Some authors support the Full Access Hypothesis[3] (Bennett 1994; Thomas 1995; Yip and Tang 1998; Al Kafri 2013). Others (Yuan 1998; Al Kafri 2013) believe that UG is accessible only via the first language (Indirect Access Hypothesis[4]). A third group (Finer and Broselow 1986; Hirakawa 1990; MacLaughlin 1998) claim that there can be an intermediate binding which is neither L1-like nor L2-like but it is still UG-constrained. Their works have also tried to elucidate the role of certain learner variables such as age and L2 proficiency. The former variable was used to verify potential critical period effects (Lee and Schachter 1997; Al Kafri 2013), whereas research on the latter confirmed that the acquisition of reflexives gradually improved with increased proficiency (Yip and Tang 1998).

Finally, there are studies that have approached VP-ellipsis from the perspective of its interaction with reflexive pronouns based on RT (Ying 2003, 2005; Epoge 2012; Park 2016). But before reporting on the results of these studies, of paramount importance for the present work, we will offer a brief account of the tenets of RT. This cognitive theory of communication was proposed by Sperber and Wilson in 1986 and updated in later revisions (see Sperber and Wilson 1995, 2002, 2008; Wilson and Sperber 2002, 2004). The key notion to this theory is

based on the cognitive construct of *relevance*, which has been defined as follows (Wilson and Sperber 2004: 608):

> [R]elevance is a potential property not only of utterances and other observable phenomena, but of thoughts, memories and conclusions of inferences. In relevance-theoretic terms, any external stimulus or internal representation which provides an input to cognitive processes may be relevant to an individual at some time. According to relevance theory, utterances raise expectations of relevance […] because the search for relevance is a basic feature of human cognition, which communicators may exploit.

RT proposes that an input is relevant providing that its processing results in *positive cognitive effects*, that is, "a worthwhile difference to the individual's representation of the world —a true conclusion, for example" (Wilson and Sperber 2004: 608). However, it should be noted that it is not only positive cognitive effects that make an input relevant, but also how easy or difficult it is to derive such cognitive effects, i.e. the *processing effort* required. Thus, as noted by Sperber and Wilson (2008: 89), there are two degrees of relevance:

> a. The greater the cognitive effects achieved by processing an input, the greater its relevance.
> b. The smaller the processing effort required to achieve these effects, the greater the relevance.

This universal tendency of human perceptual mechanisms to maximise relevance, that is, to automatically pick out potential relevant input, is the basis for the *First, or Cognitive Principle of Relevance*: "Human cognition tends to be geared to the maximisation of relevance" (Wilson and Sperber 2004: 610).

Additionally, RT is also based on a more specific *Second, or Communicative Principle of Relevance*, since human communication is inferential and guided by relevance. This principle states that "every ostensive stimulus conveys a presumption of its own optimal relevance" (Wilson and Sperber 2004: 612). An ostensive stimulus provides the addressee with overt information about the speaker's intention. This amounts to saying that the speaker offers some evidence of his or her meaning and the hearer infers this meaning taking into account this evidence as well as the context. In other words, "the use of an ostensive stimulus raises expectations of relevance not raised by other inputs, and […] these expectations guide the comprehension process" (Sperber and Wilson 2008: 89). The conditions under which optimal relevance takes place are the following (Wilson and Sperber 2004: 612):

> An ostensive stimulus is optimally relevant to an audience iff:
> a. it is relevant enough to be worth the audience's processing effort;
> b. it is the most relevant one compatible with communicator's abilities and preferences.

In consequence, from a relevance-theoretic approach, communication involves the hearer's inference of the communicator's intention. In previous works, Sperber (1994, 2000) contended that there were three different comprehension strategies. These three strategies are defined as follows. The first, known as *naïve optimism*, proposes that hearers tend to choose an interpretation that seems to be relevant enough. The second comprehension strategy is called *cautious optimism* and claims that hearers opt for an interpretation that the speaker might have thought would be relevant enough. Finally, the *sophisticated understanding* strategy states that hearers should select an interpretation that the speaker might have thought the addressee would think was relevant enough.

Coming back to those L2 studies focusing on reflexive anaphora in VP-ellipsis from the perspective of RT, it is worth noting that they have centred their attention on L2 English learners whose mother tongues are Chinese (Ying 2003, 2005), Korean (Park 2016) and Cameroon English (Epoge 2012). In these studies, learners were asked to carry out a sentence judgement task that included reflexive anaphora and VP-ellipsis constructions in bare (13), referential (14) and non-referential contexts (15), as seen in examples below:

(13) John defended himself and Bill did too.
(14) John defended himself and Bill did too. Bill was a good friend of John.
(15) John defended himself and Bill did too. Bill went to the restaurant afterwards.

As can be observed, examples (13) and (15) are ambiguous as to whether the VP-ellipsis is interpreted strictly (Bill defended John) or sloppily (Bill defended Bill). Yet, in the case of (14), the contextual information provided biases the interpretation towards a strict reading.

The findings gathered from these investigations (Ying 2003, 2005; Epoge 2012; Park 2016) concluded that L2 learners tend to interpret reflexives in VP-ellipsis sentences in a bare context sloppily. However, L2 learners' reading of reflexives in referential contexts seemed to lead them to a strict interpretation. In Ying (2003, 2005) and Park (2016) it was also found that (L1 Chinese and Korean respectively) intermediate and advanced English learners' behaviour mirrored that of their control group of English-native speakers, and that the greater their proficiency in English, the more native-like their behaviour. In the case of Epoge (2012), there was no control group for the Cameroon learners of English, but these university students were grouped into three different proficiency levels of English. Again, results indicated that the greater their English proficiency in English, the more they favoured the sloppy interpretation in bare contexts, and the strict reading in the referential contexts.

These authors claimed that the results gathered "were constrained by the minimal processing cost and contextual [cognitive] effects of Relevance Theory" (Ying 2005: 551). According to them, since L2 learners interpreted reflexives in VP-ellipsis sentences in a bare context sloppily, the minimal processing effort of RT was operative. On the other hand, they were guided by the contextual (cognitive) effects of RT when the presence of reflexives in referential contexts led them to a strict interpretation. Moreover, these authors concluded that these results could be explained in terms of the three comprehension strategies mentioned above (Sperber 1994, 2000). They contended that lower proficiency learners seemed to opt for sloppy readings in bare and non-referential contexts more often following the simplest and least effortful strategy of naïve optimism. In contrast, higher proficiency learners tended to choose strict interpretations more frequently in referential contexts as they were more adept at using the more complex strategies of cautious optimism and sophisticated understanding.

It should be noted, however, that Rosales Sequeiros (2004) correctly argues against four claims made in Ying's (2003) study (and, by extension, in his 2005 work, as the same results are reported). To begin with, Ying (2003) confuses the First, or Cognitive, and the Second, or Communicative, principles of Relevance because Ying's account "is based on the claim that a theory of communication aims at maximal relevance" (Rosales Sequeiros 2004: 260) by making use of both the cognitive effects and processing effort factors of cognition. However, as Rosales Sequeiros (2004: 260) contends, "maximization of relevance is not associated with verbal communication, but rather with cognition". A second problem derived from this confusion has to do with the fact that the processing effort would be insufficient in order to explain reflexive anaphora interpretation in VP-ellipsis. He contends that "an account of the contextual [cognitive] effects derived must also be provided" because "it is theoretically impossible to achieve an optimally relevant interpretation by looking just at the processing effort side of the interpretation to the exclusion of the effect side" (Rosales Sequeiros 2004: 262). This amounts to saying that it is optimal relevance, which includes both processing effort and contextual (cognitive) effects, that accounts for verbal communication. Thirdly, Ying (2003) argues that processing cost guides anaphoric interpretation preferences, as the sentences followed by referential contexts imply procedural constraints, whilst those followed by non-referential ones do not. Nevertheless, Rosales Sequeiros (2004: 256) states that "the role of contextual assumptions in anaphora resolution is to enable L2 learners to derive enough contextual effects to make it worth their effort and, in doing so, identifying (as a side effect) what they take to have been the intended referent". Lastly, Rosales Sequeiros (2004) is critical of the interpretation of Ying's (2003) results regarding the use of different comprehension strategies (naïve optimism, cautious optimism and sophisticated

understanding) by the various proficiency level groups reported. Concretely, Ying (2003) "only refers to processing cost in justifying the use of these comprehension strategies" (Rosales Sequeiros 2004: 265). For instance, naïve optimism is equated with the lowest processing cost in deriving sloppy readings, but in fact, "the interpretation with lowest cost can also be a pronominal [strict] reading" (Rosales Sequeiros 2004: 265). Once more, processing effort on its own cannot account for the derivation of an optimally relevant interpretation, since, as mentioned above, contextual effects are also part of the equation. In fact, Ying's (2003) results concerning sentences with non-referential contexts would have had to yield a more marked preference for sloppy readings, contrary to fact, as intermediate learners show similar numbers in both strict and sloppy interpretations.

The present paper will also follow the relevance-theoretic approach. In an attempt to extend L2 literature, we investigate Spanish speakers' interpretations of L2 English reflexives in VP-ellipsis as either strict or sloppy in the aforementioned contexts in comparison with those of native speakers of English.

4. Research Questions

Following from the literature review in the previous sections, we entertain these three research questions:

- RQ1. What kind of interpretation of English reflexive anaphora in VP-ellipsis do L2 learners prefer: strict or sloppy? How does native behaviour compare?
- RQ2. Are L2 learners' interpretations of VP-ellipsis with reflexive anaphora affected by the presence of referential contexts? How does native behaviour compare?
- RQ3. Are L2 learners' interpretations of VP-ellipsis with reflexive anaphora affected by the presence of non-referential contexts? How does native behaviour compare?

5. Method

5.1. Participants

Forty-four Spanish-speaking University of Cantabria students learning English (gender: 35 female, 9 male; average age: 23.5) and 29 native speakers of American English from North Carolina, USA (gender: 24 female, 5 male; average age: 20.1) who acted as the control group participated in this study. The non-native participants were taking BA degrees in *Early Childhood* and *Primary Education*

Teacher Training, as well as MA degrees in *Second Language Teaching and Learning*. The results of an English proficiency test (Quick Placement Test, Oxford University Press) indicated that their level of English ranged between B1 and B2 levels according to the Common European Framework of Reference (CEFR).

5.2. Instruments

Based on previous works by Ying (2003, 2005), Epoge (2012) and Park (2016), two judgement tasks were administered to test the participants' interpretation of reflexive pronouns in cases of VP-ellipsis. The first judgement task addressed the research question of whether L2 learners and native speakers prefer strict or sloppy interpretations of reflexive anaphora in cases of VP-ellipsis with bare contexts. This task contained 10 experimental sentences and 20 distractors. See example (16) as an illustration of an experimental sentence where the participants are asked to indicate their understanding of the underlined part of the sentence by choosing one of the options given immediately below.

(16) Scott has voted for himself and Jeff has too.
_____ Jeff has voted for Jeff.
_____ Jeff has voted for Scott.

The second task was devised to answer the second and third research questions mentioned above, that is, whether the presence of a referential or non-referential context (see examples (17) and (18) respectively) affects the participants' interpretations of cases of VP-ellipsis with reflexive anaphora as either strict or sloppy. This second task included 20 experimental sentences and 20 distractors. It is important to note that these 20 experimental sentences contain the very same experimental sentences as in the first judgement task, but with additional referential and non-referential contexts.

(17) Scott has voted for himself and Jeff has too. Jeff has always supported Scott.
_____ Jeff has voted for Jeff.
_____ Jeff has voted for Scott.
(18) Scott has voted for himself and Jeff has too. Jeff met his friends at a pub later.
_____ Jeff has voted for Jeff.
_____ Jeff has voted for Scott.

As can be observed, in example (17) the sentence "Jeff has always supported Scott" acts as a referential context favouring a strict reading of the underlined part of the sentence, that is, "Jeff has voted for Scott". In contrast, in the case of example (18) the context given ("Jeff met his friends at a pub later") should not, in principle, affect the subject's understanding of the underlined part of the sentence. Therefore, the expectation would be that respondents should provide the same answer as in experiment 1, where there was no context given.

5.3. Data Gathering Procedure

The data were collected in two sessions during the students' regular class time in Spring, 2017. In the first session, students were asked to complete a short biographical and linguistic survey containing questions related to their age, gender, years of English learning, and other languages known. Participants were subsequently presented with the Quick Placement Test (OUP), which would inform us about their command of the English language. They completed the 40 multiple-choice questions in this test in 30 minutes approximately. Immediately afterwards, students were administered the first judgement task, which took them about 10 minutes to complete. After a week's interval, in the second session, students took part in the second judgement task, which lasted around 20 minutes. As in previous research (Frazier and Clifton 2000; Ying 2003, 2005), both judgement tasks asked participants to choose one of the two interpretations offered which matched their initial understanding of the underlined part of the sentence. That is to say, the students were required to select the answer that first came to their mind, following their initial intuition without going back or making any changes after their initial choice.

6. Results and Data Analysis

Mean scores and standard deviations were calculated for both L2 learners and native speakers' interpretations of the English reflexive pronouns presented in the 30 experimental sentences which the two judgement tasks contained: 10 bare context sentences, 10 referential context sentences and 10 non-referential context sentences. A preliminary analysis explored the distribution of the samples, which were not normally distributed except for non-referential contexts in the case of L2 learners, as indicated by the results of the Kolmogorov-Smirnov tests. Consequently, we performed non-parametric procedures for both intra-group and inter-group comparisons. As for the former, Friedman tests of differences among repeated measures were computed to discover whether there were any significant differences among the three different contexts (bare, referential and non-referential). As significant differences were found for both the L2 and L1 samples (significant Chi-square values of 47,526 and 47,145 respectively; p. <.001), post-hoc Wilcoxon tests were used for any binary comparisons (i.e. bare versus referential contexts and bare versus non-referential contexts). With regard to inter-group comparisons, Mann-Whitney tests were the inferential statistical analyses computed to find out whether there existed statistical differences between L2 learners and native speakers. As far as statistical probability is concerned, alpha levels of .05(*), .01(**) and .001(***) were used.

Table 1 displays the mean scores and standard deviations of sloppy and strict interpretations of reflexive anaphora in examples of VP-ellipsis in bare contexts (see Figure 1 for a graphical representation). In both Spanish-speaking learners of English and native speakers of American English, the sloppy interpretation is chosen more frequently than the strict one, though this preference is stronger in native speakers. However, there were no statistically significant differences when the sloppy readings and the strict readings were compared between the two groups, as indicated by the Mann-Whitney test results (z = -1,437; p. >.05).

BARE CONTEXT	L2 LEARNERS		NATIVE SPEAKERS	
	Mean	Standard Deviation	Mean	Standard Deviation
Sloppy reading (max=10)	6.93	2.26	7.76	1.33
Strict reading (max=10)	3.07	2.26	2.24	1.33

Table 1. VP-ellipsis reflexive anaphora interpretation in bare contexts by L2 learners and native speakers

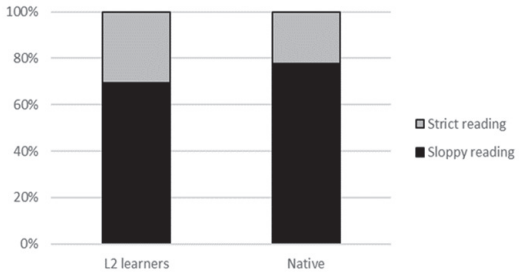

Figure 1. VP-ellipsis reflexive anaphora interpretation in bare contexts by L2 learners and native speakers

Table 2 shows the mean scores and standard deviations of sloppy and strict interpretations of reflexive pronouns in instances of VP-ellipsis in both bare and referential contexts (see Figure 2 for a graphical representation). As far as L2 learners are concerned, we observe that whereas in bare contexts they show a preference for sloppy interpretations, when a referential context is provided, strict readings prevail. Wilcoxon tests indicated that these context preference differences were statistically significant (z = -5,394; p. <.001). With regard to native speakers,

the very same tendency is observed, context preference differences being also statistically significant (z = -4,646; p. <.001). The inter-group analysis reveals that when a referential context is provided, native speakers' strict readings are superior to those of L2 learners. In fact, Mann-Whitney tests indicated that there were highly significant differences between the two groups as regards their choice of sloppy or strict readings in referential contexts (z = -3,833; p. <.001).

	L2 LEARNERS				NATIVE SPEAKERS			
	Bare context		Referential context		Bare context		Referential context	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Sloppy reading (max=10)	6.93	2.26	2.73	2.41	7.76	1.33	0.90	1.57
Strict reading (max=10)	3.07	2.26	7.27	2.41	2.24	1.33	9.10	1.57

Table 2. VP-ellipsis reflexive anaphora interpretation in bare vs. referential contexts by L2 learners and native speakers

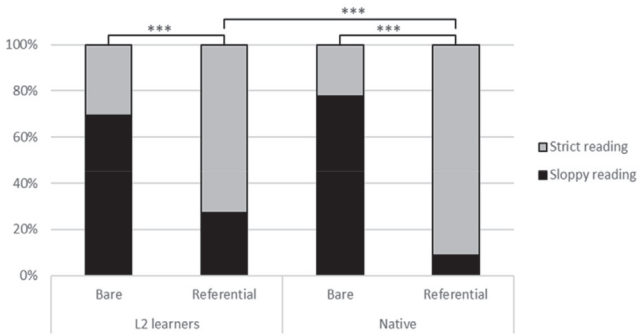

Figure 2. VP-ellipsis reflexive anaphora interpretation in bare vs. referential contexts by L2 learners and native speakers

Table 3 presents the mean scores and standard deviations of sloppy and strict interpretations of reflexive anaphora in cases of VP-ellipsis in both bare and non-

referential contexts (see Figure 3 for a graphical representation). Regarding the latter, the two speaker groups agree in their interpretation of reflexive pronouns in VP-ellipsis. They both choose more sloppy than strict interpretations, but the gap between the two readings is more obvious in the case of native speakers. Besides, the inferential statistical procedures indicated that the inter-group differences were highly significant (z = -3,612; p. <.001).

As for intra-group comparisons between bare and non-referential contexts, the attested differences indicate a dissimilar behaviour in each speaker sample. In the learner sample, Wilcoxon tests revealed that the sloppy readings significantly decreased from bare to non-referential contexts whereas strict readings significantly increased (z = -2,183; p <.05). Nevertheless, in the native group sample, the opposite tendency is observed: while the sloppy interpretation mean is significantly superior in non-referential as compared to bare contexts, the strict interpretation mean is significantly superior in bare contexts as compared to non-referential ones (z = -2,315; p <.05).

	L2 LEARNERS				NATIVE SPEAKERS			
	Bare context		Non-referential context		Bare context		Non-referential context	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Sloppy reading (max=10)	6.93	2.26	6.20	2.64	7.76	1.33	8.38	2.06
Strict reading (max=10)	3.07	2.26	3.80	2.64	2.24	1.33	1.62	2.06

Table 3. VP-ellipsis reflexive anaphora interpretation in bare vs. non-referential contexts by L2 learners and native speakers

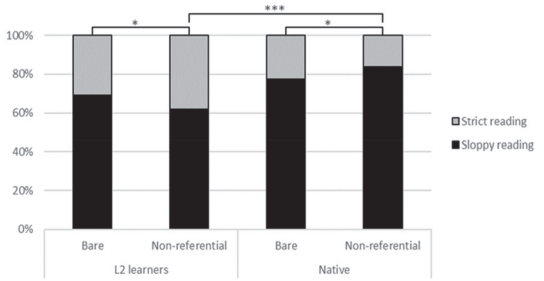

Figure 3. VP-ellipsis reflexive anaphora interpretation in bare vs. non-referential contexts by L2 learners and native speakers

7. Discussion

Having presented the results, we proceed to discuss the three research questions mentioned in Section 4. The first research question (*What kind of interpretation of English reflexive anaphora in VP-ellipsis do L2 learners prefer: strict or sloppy? How does native behaviour compare?*) aimed at answering what kind of interpretation of English reflexive pronouns (strict or sloppy) L2 learners prefer in cases of VP-ellipsis and whether learners' behaviour mirrors that of native speakers. Results showed a fluctuation between sloppy and strict readings of English reflexives in bare contexts, which implies that both readings were attested in the data, even if the sloppy one was preferred (meaning that this preference is not absolute and there is variability), as attested in previous studies (Ying 2003, 2005; Epoge 2012; Park 2016). Both native and non-native speakers favoured sloppy interpretations in bare contexts similarly, as no statistically significant differences were observed between the two groups of speakers. These results are in line with the Communicative Principle of Relevance, which predicts that both a sloppy and a strict interpretation are possible in bare contexts. However, the existence of a clearer preference for a sloppy reading in both our study and previous literature could be explained on the basis of the fact that "processing effort becomes more important in the processing of utterances when there is little information to go by" (Rosales Sequeiros 2004: 262), as is the case of bare contexts. This amounts to saying that it seems to be simpler to copy the antecedent VP into the ellipsis site (e.g. *John$_i$ defended himself$_i$ and Bill$_j$ defended himself$_j$*) than inserting a pronoun in the ellipsis site making reference to the subject in the first conjunct (e.g. *John$_i$ defended himself$_i$ and Bill$_j$ defended him$_i$*). Crucially, this preference for the reflexive reading of the second conjunct will also need to be the most relevant one compatible with communicator's abilities and preferences.

The second research question (*Are L2 learners' interpretations of VP-ellipsis with reflexive anaphora affected by the presence of referential contexts? How does native behaviour compare?*) inquired about whether the presence of a referential context affected L2 learners' readings of reflexive pronouns in examples of VP-ellipsis, to then check whether that potential context effect is also observed in native speakers. The analysis of the data has revealed that in referential contexts strict interpretations prevailed in both L2 learners and native speakers, a finding which agrees with the Communicative Principle of Relevance. The presence of the referential context biased the addressees' processing of the ostensive stimulus towards a pronominal reading in the ellipsis site, given that the referential sentence provides contextual information that creates a presumption of optimal relevance. However, English native speakers' choice of strict readings significantly surpassed that of non-natives, as evinced in previous research conducted with L2 English learners with a different

language background (Ying 2003, 2005). This seems to show that the native audience considered that the ostensive stimulus was more optimally relevant than the non-native speakers did.

The third research question (*Are L2 learners' interpretations of VP-ellipsis with reflexive anaphora affected by the presence of non-referential contexts? How does native behaviour compare?*) investigated the influence of the presence of a non-referential context when L2 learners need to interpret reflexive anaphora in VP-ellipsis. Subsequently, L2 learners behaviour was compared to that of native speakers of American English under the same contextual conditions. Results show that, as predicted by the Principle of Communicative Relevance and in line with the reported results above for bare contexts, in non-referential contexts both native and non-native speakers favoured the sloppy interpretation. These results do not fully mirror those reported in Ying (2003, 2005), where the figures for both strict and sloppy interpretation were very similar, particularly in the non-native sample. In our study, if one compares the preference for sloppy readings in non-referential contexts with the one triggered by bare contexts, it can be observed that native speakers' sloppy interpretation was enhanced when given a non-referential context, whereas L2 learners' choice of sloppy readings decreased. That is to say, the presence of a non-referential context seems to have led native speakers to reinforce their sloppy interpretation (a finding which is not corroborated in Ying 2003, 2005), whereas non-native speakers appear to have been misled to a larger extent.[5] In RT terms, it might well be conceded that native speakers judge the non-referential context as more optimally relevant for VP-ellipsis resolution than L2 learners.

8. Conclusions and Issues for Further Research

Our study attempted to investigate Spanish speakers' interpretations of L2 English reflexives in VP-ellipsis as either strict or sloppy in bare, referential and non-referential contexts in comparison with those of native speakers of English within the theoretical framework of RT.

As in previous L2 research, results show variability between sloppy and strict readings of English reflexives in the three VP-ellipsis contexts. Both native and non-native speakers favoured sloppy interpretations in bare contexts similarly. As regards referential contexts, strict interpretations prevailed in both L2 learners and native speakers. However, native speakers' choice of strict readings significantly surpassed that of non-natives. With regard to non-referential contexts, both native and non-native speakers favoured the sloppy interpretation. Interestingly, when this preference is compared to the one triggered by bare contexts, native speakers' sloppy interpretation was enhanced when given a non-referential context, whereas

L2 learners' choice of sloppy reading decreased. This seems to indicate that the presence of a non-referential context leads natives to reinforce their sloppy interpretation, whereas non-natives are misled by the presence of such a context. These findings show that added contextual information involving both linguistic and pragmatic parsing makes up an information processing load, acts as a distractor, and makes VP-ellipsis interpretation less straightforward for L2 learners.

To sum up, irrespective of the participants' group, the sloppy interpretation is favoured in bare and non-referential contexts, while strict readings prevail in referential contexts. These preferences are always more marked for native speakers than for L2 learners, which indicates that the former consider the ostensive stimuli available in the sentences provided as more optimally relevant. That is to say, in order to satisfy the presumption of relevance, natives may have had to draw stronger conclusions.

As for further research, the next step will be to increase the size of our sample so as to better examine the role of certain individual variables in Spanish-native learners of English when confronted with the task of interpreting the anaphoric reference of a reflexive pronoun in VP-elliptical contexts. One of these individual variables would be learners' proficiency in the L2. Previous research (Ying 2003, 2005; Epoge 2012; Park 2016) has shown that L2 proficiency seems to play a role in the interpretation of reflexive pronouns in English, more advanced learners approximating native speakers readings to a larger extent. It would also be interesting to explore the influence of other learner variables such as gender or bilingualism. Regarding the former, it would be interesting to check whether males and females behave differently when interpreting reflexive anaphora in cases of VP-ellipsis, as previous studies in the field of SLA have shown that females tend to outperform males in linguistic tasks (Pavlenko and Piller 2008). With regard to the latter, since research seems to support the idea that bilingual speakers are better additional language learners than monolingual speakers (Cenoz 2003), it would be worth investigating whether this variable has an influence on learners' linguistic behaviour when presented with experiments like the ones carried out in this study.

To finish, we would like to mention some of the methodological limitations of the present study. First, although L2 learners' linguistic behaviour was compared to a control group made up of English native speakers, our study lacks a comparison of these learners' performance in English with their interpretation of reflexives in their own native language, that is, in Spanish, in order to rule out the effect of cognitive processing in the L1. Our second limitation concerns the design of the judgement tasks, which always presented the contextual information after the cases of VP-ellipsis they had to interpret. It would be convenient to check whether presenting this kind of contextual information before the sentence that contains

the VP-ellipsis has an impact on learners' readings of anaphora (e.g., *John defended himself and Bill did too. Bill was a good friend of John* vs. *Bill was a good friend of John. John defended himself and Bill did too*). Additionally, one possible improvement concerning the design of the task would be to explore the "task effect" of the current study. This is due to the fact that all sentences in the two tasks involved the same target sentence (e.g., *Scott has voted for himself and Jeff has too*). This might have caused a "maturation" effect in the participants, which may have possibly biased the results, both for natives and non-natives. In the same vein, it should also be noted that the fact that in Experiment 2 the experimental sentences are followed by a referential and a non-referential context "may have alerted subjects to the fact that the different interpretations were intended and thus made them think that a change of interpretation was necessary" (Rosales Sequeiros 2004: 270). Moreover, we would like to check the influence of gender (dis)agreement between the reflexive pronoun present in the antecedent and the one of the target of ellipsis (e.g., *Bill admires himself and Kate does too* vs. *Bill admires himself and Tom does too*). Finally, our data could be complemented with added qualitative data such as think-aloud protocols, which would provide us with learners' reported reasons why one interpretation of the VP-ellipsis is preferred over the other. This would also allow us to inquire about the three different comprehension strategies (naïve optimism, cautious optimism and sophisticated understanding) followed by the participants.

Notes

[1]. In Generative Grammar, LF stands for 'Logical Form', a level of mental representation of a linguistic expression which is derived from surface structure. LF is the semantic equivalent of Phonetic Form (PF). PF refers to a level of mental representation of a linguistic expression which is derived from surface structure. Therefore, PF is the level of representation in which linguistic elements are assigned a phonetic representation. Then, this phonetic representation is pronounced by the speaker (see Ludlow 2005: 104ff for more details). Relevance-theoretic approaches and most researchers in pragmatics also believe that there is a level of syntactic representation, i.e. LF, which includes "whatever features of sentences structure enter directly into the semantic interpretation of sentences, and are strictly determined by properties of sentence grammar" (Chomsky 1976: 305). According to Chomsky (1976: 305), these representations at LF become more detailed as they "may involve belief, expectations and so on in addition to properties of LF determined by grammatical rule". These more elaborate representations, known as modified logical forms, are the result of pragmatic processing operating on them, paving the way for syntactic interpretation. Sperber and Wilson (1986) call this resulting syntactic interpretation the utterance's 'propositional form' (see Recanati 2010 for further information on pragmatics and Logical Form).

[2]. See Santos (2009) for an experimental study on the acquisition of VP-ellipsis in European Portuguese.

[3]. Full Access Hypothesis: "UG is accessed directly in [early and late] L2 acquisition, and L1 and L2 acquisition are basically similar processes, the differences observed being due to the difference in cognitive maturity and in the needs of the learner" (Singleton and Ryan 2004: 190, based on Mitchell and Myles 1998: 61f). See Mitchell and Myles (2004) for further information on the different hypotheses about the grammars of second language learners.

[4]. Indirect Access Hypothesis: "UG is not directly involved in [late] L2 acquisition but it is indirectly accessed via the L1; therefore, there will be just one instantiation (i.e. one working example) of UG which will be available to the L2 learner, with the parameters already fixed to the settings which apply in the L1" (Singleton and Ryan 2004: 190, based on Mitchell and Myles 1998: 61f). See Mitchell and Myles (2004) for further information on the different hypotheses about the grammars of second language learners.

[5]. This result is supported by the Interface Hypothesis put forward by Sorace and colleagues (Sorace and Filiaci 2006; Belletti, Bennati and Sorace 2007; Wilson, Keller and Sorace 2009; Sorace 2011), which claims that language structures involving an interface between syntax and pragmatics are more difficult to acquire fully than those structures that do not involve such an interface.

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IRONY IN LINGUISTICS AND LITERARY THEORY: TOWARDS A SYNTHETIC APPROACH

IRONÍA EN LINGÜÍSTICA Y EN TEORÍA LITERARIA: HACIA UN ACERCAMIENTO SINTÉTICO

INÉS LOZANO-PALACIO
Universidad de La Rioja
ines.lozano@unirioja.es

Abstract

Irony has been approached by different disciplines concerned with language. The more socio-historical approach taken by literary theorists contrasts with the more analytical bias of linguistic accounts. A comparative study of both perspectives reveals the need to enhance mutual cross-disciplinary dialogue with a view to producing a constructive integrated perspective. Following this premise, this paper puts forward an approach that combines insights from inferential pragmatics, cognitive linguistics, and literary theory. It acknowledges the centrality of the relevance-theoretic notion of echo, taken as a cognitive mechanism rather than just as a pragmatic phenomenon. In this view, irony arises from the clash between an echoed and an observed scenario, which reveals the speaker's attitude. The construction of the former is constrained by socio-cultural, communicative, and personal factors. This view allows for a distinction between different types of ironist (communicator) and interpreter (addressee), a study of their roles in the ironic event, and a classification of echoed scenarios from the standpoint of their grounding in an array of personal and presumed interpersonal beliefs, and in socio-cultural stereotypes. It also allows for a correlation between irony types and echoed scenario types and reveals the gradable character of the pragmatic felicity of the ironic act.

Keywords: irony, cognitive linguistics, literary theory, pragmatics, synthetic approach.

Resumen

Muchas disciplinas relacionadas con el lenguaje han abordado la ironía. El abordaje literario, de corte más socio-histórico, contrasta con los estudios lingüísticos, más analíticos. Un estudio comparado revela la necesidad de que se fomente un diálogo interdisciplinar para elaborar una perspectiva integrada y constructiva. Partiendo de esta premisa, el presente artículo presenta un enfoque que combina elementos de la pragmática inferencial, la lingüística cognitiva y la teoría literaria. Reconoce el eco como una noción relevante y lo estudia como un mecanismo cognitivo en vez de como un simple fenómeno pragmático. Desde esta perspectiva, el componente actitudinal de la ironía emerge de un choque entre un escenario observado y otro ecoico, este último condicionado por factores socioculturales, comunicativos y personales. Esta perspectiva permite diferenciar varios tipos de ironista (comunicador) e intérprete (receptor) y sus distintos roles dentro del acto irónico, así como establecer una clasificación de escenarios ecoicos basada en la variedad de creencias personales, presunciones interpersonales y estereotipos culturales. También genera una correlación entre tipos de ironía y tipos de escenarios ecoicos y revela el carácter graduable de felicidad pragmática que produce el acto irónico.

Palabras clave: ironía, lingüística cognitiva, teoría literaria, pragmática, enfoque sintético.

1. Introduction

One morning, a man says to his wife: *Darling, I think tomorrow is going to be sunny.* However, they wake up the next morning and the wife looks through the window and observes it is raining. She then says: *Yes, darling, you were right, it is such a sunny day.* The situation here described constitutes a basic example of irony.

Since ancient times, the study of irony has been one of the concerns of rhetoric and philosophy (Preminger and Brogan 1993; see also Booth 1974; Kaufer 1977; Grimwood 2008). Other disciplines such as literary theory or linguistics have also shown interest in its study, with literature offering a more socio-historical perspective that contrasts with the more strongly analytical approach provided by linguistics.

Within linguistics, irony has received considerably less attention than metaphor or metonymy. It is only recently, with the advent of inferential pragmatics in the wake of Grice's Cooperative Principle (Grice 1975), that irony has become an object of interest in linguistics (see Section 2 below). By contrast, literary theorists have recurrently shown interest in the often-sophisticated use of irony commonly as a

tool to subvert and question the *status quo*. Unfortunately, linguistic theory, including inferential pragmatics, has benefited little from literary studies on irony, perhaps because of the traditional lack of dialogue between linguistics and literary theory (Hussein 2015). This is also the case with literary theory. As a result, there are gaps in each approach.

The present paper claims that these gaps can be mostly filled in by enhancing mutual cross-disciplinary analyses with a view to producing a constructive integrated perspective. Following this premise, this study puts forward an integrated approach to irony that combines insights from pragmatics, such as Pretense Theory (Clark and Gerrig 1984; Kumon-Nakamura et al. 1995; Camp 2012; cf. Popa-Wyatt 2014; Barnden 2017) and Relevance Theory (e.g. Wilson 2006, 2009, 2013; Wilson and Sperber 2012; cf. Yus Ramos 2000, 2016a), Cognitive Linguistics and related psycholinguistic approaches (e.g. Colston and O'Brien 2000; Gibbs 2000; Coulson 2005; Pálinkás 2014; Ruiz de Mendoza 2017) and literary theory (e.g. Muecke 1970; Booth 1974; Hutcheon 1994; Colebrook 2004; Goff 2007). This approach takes irony as a heavily context-based phenomenon, while acknowledging the centrality of the relevance-theoretic notion of echo, taken as a cognitive mechanism (cf. Ruiz de Mendoza and Galera 2014; Ruiz de Mendoza 2017), rather than just as a pragmatic phenomenon. This approach further postulates a taxonomy of ironists and interpreters that results in an analysis of irony according to the degree of felicity (or perceived success) of its outcome. In view of the analytical needs stated above, the main aim of this study is to propose an integrated account of irony that exploits the symbiotic potential of literary and linguistic studies of irony to provide a richer, more complete account of the phenomenon. The power of this integrated approach will become evident in its application to a selection of examples from every-day and literary uses. Restrictions of space do not allow for the integrated treatment of other aspects of irony, such as its relation to humor (Dynel 2014; Yus Ramos 2016b), politeness (Alba Juez 1995), or its evaluative character (Alba Juez and Attardo 2014). However, the reader will be aware that these aspects of irony are either present in the analysis provided in this paper or at least are consistent with it.

2. Literature Overview

Interest in irony has been uneven throughout history. After the initial interest in Ancient Greece, we have to wait until the Renaissance to witness a new flourishing of the use of irony, epitomized by Elizabethan drama. Then, it is not until the 18th century, when satire and romantic irony hold sway of the literary panorama, that we find a clear interest on the part of romantic poets such as the Schlegel

brothers, Tieck, Solger, Novalis, satirists such as Lawrence Sterne, and later philosophers such as Kierkegaard. Finally, Postmodernism made of irony its insignia, an omnipresent aura to protest against post-war reality (Hutcheon 1994).

Many literary theorists have endeavored to define irony (e.g. Sedgewick 1935; Thomson 1948; Frye 1957; Muecke 1970; Myers 1977), but the various accounts mostly focus on socio-historical and related contextual issues (e.g. Kierkegaard 1841; Colebrook 2004) rather than break the phenomenon down into components, as linguists have done. Three exceptions are the studies by Muecke (1969, 1970), Booth (1976), and Hutcheon (1994), which provide in-depth literary-oriented theoretical analyses of irony. Muecke (1970) explains irony as a process of coding and decoding inscribed in a context and a co-text that provides the interpreter with the necessary clues for finding the real meaning underlying the ironist's words. On the other hand, Booth (1976) distinguishes between *stable* and *unstable* irony, the former being the type of irony that provides the interpreter with a straightforward answer, while the latter includes those ironies that imply the rejection of the literal meaning but provide no clear answer. This distinction, which seems to run parallel to the one between coded and inferred meaning in linguistics (cf. Givón 2002: 7-16; Panther 2016), is of special importance. While linguists tend to work with simple, clear-cut examples of stable irony, the more sophisticated (unstable) use of irony in literature multiplies its semantic possibilities. Finally, to the previous studies of irony, Hutcheon's (1994) approach adds the premise that the interpretation of irony depends on the context of the interpreter and its interpretive community (see Hutcheon 1994: 18).

In contrast to the case of literature, linguistic studies of irony, especially in the field of pragmatics, have a much shorter trajectory. The interest of linguistics in figurative language comes hand in hand with the development of the field of pragmatics. Nevertheless, the explanations of irony given by pragmatists diverge. Initially, Grice (1975: 53) explained irony as a "flouting" (i.e. an ostentatious breach) of the conversational maxim of truthfulness (or first maxim of quality) ("do not say that which you believe to be false") within his well-known Cooperative Principle. One weakness of this approach is that figurative language in general breaks the same conversational maxim in the same way. Within pragmatics too, Clark and Gerrig's (1984) Pretense Theory looked at irony from the point of view of the speaker's attitude. Based on Grice's claim that "to be ironical is, among other things, to pretend", these authors argued that irony is a type of pretense (Clark and Gerrig 1984: 121) where the ironist openly feigns an attitude (Clark and Gerrig 1984: 122). Thus, in talking to H (the hearer) ironically, S (the speaker) pretends to be S' speaking to H'. H' is expected to take S' seriously while H is

supposed to understand all the elements in the ironic scene. By contrast, Sperber and Wilson (1995) related irony to the use-mention distinction, drawn from the philosophy of language. To these scholars, the main point of irony is to convey an attitude of dissociation towards a tacitly attributed utterance or thought, which is based on a perceived discrepancy between the way it represents the world and the way things are (Sperber and Wilson 1981, 1990; Wilson and Sperber 1992). Sperber and Wilson (1995) further explained irony as an echoic use of language, that is, an interpretive use of language that requires the hearer to recognize that the speaker is thinking not directly about a state of affairs, but about another utterance or thought.

Grice's explanation of irony has been revised by scholars such as Giora (1995, 1997) and Giora et al. (2007) through the GSH (Graded Salience Hypothesis), which is focused on the processing aspects of the phenomenon (salient meaning is processed first independently of its literal or non-literal status) but no special mention is made of how to distinguish between different figurative uses of language. Contributions to the connection between irony and Speech Act Theory (Brown 1980; Amante 1981; Haverkate 1990; Glucksberg 1995), which remain largely Gricean, are affected by similar problems. Grice's theory has also been challenged by other scholars (e.g. Kaufer 1981; Holdcroft 1983; Mizzau 1984). Since then, studies on figurative language have flourished within the cognitive-linguistic approach (Lakoff 1987; Lakoff and Turner 1989; Croft and Cruse 2004; Kövecses 2005; Evans and Green 2006) with some of them devoting attention to irony (e.g. Gibbs 1994, 2012; Ruiz de Mendoza 2014, 2017).

Within Cognitive Linguistics, Lakoff and Johnson's (1980) approach to metaphor as not being exclusive to art but as an integral part of everyday language, has served as the basis for the analysis of other figurative uses of language, including irony (cf. Gibbs 1994). The explanation of irony proposed by Ruiz de Mendoza (2017), which is framed within Cognitive Linguistics, is complementary to Relevance Theory. Ruiz de Mendoza takes the notion of *echo* from Relevance Theory and Sperber and Wilson's emphasis on the speaker's attitude and inserts them into a general account of cognitive modelling. According to Ruiz de Mendoza (2017), irony arises from a clash of scenarios in the mind of the ironist. The ironist builds an echoed scenario that clashes with the observed scenario. The interpreter, in reconstructing such a clash, derives the intended meaning, and the ironist's attitude. We will come back to this approach in 3.1.2, since, as will be shown there, it integrates enough elements from pragmatics and cognition to make it an adequate candidate for an initial exploration of the convergence areas between the literary and linguistic treatments of irony.

3. The Synthetic Approach to Irony

One of the areas of convergence between linguistics and literary theory is their common interest in figurative language. The present account brings together compatible ingredients from the linguistic and literary perspectives. On the literary side, this account explores the main uses of irony in literature (Socratic, rhetoric, satirical, dramatic, romantic and postmodern irony). The second half of the 20th century —more particularly the decade of the 1970s onwards— witnessed an increase in the scholarly interest in irony both in linguistics and literary theory. Besides the emergence and consolidation of pragmatics the 70s saw the flourishing of cultural studies in the literary academia. The synthetic approach is derived mainly from accounts of irony that were produced from that period onwards, namely Relevance Theory, Pretense Theory, the cognitive modelling approach, and culture-based studies of this figurative use of language such as Hutcheon's (1994) or Colebrook's (2004), all of them mentioned in the introduction.

The analyses produced by pragmatics are generally phenomenon-focused. Although they provide highly detailed examinations, their treatment of contextual variation —with some exceptions (e.g. Alba Juez 2001)— is often rather limited. By contrast, literary studies of irony usually give prominence to the ideological and historical underpinnings of the context to the detriment of the internal composition of the phenomenon. The two perspectives can obviously be complemented.

3.1. Theoretical Principles

As noted above, the synthetic approach should benefit from bringing together the more broadly contextual and receiver-oriented nature of literary analysis and the finer-grained analysis provided by linguistics usually characterized by the formulation of high-level generalizations (cf. Goldberg 2002: 327; Ruiz de Mendoza and Galera 2014: 18-19). The following sections build a bridge between the literary and linguistic camps by examining the role of the context and the notion of ironic echo. Then, it enriches the resulting integrated approach by introducing into it an account of ironist and interpreter types and an examination of ironic felicity. The decision to integrate perspectives brings with it a unified approach to irony that levels out the traditional distinction between verbal and situational irony (the latter being characteristic of literature, especially drama). This theoretical move is consistent with the fact that the central ingredients of irony (its echoic nature, its attitudinal ingredient, and the contrast between the echoed and observable situations) are present in all kinds of irony, as will be evidenced in more detail in Section 3.2.

3.1.1. *The Context*

In practice, linguistics and literary theory have approached the notion of context in somewhat different ways. Whilst the former has acknowledged its role, especially when dealing with the various strategies to perform ironic acts (cf. the discourse perspective taken by Alba Juez 2001), the studies carried out by the latter have invariably framed irony within cultural and socio-historical parameters. For this reason, the literary analysis of the ironic context may well enrich the comparatively less detailed study carried out by linguistics in this respect.

Linguistics has traditionally viewed the context as an objective external reality that conditions the communicative act. Let us imagine a situation where Mary goes to a party wearing a very short dress. Strongly disliking Mary's appearance, A, one of the attendees, tells B, another attendee, *I just love Mary's dress!* A traditional linguistic study of irony would claim that the context consists of A, B and Mary, and that Mary's ostentatiously short, and thus inappropriate dress, triggers the ironic interpretation. Of course, this view of the context leaves aside the subjectivity implicit in, for instance, the notion of appropriateness and its connection to Mary's appearance. If A has been raised in a culture where short dresses are considered inappropriate, then he will be more likely to dislike Mary's dress. Only if B shares such assumptions will the ironic meaning arise. More recently, inferential pragmatics has developed a broader concept of context as a combination of world knowledge, cultural values, the observable situation, and previous discourse (what Sperber and Wilson (1995) call the interpreter's *cognitive environment*; see also Yus Ramos 2016b for its implications for irony). Still, theorists in this field rarely devote much effort to the systematization of contextual parameters, and when they do (e.g. Alba Juez 2001; Yus 2016a, 2016b) the socio-historical context is not emphasized, as opposed to literary theory.

Cognitive Linguistics has analyzed the context by paying attention to perceptual and cognitive processes. This discipline bases the analysis of the context on the so-called *frames* and *knowledge schemas* (cf. Fillmore 1977, 1982, 1985), whose study enables a systematic analysis of the world-knowledge aspects of communicative acts. Through cognitive modelling, the context is no longer objective and external but a reality that is modelled by our brain. Within Cognitive Linguistics, the ironic context is assumed to include both the observable situation and the ironic remark itself (Ruiz de Mendoza 2017). In other words, irony arises from the differences between what is said and what is real (or thought to be real). Ironists calculate the impact of their ironic utterances by making assumptions about the type of audience. This can be communicatively risky since the interpreters' circumstances and their own conceptualization of the world (including socio-cultural and ideological assumptions) can be hidden from the ironist and only revealed once the irony has

been produced. The Cognitive Linguistic notion of context differs from other linguistic accounts in that it shows interest in how the ironist and the interpreter conceptualize the reality that surrounds the ironic act. However, despite the promising potential of Cognitive Linguistics to explore and incorporate the socio-historical variables of the ironic context, the cognitive approach has not yet developed such a study.

Literary theorists, by contrast, have taken a broad notion of context as an essential element when analyzing irony, as evidenced by the well-known studies carried out by Muecke (1970), Hutcheon (1994), and Colebrook (2004). These literary critics take the notion of context as a set of conventions and individual perceptions. Muecke (1969: 40-41) claims that the interpreter will only achieve the ironic meaning through textual *and* contextual signals and further explains that the ironic act is at all times framed in a socio-cultural context that comprises the communicative act (ironist, interpreter, and text). This author acknowledges the evolution of the concept of irony according to its historical and artistic context, which determines its usage. For instance, the use of irony in Romanticism is marked by the emergence of Germany as the intellectual leader in Europe, which caused a shift in the understanding of irony as an active phenomenon focused on the ironist rather than a passive one, centered on the "victim" of irony (Muecke 1969: 19). An analysis of a romantic poem such as Byron's *Don Juan* without taking the context into account would fail to explain the motivation and intentions of the ironist or the degree of shared knowledge the interpreter needs. Following this line, Colebrook (2004) carries out a chronological study of irony according to its usage from Plato and Socrates to Postmodernism in an attempt to highlight the extent to which irony is a context-based phenomenon.

In greater depth, Hutcheon (1994: 17) states that the semantic and syntactic dimensions of irony cannot be considered separately from the historical, social or cultural aspects of their context. She further uses the notion of discursive community (Hutcheon 1994: 89) to explain that conventions and cultural perceptions are largely dependent on the cultural and social grouping of people. The cohesion of the discursive community lies in their shared knowledge on certain cultural or social aspects that have direct correlation with the interpretation of ironies as such. In terms of Jauss's (1982) Theory of Reception, the discursive community would share a similar horizon of expectations. The acknowledgement and consideration of a discursive community is essential to understand the irony in any literary text, from Juvenal to Salman Rushdie. One need only imagine what a contemporary reader of each of the two authors might interpret if put in the place of the other. Obviously, a 2nd century A.D. Roman reader would be very unlikely to interpret the irony in the Pakistan-inspired magic realism in

Shame just as a late 20th century or 21st century reader will have difficulties detecting irony in Juvenal's satires against social behaviors present in the Roman Empire of his time unless he has previous knowledge about the author and his context.

In spite of the recurrent contextualization of irony in literary studies, the present approach goes one step further by acknowledging the individual context of the interpreter. Literature and linguistics have both emphasized the social character of irony. Nevertheless, literary critics have not yet dealt with the individual contexts both the ironist and the interpreter inevitably bring to the ironic act. The claim made by Reception Theory (Jauss 1982; Iser 1987) about the incompleteness of texts until they are read highlights the individual character of textual interpretation. As a largely contextual figurative use of language, irony relies not only on the cultural and social tenets shared by a certain community, but also on the set of beliefs, values and experiences of each individual, which are not to be dissociated from the notion of discursive community but analyzed within it. The notion of individual context adds a third layer to the ironic context. For instance, if we go back to the example of Mary's dress, A's remark might not be considered ironic if B's personal preference is for ostentatiously short dresses, or if B has been raised in a family where the standards of appropriateness are more flexible in terms of the length of garments. Similarly, a young reader of Sterne's *The Life and Adventures of Tristram Shandy, Gentleman* will find it hard to understand the irony that lies at the core of the novel, and a male-chauvinist reader will find it harder to understand the feminist meaning in Atwood's *The Handmaid's Tale*.

3.1.2. *The Echo*

Secondly, the integrated approach takes irony as based on the notion of echo, initially put forward by Wilson (2009) and Wilson and Sperber (2012) and later built into Cognitive Linguistics by Ruiz de Mendoza (2017). Such scholars as Clark and Gerrig (1984), Currie (2006), Kumon-Nakamura et al. (1995, 2007), Recanati (2007), Popa-Wyatt (2014), and more recently Barnden (2017), have defended the view that irony is best explained if viewed as an act of pretense. On the other hand, according to Wilson and Sperber (2012: 125), "irony consists in echoing a thought (e.g. a belief, an intention, a norm-based expectation) attributed to an individual, a group or to people in general, and expressing a mocking, sceptical or critical attitude towards this thought" (see also Wilson 2006, 2009; Yus Ramos 2016b). Ruiz de Mendoza (2017) further points out that irony involves a clash between an echoic scenario and an observable scenario in the mind of the speaker. Out of this collision arises the attitudinal component of irony. Ruiz de Mendoza (2017) further notes that the act of pretense is in fact grounded in an

echo and that therefore, the postulates of Pretense Theory are epiphenomenal and must be integrated within the broader, scenario-based accounts of irony. *I just love Mary's dress!* is ironic not only because it contradicts A's real opinion, but because what A says echoes an attributed thought or belief about what A (and other people) believes. Perhaps A thought he was going to like A's dress and then feels disappointed, or A could have had no previous thoughts about Mary's dress, but in the face of reality he echoes what he would have ideally thought that clashes with such reality. At the same time, A's uttering the opposite of what is the case is an act of overt (i.e. recognizable) pretense about his liking Mary's dress. But the nature of the utterance as a pretense act can only be discovered if the echo and the clash with observable reality are likewise discovered. This makes the notion of pretense subsidiary to the notion of echo.

This analysis evidences the need to take into account not only the ironist's construction of an echoic utterance but also the interpreter's ability to recognize the echo. Contrary to what is the case with metaphor and metonymy, irony requires a highly complex reconstruction of the figurative meaning on the part of the interpreter. If we take once more the example of Mary's short dress, A echoes a belief that he thinks he shares with B about short dresses being inappropriate. Only if B shares such assumptions and detects A's echo and the clash between the two scenarios, can the ironic meaning arise. B's participation in the analysis of the above-mentioned ironic situation is central. No matter how well-built A's ironic utterance might be, unless it is correctly interpreted by B, there will be no irony at all.

3.1.3. *A Taxonomy of Ironists and Interpreters*

Classifications abound in studies of irony, mainly in those carried out within literary theory. Theorists such as Muecke (1970), Booth (1974), and Colebrook (2004) have classified irony according to different historical and artistic periods explaining its usage in context. However, little has been done to classify other components of irony. The approach proposed in this paper claims that ironist and interpreter are variable categories. Hence, when analyzing instances of irony, we may encounter different types of ironist and interpreter. The following classification does not intend to be an exhaustive analysis of all possible types of ironist and interpreter, but a first approximation to the subcategories we may find in both figurative uses.

We can distinguish two basic kinds of ironist: *solidary* and *hierarchical*. The solidary ironist's remark is aimed at being understood by the interpreter and does not aim at humiliating the interpreter. In the classic example where the wife is ironic about her husband's poor prediction on the weather (*Yeah, right. Nice*

weather!), the wife acts as a solidary ironist and uses irony to convey an attitude of skepticism about her husband's guess. In contrast, one aim of hierarchical ironists is to maintain their economic, social, intellectual, political, or social status, by pointing to a difference in hierarchy between the interpreter and themselves. The result is the humiliation of the hearer, when he or she is the ironic target, as a way to reinforce the higher status of the ironist, or even as a way to humiliate the hearer for humiliation's sake. This situation might occur, for instance, in a company where the boss uses irony to maintain his professional status by looking down on workers who are hierarchically inferior to him. In this situation irony may turn into sarcasm, which is derogatory, but may not. A hierarchical ironist may simply use the sophistication of irony to confuse the hearer or to show off. Note that the existence of hierarchical ironists provides only a partial motivation for the often-noted exclusive nature of irony (Colebrook 2004). Irony, as noted by relevance theorists (e.g. Sperber and Wilson 1995) and cognitive linguists (e.g. Herrero 2009; Athanasiadou 2017; Gibbs and Samermit 2017), is an everyday language phenomenon. It is not particularly elitist in hierarchical terms. But, in the absence of hierarchical elitism, irony is still potentially elitist in virtue of its cognitive complexity, which divides interpreters up into those that can identify the ironic intent of utterances and those that cannot.

We can also find two basic kinds of interpreter: naïve and non-naïve, respectively depending on whether the interpreter shares the necessary knowledge with the ironist or not. Naïve interpreters are less likely to detect the clash between the observable and the echoed scenarios, which may affect their ability to derive ironic meaning in some situations.

As shown in Fig. 1, combinations of the different types of ironists and interpreters yield several possible situations. When we have a naïve interpreter, ironic efforts are meaningless, whether we have a solidary or a hierarchical ironist. However, the hierarchical ironist's purposes are more highly marked, which underscores the sense of absurdity of the ironic effort in a third-party observer such as the audience in a theatre play. When we have a non-naïve interpreter, irony will be successful and more markedly so if the ironist has a well-delineated ironic target (e.g. a character with whom the third-party observer might or might not feel identified). If the purpose of irony is simply to express a personal attitude in the face of a breach of expectations (usually the case with solidary ironists), the role of the non-naïve interpreter boils down to becoming aware of such a situation and taking a stance on it. The combination of a hierarchical ironist and a non-naïve interpreter is the most relevant type of irony, intended to highlight the status of social relations.

TYPES OF IRONIST	TYPES OF INTERPRETER	COMBINATIONS
• **SOLIDARY**: the ironist's remark is aimed at being understood by the interpreter without a purpose of humiliation.	• **NAÏVE**: the interpreter does not share the necessary knowledge with the ironist.	1) SOLIDARY IRONIST + NAÏVE INTERPRETER = ironist's efforts to be understood might not always be successful.
• **HIERARCHICAL**: the ironist aims at pointing out a difference in hierarchy between the interpreter and himself. A) *Maintain status* (economic, social, intellectual, political or cultural) B) *Mere humiliation of the hearer* - Humiliation to maintain status - Humiliation for humiliation's sake	• **NON-NAÏVE**: the ironist shares the necessary knowledge with the ironist.	2) SOLIDARY IRONIST + NON-NAÏVE INTERPRETER= no need of solidarity, since the interpreter already shares the necessary knowledge to understand irony. 3) HIERARCHICAL IRONIST + NAÏVE INTERPRETER= there is no use in building irony, since it will not be interpreted as such. 4) HIERARCHICAL IRONIST + NON-NAÏVE INTERPRETER= most relevant type of irony, intended to highlight the status of social relations.

Fig. 1. A typology of ironists and interpreters

3.1.4. *The Felicity of Ironic Acts*

This proposed approach also allows for a study of the different outcomes of the ironic act based on the combination of the elements of irony, which can be assessed in terms of degrees of pragmatic adequateness or felicity. Felicity is a largely interpreter-reliant task. No matter how well the ironist builds the irony, ironic meaning will not arise unless the interpreter recognizes the clash and the echo. In the example where the wife ironizes about the husband's misled weather prediction, the ironic effect will be felicitous only to the extent that the husband, as either a naïve or a non-naïve interpreter, recognizes the echo and the clash. However, far from being black or white, recognition and its impact in terms of felicity is subject to gradation. Wilson and Sperber's (2012) echo theory postulates the existence of an echoed thought in the mind of the ironist. Ruiz de Mendoza (2017) adds to this premise that a distinction between echoes is needed in order to accurately account for how they are processed. He further claims that echoes can be either full or partial. The synthetic approach takes this distinction under the labels *exact*

and *approximate* echoes. The former type involves the complete recognition and identification of the echo; the latter, a partial recognition of the echoed thought. A similar situation occurs with the interpreter's detection of the clash of scenarios (see Fig. 2.).

ECHO	CLASH	DEGREE OF FELICITY
+ RECOGNITION OF THE ECHO	+ RECOGNITION OF THE CLASH	++
+ RECOGNITION OF THE ECHO	-RECOGNITION OF THE CLASH	+
-RECOGNITION OF THE ECHO	+ RECOGNITION OF THE CLASH	-
-RECOGNITION OF THE ECHO	-RECOGNITION OF THE CLASH	--

Fig. 2. Degrees of felicity in irony

The degree of recognition has an impact on the degree of felicity resulting from the irony since the higher the degree of recognition of the clash and the echo, the more felicitous the irony. The combination of the typology of ironists and interpreters explained above and the classification of the outcomes of irony yields a wide array of possibilities that allow for a detailed analysis of irony based on variables that have not been previously taken into account when studying this use of language. If we take one of the best-known instances of irony, Orwell's *Animal Farm*, the ironist (the author) acts as a *hierarchical* ironist who uses the analogy between animals and certain political behaviors to convey his own beliefs about the Russian Revolution. In *Animal Farm*, the ironist echoes the communist propaganda and makes it clash with real outcome of the Revolution (Ruiz de Mendoza and Lozano-Palacio 2019). In the well-known statement "all animals are equal, but some animals are more equal than others" (Orwell 1952: 114), Orwell sums up the irony implicit in his work. The interpretation of *Animal Farm* as an ironic text lies in the interpreter's knowledge about the Russian Revolution and Orwell's opinions. Hence, a naïve interpreter might read the text as a fairy story (as originally subtitled by the author), while a non-naïve interpreter will go one step further and interpret the text as political criticism. The felicity of the irony relies on the interpreter's detection of the clash and/or the echo. For example, a reader with basic knowledge about the Russian Revolution might detect that the author is echoing this historical event through animal metaphors but might not understand Orwell's ideas about the application of communism to the USSR and might not detect the clash of scenarios.

3.2. The Synthetic Approach to Irony in Practice

The previous section, which has laid out the theoretical underpinnings of our proposed synthetic approach to irony, has related the basic types or ironist and interpreter and the distinction between exact and approximate echoes to felicity degrees in the recognition of irony. It has also proposed to take into account the broader notion of context studied by literary theorists. The present section further applies these notions to the understanding of traditional types of irony as discussed in literary theory.

Let us start with Socratic irony, the oldest known form of irony. In Socratic irony, the philosopher's feigned ignorance, as part of the maieutic method, is used to get his pupil to realize that the philosopher has superior wisdom. In other words, Socrates adopts an attitude of pretense that echoes his own ignorance and the interlocutor's wisdom, which clash with the observable situation where the opposite is precisely the case. For instance, in the dialogue where Socrates discusses the concept of justice with sophists Polemarchus and Thrasymachus, the philosopher praises the two sophists' knowledge about such matter:

> Nay, it is more reasonable that you should be the speaker. For you do affirm that you know and are able to tell. Don't be obstinate but do me a favour to reply and don't be chary of your wisdom, and instruct Glaucon here and the rest of us. (Plato 1963: 587-8 [337e-338a])

The dialogue ends with Polemarchus and Thrasymachus realizing that Socrates has the answer to what they thought they knew. Socratic irony is largely based on the element of pretense. Rather than rely on a set of culturally loaded ideas, the interpreter is expected to identify Socrates' feigned ignorance through contextual cues. Irony is used as an instrument of enlightenment intended to make the pupil aware of the clash between common beliefs and the truth that the philosopher has. The philosopher acts as a solidary ironist guiding a naïve interpreter in the process that culminates in the discovery of truth. Socratic irony is thus characterized by a didactic purpose.

In dramatic irony the ironist (the playwright) also teaches a lesson. This is the case of Sophocles' *Oedipus the King*. The author of this tragedy is again a solidary ironist who echoes his own belief that no matter how hard Oedipus tries to avoid the auspices, he will not be able to fool divine providence. The echoed thought clashes with what is observably the case (which is being shown on stage, that is, Oedipus' recurrent failure to avoid the prophecy) (Ruiz de Mendoza and Lozano-Palacio 2019). Pretense in the case of dramatic irony is lessened in favor of the contextual element. The audience of *Oedipus the King* in Ancient Greece would be acquainted with the notion of fate and the playwright's ideas about divine justice,

that is, the audience in Ancient Greece would normally be non-naïve. However, since texts are read and interpreted differently throughout history, untrained 21st century readers are more likely to be naïve interpreters unable to detect the contextual cues that facilitate the identification of the echo and the clash. Socratic irony is always felicitous. It is explicitly recognized as such when the pupil acknowledges the philosopher's wisdom. In dramatic irony an interpreter might remain naïve if he does not detect the clash of scenarios and the content of the echoed scenario. Hence, dramatic irony is more prone to have a lesser degree of felicity than Socratic irony.

Even less likely to be felicitous is rhetoric irony, whose aim is to convince, attack or punish certain people or their actions. In this third type of irony, the speaker often acts as a hierarchical ironist. For instance, in Cicero's speech *Against Verres*, the orator, who lays the blame on the military leader, utters the following words:

> One of [Verres'] followers was a certain Rubrius, a man tailor-made for the lusts of this man here, who was wont to track all of this down with *wonderful* skill wherever he went. (Gildenhard 2011: 179 [64], emphasis added)

Cicero's description of Verres' henchman is ironic. Rhetoric irony is often used as a political tool, which makes its contextual element even more necessary when deriving ironic meaning. The echoed scenario (in Cicero's speech, the belief held by those who believed Rubrius' behavior was not to be punished) clashes with the observable scenario (in Cicero's speech, Rubrius' atrocities). The echo in Cicero's irony, as well as in other instances of rhetoric irony, is especially bound to its context. In the case of Cicero's words, unless the interpreter knows about the orator's opinion of Rubrius, "wonderful" might seem a legitimate adjective to describe Verres' henchman. The ironist in rhetoric irony is more often hierarchical than in Socratic and dramatic irony because of their different purposes: the former are didactic while the latter aim to persuade and also to attack. Only a non-naïve interpreter will detect the echo and the clash, and any naïve interpreters will be excluded from the ironic meaning. There is no effort on the part of the rhetoric ironist to help naïve interpreters to attain the ironic meaning, thus making irony less likely to be felicitous.

The hierarchical ironist is kept in satirical irony, which is directed to a reduced audience, only those that qualify to be part of the ironist's game. Take the following statement in Jonathan Swift's *A Modest Proposal*:

> I therefore humbly offer it to public consideration that of the 120,000 children already computed, 20,000 may be served for breed. (Swift 1729: 54)

This is elitist irony in the sense that it is aimed at non-naïve interpreters only. Like rhetoric irony, satirical irony is exclusive; however, while in rhetoric irony there is

a lack of effort on the part of the ironist to be understood by those who ignore the context, in satirical irony, the intention is to exclude certain potential interpreters. In the excerpt from *A Modest Proposal*, Swift impersonates a high-class Englishman who echoes the English high-class belief that Irish people are worthless. The Englishman thus proposes that Irish children (who stand for Irish people) be served as food for the English ruling class. This echoed thought clashes with Swift's real belief about the intrinsic worth of human beings of whatever origin. Only non-naïve interpreters, who are aware of the context (Swift's beliefs and the political situation he makes reference to), will recognize the echo and the clash. Once more, we see that felicity depends on the degree of naivety of the interpreter. In this case, greater naivety correlates with a more reduced audience.

In romantic irony we find a hierarchical ironist who expresses an attitude of dissociation from his own creative processes. We observe that, similarly to Socratic irony, in romantic irony there is a predominance of the pretense element. In dramatic, rhetoric, and satirical irony, the pose of the ironist is lessened in favor of the interpretation of the ironist's utterance. The romantic creator uses irony to express his detachment from reality. Let us take Byron's *Don Juan* as an example. In the poem, the author utters the following words:

> Our friend the storyteller, at some distance with a small elderly audience, is supposed to tell his story without being much moved by the musical hilarity at the other end of the village green. The reader is further requested to suppose him (to account for his knowledge of English) either an Englishman settled in Spain, or a Spaniard who had travelled in England. (Byron 1996: 39)

Byron echoes what the reader and storyteller should do when reading his work as a means of separating himself from reality and showing skepticism towards what he writes. Only a reader who is aware of the socio-historical context will understand the irony. The romantic ironist is blatantly hierarchical but does not show any special interest in the interpreter's understanding of the irony. On the contrary, the romantic ironist seems to give priority to showing his attitude towards his ideological context. Hence, romantic irony seems to exploit the type of irony most elitist and least likely to be felicitous.

Finally, the postmodern use of irony is grounded in its power to subvert the ideas of the *status quo* and revisit them critically (see papers in Nicol 2010). Postmodern irony fuses the didactic purpose of dramatic and Socratic irony with the critical element of satirical irony. Postmodern irony is elitist in the sense that it is often aimed at a learned type of audience. However, the purpose of postmodern ironists is not to maintain their status; they are solidary ironists who address a non-naïve audience only. Let us take Angela Carter's short story "The Bloody Chamber", one of her feminist retellings of fairy tales. In the story, the protagonist narrates:

"And so my purchaser unwrapped his bargain" (Carter 2007: 11). In this instance, the author echoes the belief that women should be treated respectfully and makes it clash with the Marquis's objectification of the protagonist. Such an objectification stands for the traditional male domination of the artistic canon and the diminishing treatment received by women throughout history. Carter acts as a solidary ironist because she is keen on being understood by the widest possible audience. However, the interpreter of postmodern irony is a non-naïve one, because the critical, sophisticated use of irony in Postmodernism presupposes a certain cultural level of the interpreter. The ideological nature of postmodern irony is highly contextual because it often echoes a previous socio-cultural context and makes it clash with present-day ideas. In terms of felicity, for their intended audiences, postmodern irony is more likely to be felicitous than romantic irony. However, because of its somewhat elitist nature, it is less felicitous than Socratic irony (for Socrates' intended audience), where the interpreter is assumed to be a naïve one.

4. Conclusions

This paper has argued for an integrated approach to irony that takes into account theoretical aspects of both literary and linguistic studies on the topic. The symbiotic potential of the studies of irony carried out by these two disciplines allows for a synthetic approach to irony that merges the fine-grained, phenomenon-centered explanations given by linguistics, especially pragmatics, and the focus on the socio-cultural and ideological context typical of literary studies. Irony is a complex case of figurative language use that plays with the shared knowledge between the ironist and the interpreter. Its use in literary texts as a tool for persuasion, teaching, and subversion multiplies the semantic possibilities of irony beyond what is generally recognized in the inferential pragmatics literature and in cognitive-linguistic analyses.

The synthetic approach to irony proposes a set of theoretical postulates that allow for a complete study of this phenomenon based on the central notion of echo without forgetting the importance of the context and the interpreter for the ironic act. The strength of this account has been tested against a range of examples of literary and non-literary irony of which this paper has offered a small selection for the sake of illustration. The analysis has reinforced the idea that irony operates similarly in all contexts, while acknowledging the existence of a multiplicity of variables that have to be taken into consideration, especially the intentions and behaviour of the ironist, the amount of knowledge shared by ironist and the interpreter, and the reliance of irony on the detection of the echo and the clash.

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VPS, GOODTHINK, UNWOMEN AND *DEMOXIE:* MORPHOLOGICAL NEOLOGISMS IN FOUR DYSTOPIAN NOVELS

SPV, BIENPENSAR, NO-MUJERES Y *DEMOXIE:* NEOLOGISMOS MORFOLÓGICOS EN CUATRO NOVELAS DISTÓPICAS

PAULA LÓPEZ-RÚA
Universidad de Santiago de Compostela
paula.lopez@usc.es

Abstract

In this paper I analyse the neologisms used in four dystopian novels —Aldous Huxley's *Brave New World* (1932), George Orwell's *Nineteen Eighty-Four* (1949), Margaret Atwood's *The Handmaid's Tale* (1985) and Dave Eggers's *The Circle* (2013)— from a morphological point of view. Lexical innovation is accounted for in the light of three criteria: types of neologisms according to morphological analysis, fields of use, and motivations for their creation. It is concluded that the shared reasons behind the use of neologisms built by means of word-formation devices (derivation, composition and shortening) are basically pragmatic and manipulative, and that, as part of discourse, the new lexical items thus created become efficient tools, since they provide a hint of authenticity in the fictional worlds portrayed and contribute to the critical and didactic quality of dystopian narrative.

Keywords: dystopia, manipulation, morphology, neologisms, realism.

Resumen

El objetivo de este artículo es llevar a cabo un análisis de los neologismos empleados en cuatro novelas distópicas —*Brave New World* (1932) de Aldous Huxley,

Nineteen Eighty-Four (1949) de George Orwell, *The Handmaid's Tale* (1985) de Margaret Atwood y *The Circle* (2013) de Dave Eggers— desde un punto de vista morfológico. La innovación léxica se estudiará teniendo en cuenta tres criterios: tipos de neologismos de acuerdo con su análisis morfológico, con sus esferas de uso y con las motivaciones para su creación. Se concluye que las razones que estas obras comparten para emplear neologismos construidos por medio de mecanismos de formación de palabras (derivación, composición y abreviación) son básicamente pragmáticas y manipulativas, y que, como parte del discurso, los nuevos elementos léxicos se convierten en herramientas eficientes, ya que proporcionan autenticidad a los mundos ficticios que se presentan y contribuyen al carácter crítico y didáctico de la narrativa distópica.

Palabras clave: distopía, manipulación, morfología, neologismos, realismo.

1. Introduction

In an article on future languages in dystopian novels, Gorman L. Beauchamp accurately notes that

> two problems confront the dystopian novelist with regard to language: to convey the stultifying effect that the rigidly controlled society would have on how its citizens think and speak, and to create an imaginatively valid language reflecting the specific social and technological realities of the projected future. (1974: 464)

In his view, George Orwell manages to solve these problems successfully in *Nineteen Eighty-Four*. In his development of *Newspeak*, he provides "a convincing illusion of linguistic change that reflects the political/technological realities of […] nightmare futures" (1974: 474). Language is simplified, regularised, deprived of all variety or richness and, in general, forced into a uniformity which parallels a rigidly controlled state. However, Beauchamp also remarks that most "dystopian fantasies" fail to create a future language, that is, a language that reflects "the specific reality of the projected future" (1974: 463). He mentions Aldous Huxley's *Brave New World* as an example, a novel which is set about 600 years into the future but whose language is "indistinguishable from our own, and thus anachronistic" (1974: 463).

The present paper takes as its starting point Beauchamp's remarks on the failure of most dystopian novels to create plausible languages that successfully embody human development, and concurs with Millward's (2007) rejection of Beauchamp's assertion in her dissertation on the language of dystopian narrative: Millward's analysis of "speculative language" (the language of the future in dystopia) argues "not only that dystopia, as a genre, is remarkably successful in its attempts to create

elements of a 'future language', but also that, in doing so, it reflects the 'specific reality' of the future" (2007: 44). While it is agreed that most dystopian novels are anachronistic in their use of language, it can also be posited that a few of them actually try to reflect social, political, economic, scientific or technological changes by resorting to a fair number of neologisms,[1] and Millward (2007) actually states that dystopia succeeds in presenting a future language by resorting to neologising strategies. In Millward's words, dystopia is "an accelerated microcosmic representation of the process of language change, presenting new language for novel concepts" (2007: 45).

Accordingly, this paper analyses the neologisms used in four dystopian novels covering a time span of approximately eighty years: Aldous Huxley's *Brave New World* (1932), George Orwell's *Nineteen Eighty-Four* (1949), Margaret Atwood's *The Handmaid's Tale* (1985) and Dave Eggers's *The Circle* (2013). For the sake of simplicity, the following abbreviations will be used to refer to the novels: BNW (*Brave New World),* 1984, HT *(The Handmaid's Tale)* and TC (*The Circle*).

These novels were selected firstly because of their treatment of topics of everlasting interest: language as an instrument to shape reality, totalitarian regimes, human life controlled by science and technology, women's rights over their bodies, the tyranny of social media and the loss of privacy. Secondly, and most importantly, the choice was made on the grounds of the quantity of neologisms identified in the novels, the focus being on those new items created by means of productive word-formation devices. It is evident that traditional word-formation devices (affixation, compounding, and shortening devices such as blending or initialisation) are resorted to for practical reasons, since the new items must be understandable by the intended readers and the items thus built often preserve recognisable parts of already existing words, which eases interpretation. As Millward (2007: 114) notes, dystopian neologism maintains "a perceptible connection with […] the world from which it extrapolatively emerges" and is never "completely detached from the language of base-reality (or, at least, the author's historical space-time)" (2007: 117); therefore, it "closely mirrors the word-formation processes which occur in natural language" (2007: 112). At the same time, the introduction of "alien words" is an estranging strategy which emphasizes "the 'otherness' of the society that produces them" (Meyers 1980: 7).

Since what is intended here is a linguistic analysis of the word-formation devices used in the novels, the present study relates to a number of articles offering morphological accounts of the language of literary works or TV series (see, for instance, Mandala 2007; Li and Shi 2015; and Vincent and Clarke 2017, among others). Yet the objectives of this study rather go along the lines of morphological stylistics and Fowler's (1986; 1995) "linguistic criticism", which entails the view

of language as a tool that interprets reality, preserves the prevailing order and suits the needs of dominant groups. The analysis is carried out under the premise that the new items thus created provide a realistic and efficient touch in the authors' portraits of possible futures, following Britton's (1970: 342) remark that "new words normally emerge in response to the need for novel, precise and economical communication" and that "in most cases […] words are formed by well-established means". Those "means" are also identified by Stockwell (2000) in his corpus-based analysis of the language of science fiction, which includes a classification of types of neologisms: creations, borrowings, derivations, compounds, shortenings and inflectional extensions.

Lexical innovation in the novels under study will be accounted for by considering the features they share with respect to three criteria: the types of neologisms according to morphological analysis (word-formation devices), their fields of use (advertising, entertainment, scientific and technological development, government and politics, etc.), and the motivations for their creation. A mainly descriptive section will comprise both morphological devices and their fields of use in the novels. It will be followed by an interpretive section devoted to the reasons for the use of the morphological neologisms previously described. The morphological analysis is comprehensive in terms of the types and subtypes of word-formation devices used in the texts analysed, and includes most of the examples that occur in the novels (only a few examples which illustrate types already exemplified have been left aside due to space limitations). The linguistic approach taken up here is somewhat different from the views commonly adopted in the literature that discusses these works. Concerning 1984 and BNW, numerous accounts of the novels are focused on what makes them illustrative examples of the dystopian genre (Hadomi 1987; Claeys 2010), embracing a philosophical view (Garrett Izzo and Kirkpatrick 2008) or highlighting their satirical quality (Fowler 1995; Seed 2005). The manipulative use of *Newspeak* to restrain thought in 1984 has often been examined in the light of the Sapir-Whorf hypothesis, according to which the structure of a language shapes the speakers' conceptions of the world (Chilton 1988; Fowler 1995). The use of *Newspeak* as a method of mind control through language and as an instrument for politics and the media to hide truths has been reviewed in the literature (Lewis and Moss 1983; Stansky 1983) and is also discussed in the present study, albeit from a morphological perspective. Babaee et al. (2015: 66) referring to HT describe it as a "feminist satire of totalitarianism", and it has commonly been explored within the framework of women's studies (Ehrenreich 1986; Malak 1987; Freibert 1988; Howells 1996, 2006; Cavalcanti 2000). Lastly, TC is seen as a "satirical utopia" which tackles the issues of "the increasing corporate ownership of privacy" (Atwood 2013: par. 4) and "the tyranny of public opinion […] amplified […] via the Internet" (2013: par. 5).

Ullman (2013: par. 4) describes the novel as a "potential dystopia" about "the tyranny of transparency, personhood defined as perpetual presence in social networks" and "our lives under the constant surveillance of the government". Centred on all-powerful social media and the Internet, the novel offers an accurate caricature of technological totalitarianism.

2. Dystopian Literature: Aims and Topics

The following section provides a brief framework for the account of newly coined words in the remaining sections. They offer an overview of the main objectives and themes of dystopian narrative and outline how language, and therefore new words, contribute to developing such aims and topics.

According to Baldick (2008: 100), dystopia is a term applied to fictional works depicting any "alarmingly unpleasant imaginary world, usually of the projected future". Dystopian writing is described as a "significant form of science-fiction and of modern satire". An outstanding feature of dystopian literature is its critical quality: dystopian authors exaggerate the future to denounce the present, and their aim is not plausibility but hyperbole intended to attack current tendencies (Weiss 2009). Accordingly,

> dystopian literature […] constitutes a critique of existing social conditions or political systems, either through critical examination of the utopian premises […] or through the imaginative extension of those conditions and systems into different contexts that more clearly reveal their flaws and contradictions. (Booker 1994a: 3)

Dystopia is therefore "a critical genre that makes us aware of human manipulation through technological advances in the twentieth and twenty-first centuries" (Babaee et al. 2015: 65). As noted by Booker (1994b), Huxley's and Orwell's novels are well-known examples of dystopian narrative in the twentieth century, both linked to the social and political issues of their time and critical in their approach to the societies they depict.

Another feature of dystopian literature which is closely linked to criticism is its didactic spirit: as Sisk (1997: 162) explains, when "a writer warns of a reality that may not necessarily exist, but which, the author fears, could come about if no action is taken, this fulfills the genre's didactic mission". Millward (2007) agrees with Sisk when she remarks that "these narratives unapologetically promulgate diverse warnings —cautions against rash and reckless continuance of present trends in numerous areas— yet have essentially one primal objective: to prevent their envisioned future from becoming a reality" (2007: 34-35).

In view of these main aims of dystopian literature (to criticise and moralise), the use of "anachronistic" language (or a language which is not as evolved as it should be in the future worlds depicted) can be regarded as a licence to help readers connect the realities portrayed with their own lives and appreciate the criticism of present situations. In those cases, neologisms appear as handy tools to provide a touch of verisimilitude: in agreement with Coupland's (2007) multidimensional notion of authenticity, neologisms reflect how languages really are and their natural development, and are thus, like vernaculars, "the product of natural […] linguistic change" (2007: 181), since new times call for new names.

Concerning the topics developed in dystopian narrative, Quinn (2006: 433) describes "anti-utopian" or "dystopian" novels as depicting the future "as a nightmare world of state or corporate control and of de-humanized mechanization". Vieira (2010: 18) states that dystopian discourse focuses on two ideas: "totalitarianism" and "the idea of scientific and technological changes which, instead of impelling humanity to prosper, has sometimes been instrumental in the establishment of dictatorships". Some common themes of dystopian fiction are summarised by Witalec (2003: par.1), and it is possible to see them all developed in the novels under analysis: "mastery of nature —to the point that it [nature] becomes barren, or turns against humankind; technological advances that enslave humans or regiment their lives; the mandatory division of people in society into castes or groups with specialized functions". In dystopian fiction science and technology actually contribute to enslaving people instead of helping them and making them free. As will be seen, this tyranny of scientific and technological development is accurately shown in the ample number of neologisms related to those fields in the novels analysed.

3. Non-Morphological Devices: Neosemy and Phonetic Respelling

Before starting the morphological account of newly coined words in the works under study, it must be noted that there are two devices which fall outside word-formation but which should be mentioned because they are also valuable linguistic resources in the novels: neosemy, or semantic neology, and respelling.

The term "neoseme" refers to "new meanings attributed to already existing words" (Munat 2007: 170-171). Neosemy is actually a process by means of which a word acquires one or several new meanings in the course of time. While it is true that new items arise to name new realities, it is also evident that old items can get given new meanings with the same aim. This process of semantic development which takes place in real languages also occurs in the works analysed, and provides

them with a tinge of realism. A few examples of old words acquiring new meanings in the novels are, for instance, 1984: *vaporize* (kill, or more accurately, erase from existence); TC: *clarification* (the process by means of which a politician agrees to wear a *SeeChange* camera that allows live-stream), *settlers* (Circle staff moving onto the premises permanently) and *retinal interface* (a device implanted in the eye to interact via the Internet); and HT: *Eyes* (government spies), *Angels* (the soldiers of the republic), *salvaging* (execution), and *Holy Rollers* (originally, members of religious sects who express their fervour in an emotional way; in the novel, a derogatory nickname for the cylindrical machines that print automatic prayers and say them out loud).

Examples of phonetic respelling can be found in 1984: *Miniluv, IngSoc* (see Subsection 4.3.1.), and in TC: *TruYou* (a system that combines users' profiles, payment systems, passwords, email accounts, user names and preferences into one single identity) or *LuvLuv* (a program that scans the net to find information about potential mates), both examples of a combination of reduplication (partial or total) and respelling. Reduplicatives,[2] as Mattiello (2013: 141) notes, are mainly used "for expressive, playful or aesthetic effects", while the device of respelling is useful in the world of advertising to provide names for consumer goods: it is designed to call attention to the items, avoid trademark problems, connect with vernacular languages (with the way people actually speak), and eventually connect with customers by showing proximity.

4. Morphological Analysis of Neologisms: Devices and Fields of Use

As noted before, the use of word-formation devices to build neologisms is a resource of languages to adjust to the new times. A parallel with the items used in the novels can be established by looking at current examples of such newly coined words: for instance, the compound *FaceTime* is a trademark that names an application to make video calls using an iPhone or other Apple devices, and one example of innovative prefixation is *post-truth*, which denotes "circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief" (*Oxford Living Dictionaries*). The prefix *post-* here acquires a new nuance of meaning: 'belonging to a time in which the base has been left behind as unimportant or irrelevant'.

As will be seen in the subsections that follow, the novels analysed make use of these devices in a way that mirrors the real world, and they primarily do so in order to satisfy pragmatic needs. In Algeo's words, "when there are new things to talk about, we need new words to name them" (1991: 14). New denominations are

needed for new ways in which people socialise, communicate and entertain themselves, and also for new concepts related to political, scientific, technological and ideological changes. However, as will be explained later, at a deeper level new items are also used as instruments to build and maintain desirable states of affairs.

4.1. Derivation: Prefixation and Suffixation

Millward (2007: 116) notes that derivation is "particularly productive in the formation of Newspeak terms". Accordingly, the addition of affixes is particularly resorted to when the new language (*Newspeak*) tries to simplify and regularise inefficient *Oldspeak*, eliminating redundant or dangerous words and therefore the unorthodox thoughts that lie behind them. The obscure ministerial jargon used for internal communication is an abbreviated form of *Newspeak* combining the use of affixes, written abbreviations, clippings[3] and clipped compounds (see Subsection 4.3.1.). In this jargon the principle of narrowing thought by simplifying language is carried to extremes, but in the latest version of *Newspeak* gathered in dictionaries it is also possible to verify how *Oldspeak* is simplified in terms of affixation, with new affixes being added to all types of bases[4] and old affixes replacing existing affixes and acquiring their meanings.

Regarding prefixes, for example, the appendix of 1984 specifies that the new prefixes *plus-* ('very') and *doubleplus-* ('extremely') can be added to any base to strengthen its meaning. They are identified in items such as *plusfull, pluscold, doubleplusungood* or *doubleplusridiculous*. The prefixes *ante-* ('before') and *post-* ('after'), and the new prefixes *up-* and *down-* are also made productive by being added to "almost any word" (1984: 315), as in *antefiling*: 'before filing', *antegetting,* or in the prefixed clipping *upsub*: "submit to higher authority" (1984: 47).

In BNW, the prefixes of degree or size *super-* ('above, more than') and *hyper-* ('extreme(ly)') in *super-cello* (where *cello* is also a clipping from *violoncello*) and *hyper-violin* underline the apparently superior quality of the instruments that produce synthetic music in contrast with standard music. The prefix *arch-* ('chief, principal, highest') occurs in *Arch-Community-Songster* (a parodic equivalent to Archbishop), and there are also the prefixes *pan-* ('all, worldwide') and *neo-* ('new') in *pan-glandular* and *Neo-Pavlovian* (the latter referring to the rooms where children are conditioned through electroshock to hate books and flowers, which fosters blind consumerism).

Concerning negative prefixes, *mal-* ('wrongly, badly') is used in 1984: *malreported* or *malquoted* ('misquoted'), together with *un-*, which, in accordance with the regularising nature of *Newspeak*, is attached to adjectives, verbs and nouns (*ungood, unproceed, unperson*). In their treatment of the negative prefixes *a-*, *dis-*, *in-*, *non-* and *un-*, Bauer and Huddleston (2002) note that *a-* and *dis-* are rarely used to

create new words and *in-* is no longer productive, whereas *non-* is still fairly productive and *un-* is the most productive. They state, however, that *un-* is "rare with nouns" (*unease*, *unemployment*, *unrest*), while *non-* is "the most productive negative prefix for nouns" (*non-student, non-payment*). In spite of this, the prefix *un-* is registered in 1984 *unperson* and in HT it also occurs in the nouns *unbaby* and *unwoman*. Why is *un-* used instead of *non-* in these items? Bauer and Huddleston also point out that "forms with *non-* are emotively neutral and non-gradable" whereas "those with *un-* may convey […] gradability" (2002: 1689). Besides, *un-* can provide the meaning of "removal" in verbs formed out of nouns (*unmask*). In the cases under study, *baby*, *woman* and *person* become gradable qualities, and *un-* adds an emotional sense of removal. In that way, *unbaby* is a person whose quality of being a baby has been removed because he/she is imperfect; *unperson* is a person whose existence is denied or ignored for political or ideological reasons, so the quality of being a person is removed; and *unwoman* is a person deprived of the quality of being a woman because she cannot be a mother, and motherhood is the only feature that defines a woman in the republic of Gilead. *Non-woman* (like *non-human*) would simply mean someone who is not a woman, but in *unwoman* we see women deprived of their womanhood by a theocratic government which identifies women with potential or effective mothers.

As regards suffixation, several types of suffixes can be identified in the works under study:

— Suffixes to form denominal nouns, for example *-ship* ('status, condition') in BNW: *Fordship* (patterned after Lordship, since Ford is the new god); diminutive, affectionate or informal *-y/-ie* in TC: *Homie* (a program where a phone scans the house for bar codes and orders supplies if necessary), and BNW: *feelies* (patterned after *movies*), that is, feeling pictures, in which you cannot only see but feel the experience thanks to the tactile effects and the scent organs; *-er* (a suffix with several meanings, for instance, 'inhabitant of the base') in TC: *Circlers* (employees at the *Circle*: the denomination is quite convenient since a lot of them often sleep or actually live in the Circle's premises); and *-(i)an* ('related to, adherent to'), which is commonly added to proper nouns (Bauer and Huddleston 2002), as in BNW: *Fordian, Neo-Pavlovian* or *Malthusian*.
— Suffixes to form deadjectival nouns, like *-ness* ('quality, state of being') in BNW: *fordliness* (coined after *godliness*).
— Suffixes to form deverbal nouns, such as agentive *-er/-or* in 1984: *goodthinker* and BNW: *Assistant Predestinator* (someone in charge of assigning humans to castes), and *-(e)ry* ('place of activity') in BNW: *singery* (a place where people gather together in a pseudo-religious fashion to sing, take drugs and have sex).

— Suffixes to form denominal adjectives, such as *-ly* ('having the qualities of') in TC: *Circly* ('typical of the *Circlers*'), and BNW: *fordliness*. Also, in accordance with the regularising rules of *Newspeak*, in 1984 adjectives are created by adding *-ful* ('having, displaying') to nouns (*speedful*: 'quick').
— Suffixes to form denominal verbs, like *-ify* ('to make into') in BNW: *Bokanovskify*, a process by which identical human beings are obtained from a single fertilised egg, coined after Bokanovsky, the person who supposedly developed the process.
— Suffixes to form denominal adverbs: the suffix *-wise* in 1984 is added to nouns and adjectives to form regular adverbs replacing *-ly*, as in *speedwise* ('quickly') and *goodwise* ('well').

4.2. Compounding

Compounding is described by Bauer (1988: 239) as "the formation of new lexemes by adjoining two or more lexemes". Millward (2007) notes the occurrence of "multi-word compounds" in dystopian language, that is, "the combination of two or more known words into neosemic multi-word units" (2007: 122). She remarks that "these novel linguistic amalgamations do not exist outside of the text world", so they are "intimately bound up" with it. However, they are "constructed from linguistic tokens existing in the reader's reality", so they keep the connection with "the world beyond the text" (2007: 122). "Multi-word lexical items" like *tractor beam* are also mentioned by Stockwell (2000) under the category of compounds; he states that they are very common in science fiction because of their descriptive power and the reminiscence of a scientific register.

In 1984 there is an extensive use of compounding to name new realities and actions related to the political and ideological situation depicted. In fact, according to the novel's Appendix, the so-called "B vocabulary" of *Newspeak* contained words "deliberately constructed for political purposes" which "were in all cases compound words" (1984: 316-17). The resulting item must be easily pronounceable and can function indistinctly as a noun or as a verb if required, for example *goodthink* ("orthodoxy" or "to think in an orthodox manner", 1984: 317). Other examples of compounds are *Newspeak* (the new simplified language promoted by the government), *Oldspeak* (the old language: English), *doublethink* (to hold two contradictory beliefs simultaneously), *thoughtcrime* (a crime consisting in holding dangerous thoughts against the Party), *sexcrime* (any type of immoral behaviour), *ownlife* ("individualism", "eccentricity", "a taste for solitude", 1984: 85), *facecrime* ("to wear an improper expression on your face", 1984: 65), *crimestop* (the ability to prevent dangerous thoughts), etc. Some compounds are euphemistic (*joycamp*: forced-labour camp), and others can have contradictory

meanings (*duckspeak* means to quack like a duck, and it can be an insult or a compliment; when applied to Party members, *blackwhite* is the positive ability to believe that black is white, and applied to opponents of the regime it is the negative action of claiming that black is white). There is also a compound that incorporates a combining form:[5] *telescreen*, an invention which is both a television and a surveillance camera. We come across different types of compounds regarding the category of the two bases involved: noun + noun (*joycamp, facecrime, sexcrime*); adjective + noun (*ownlife, goodsex*: morally accepted sexual behaviour); adjective/adverb + verb (*doublethink, Newspeak, Oldspeak, goodthink, oldthink*: to have old-fashioned ideas, probably contrary to the Party); and noun + verb (*duckspeak, crimestop, bellyfeel*: to believe something enthusiastically).

In BNW compounds name new appliances and forms of entertainment, for instance, *scent organ* (an organ that produces smells instead of sounds), and *electromagnetic golf* or *escalator squash*, complex sports requiring a lot of equipment which are made popular in order to increase consumerism. The term *hypnopaedia* (sleep-learning), a neoclassical compound[6] formed by joining Greek *hypno* ('sleep') and *paideia* ('education') deserves special attention; it refers to the method of teaching children the principles of World State society (such as class distinctions) in their sleep.

A few examples of compounds naming new devices or facilities can also be found in HT, for instance *Soul Scrolls* (the name of a store selling prayers printed to order on rolls of paper), *Emerge van* (a van carrying doctors and medical equipment to birthings), and *Red Centre* (a re-education facility which prepares Handmaids for their future role as child-bearers; the name is particularly suitable since Handmaids dress in red, which symbolises fertility). The last two items include shortened forms of 'emergency' and 're-education' (see 4.3.1. below).

Compounding is extensively used in TC to provide names of computer programs and inventions developed by the Circle staff, for example, *ChildTrack* (a system of chips embedded in children's ankles to prevent abduction), *SeeChange* (portable cameras that allow Internet viewers to see and hear things everywhere in real time), *fingerprint ink* (ink only visible on paper which is used to sign with fingerprints), and *YouthRank* (a score obtained by students based on tests, their school rank, etc.). There are also new inventions by people who expect to be hired by the Circle, such as *SeeYou* (a program that scans people and identifies those with previous convictions) and *SoulSearch* (a program to locate fugitives from justice). Other compounds name *Circlers'* routines, activities or facilities: *Borrow Room* (a department where the company staff can borrow items of equipment for entertainment), *Dream Friday* (the day new inventions are presented to the *Circlers*), and *Inner Circle* and *Outer Circle* (the social contacts of *Circlers* inside and outside the company).

As can be seen, life at the Circle fosters its own vocabulary, which sustains a private world (a utopian Silicon Valley) and reinforces the contrast between *Circlers* (the group in power) and outsiders. In the Circle everything is better; outside there is nothing but chaos and collapse: "outside the walls of the Circle, all was noise and struggle, failure and filth. But here, all had been perfected" (TC: 31). In line with this exclusivity nurtured by a privileged elite, in TC there are programs, services and routines which are named using compounds where the word *circle* is recurrently employed as a kind of pseudo-prefix meaning 'belonging to the Circle', for instance *CircleSearch* (a program to locate *Circlers* on campus), *CircleMoney* (a system to send online purchases through the Circle and avoid using paper currency), *CircleSurveys* (surveys answered by *Circlers* about their preferences, habits and buying plans), and *CircleJerk*, a dismissive term to describe *Circlers* which is used by a character who resents the intrusion of technology in his life. He sees *Circlers* as people who post comments on things and events instead of experiencing them. Similarly, in BNW there are quite a few compounds which include the word *surrogate* as if it was a pseudo-suffix with the meaning 'substitute' or 'imitation', as in *oboe-surrogate*, *champagne-surrogate*, *blood-surrogate*, *morocco-surrogate* (imitation leather), *beef-surrogate*, *Carrara-surrogate* and *Violent Passion Surrogate*. The recurrent presence of those compounds highlights the ironic contrast between living in an apparently perfect world and using artificial substitutes for true feelings, food or materials.

4.3. Shortening

4.3.1. *Blends and Clipped Compounds*

Blending is defined by Bauer and Huddleston (2002: 1636) as "the formation of a word from a sequence of two bases with reduction of one or both at the boundary between them". Clipped compounds are a fuzzy category between blends and compounds, the dividing line between both being very subtle (Mattiello 2013: 116). Blends and clipped compounds result from simultaneously shortening and compounding with different degrees of abbreviation and phonic and graphic integration of their constituents. From this point of view, in prototypical blends the constituents overlap (*motel*: 'motor' + 'hotel'), whereas in prototypical clipped compounds (*sitcom*: 'situation' + 'comedy') constituents are concatenated. Lehrer (1996: 361) identifies these constituents as "splinters", and defines them as "parts of words in blends which are intended to be recognised as belonging to a target word but which are not independent formatives".

The following are examples of blends identified in the novels under study: BNW: *zippyjamas* combines 'zippy' + 'pyjamas' to name one-piece pyjamas equipped

with a zip, 'zippy' being a derived word from British English 'zip' (from 'zipper') which is built after the pattern of 'creamy' (meaning 'having a zip'); BNW: *taxicopter* ('taxi' + 'helicopter'); BNW: *sexophonists* ('sex' + 'saxophonists', musicians at a synthetic music club); HT: *particicution* ('participation' + 'execution'), an act of communal (participative) execution; and TC: *demoxie* ('democracy' + 'moxie', an informal American English word meaning determination, initiative or aggressive energy). The notion of active democracy becomes a goal for the Circle. They think that in order to improve democracy it is necessary to have easy and quick access to people's decisions, and that they should directly vote on all the issues that affect their lives by setting up a Circle account.

Concerning clipped compounds, in 1984 it is possible to pinpoint a few examples, such as *IngSoc* ('English Socialism', where the first splinter is also respelled), and the names of different governmental departments, like *RecDep* ('Records department') and *FicDep* ('Fiction department'). Less central cases of clipped compounds combine whole words or combining forms with splinters or clippings:

— Clipped compounds of word + splinter/clipping:
In 1984 we find *thinkpol* (the thought police, in charge of chasing people committing *thoughtcrimes*), *prolefeed* (entertainment for the *proles* supplied by the Party, where *prole* is an existing clipping from *proletariat*), and the names of the Ministries: *Minitrue* (the Ministry of Truth, concerned with hiding inconvenient truths), *Miniluv* (the Ministry of Love, respelled as *luv*, which encourages hatred of the enemy and of unorthodox beliefs), *Minipax* (the Ministry of Peace, which keeps the country in a permanent state of war) and *Miniplenty* (the Ministry of Plenty, which fosters scarcity). In BNW *zippycamiknicks* (one-piece female underwear) combines the derived word 'zippy' with 'camisole' and 'knickers'. In TC we come across *face-rec* ('to use a program which recognises faces') and *PartiRank* ('participation rank'), sometimes called "popularity rank", a measure of the user's activity in the *Inner Circle*. In HT we can see *prayvaganza* ('pray' + 'extravaganza'), a lavish ceremony of common prayer; *econowife* ('economy' + 'wife': econowives are 'economical' wives because they perform several roles at the same time: domestic, social and reproductive); and *identipass* ('identity' + 'pass', a kind of identity card). Lastly, in HT there are also several items including the splinter '*compu-*' (from 'computer'), for example *compucheck* (a scanning device to read credit cards and prices), *compunumber* (a credit registration number), *compucard* (a credit card), and *computalk* (electronic communication), where '*compu-*' becomes a kind of pseudo-prefix with the meaning 'computerised' or 'mechanised', in much the same way as the splinter *-holic* from 'alcoholic'

provides the meaning 'addict' to items like *workaholic* or *shopaholic*. Items with recurrent splinters are actually described by Bauer (1998: 413) as "compromises between derivatives and compounds".

— Clipped compounds of combining form + splinter/clipping:
In 1984 there is the item *Pornosec* (department in charge of producing pornographic material for the proles), where the combining form *porn(o)-* (from Greek *pornē*: 'prostitute') is joined to the splinter *sec* from 'section'). In BNW we find *vibro-vac massage* ('vibro-vac(uum)' massage, from Latin *vibrare* 'shake'), and in HT there is *Gyn Ed*: education in womanhood, from Greek *gyne* 'woman'.

— Clipped compounds of combining form + word:
In HT there are two items including the combining form porn(o)-: *pornomarts* ('porn markets', specialised stores selling pornography) and *pornicorners* ('porn corners', sex shops or brothels located on street corners). We also come across *birthmobile* ('birth' + '(auto)mobile'), a vehicle transporting Handmaids to birthings: the item follows the pattern of similar words containing the combining form '*-mobile'* (from Latin *mobilis* via French), such as *Popemobile, Batmobile, snowmobile* and *bookmobile*, i.e., 'a mobile library'.

4.3.2. *Initialisms: Acronyms and Alphabetisms*

The term initialism here refers to those items built out of the initial letters of previously existing words, thus illustrating the maximum degree of shortening of a previous constituent. Bauer and Huddleston (2002: 1632) describe prototypical initialisms as "bases formed by combining the initial letters of a sequence of words". Two types of initialisms can be distinguished: alphabetisms and acronyms. The former are "abbreviations using the initial letters of the words of an expression, pronounced by the alphanumeric names of the letters" (Algeo 1991: 9). The latter are words "coined from the initial letters of the words in a name, title or phrase" (Bauer 1988: 237). Acronyms are "pronounced like ordinary words" (Bauer and Huddleston 2002: 1633).

Examples of initialisation are only registered in *Brave New World* and *The Circle*. The following are instances of both alphabetisms and alphanumeric initialisms (combinations of letters and numbers): in *Brave New World* we come across *A.F.* ('after Ford', used with dates); *VPS* treatment ('Violent Passion Surrogate', an adrenaline treatment to prevent inconvenient bursts of feeling); *ΥWFA* ('Young Women's Fordian Association' patterned after *ΥWCA* 'Young Women's Christian Association'); and *DHC* ('Director of Hatcheries and Conditioning'); in *The Circle* we find *CE* ('Customer Experience', the company department dealing with advertisers' queries); *CR* ('Conversion Rate': *Circlers* are expected to reach high

conversion rates by recommending goods for purchase); *AG* ('Additional Guidance', a system that gives directions to the users of *SeeChange* cameras); *T2K* (probably from 'top two thousand', a nickname for a selected group of *Circlers* with a *PartiRank* of 2,000; the letter *k* from 'kilo' is used as shorthand for 'thousand'); and *PPT* (a motto spread around the Circle premises meaning 'Passion, Participation and Transparency'). Concerning acronyms, there is one example in *The Circle*: *CHAD* ('Complete Health Data Program', a device that gathers real-time data on the *Circlers*' health). Following a trend in acronym formation, this acronym is purposely built so that it coincides with an already existing word (in this case a proper name, with a view to humanising the computer program).

5. Motivations

The reasons behind the use of neologisms built by means of word-formation devices in the novels under analysis are essentially pragmatic, euphemistic and manipulative. As already mentioned, these items provide a touch of verisimilitude: new times bring about new concepts and inventions (1984 *telescreen*, HT *compucard*, BNW *supercello*, TC *CHAD*). Shortened items are also convenient because they speed up communication saving time and space. These new items are handy tags that prevent long circumlocutions: thus in TC a system to prevent the abductions of children by embedding chips in their ankles is conveniently called *ChildTrack*, and in BNW the 'Director of Hatcheries and Conditioning' is just called *DHC*.

At a deeper level, however, we find euphemistic and manipulative motivations: new amalgamated items hide unpleasant truths and actually narrow thought; the speakers don't reflect upon the whole meaning or the connotations of the original items (which may be disagreeable, uncomfortable, improper or even forbidden) because the parts form a new solid block. The meaning is narrowed or subtly altered by physically reducing or compressing the constituents, thus also cutting out inconvenient associations. For example, in BNW the item *VPS* hides an illicit experience of violent passion, and the obscure combination *hypnopaedia* conceals indoctrination and blind acceptance of a caste system that keeps the scientific elite (*Alphas* and *Alpha Plus* intellectuals) in power. In HT *particicution* is a ceremony where Handmaids, who are seen as holy vessels, are duly avenged if one of them is profaned, but "participative execution" recalls a bloody event where a human being is mercilessly murdered by a frantic crowd. In 1984 *Recdep* is just a department in the Ministry of Truth, "short, quick, arising as few connotations as possible" (1984: 320). The "Records Department" keeps track of all events and people, and also alters them and makes them disappear if necessary. In TC a *SeeChange* camera allows you to see and hear things everywhere in real time. It's a

welcome change in how things are seen which springs from the belief that, for everyone's benefit, everything that happens must be known and that there must be total accountability and transparency. What lies behind the notion and the name is actually the end of privacy and freedom, and a tyrannical monopoly of a private company that controls all the information. *NeighborWatch* is a system that prevents crime with neighbours' assistance, but it also entails that nobody can enter a neighbourhood without being registered by the system. *PastPerfect* tracks information about a user's past on the web to fill in gaps in personal history and thus "perfect" the past. In fact, it is another way of controlling users' lives by getting all the data related to them, both pleasant and unpleasant. Even *Demoxie* (the Circle's plan for improving democracy, fostering people's participation in decisions that affect their lives by voting through a Circle account) actually conceals the totalitarian control of a private company which handles all the information and restrains people's freedom by forcing them to express their opinion.

Discourse is a manipulative tool that keeps elites in command, and neologisms contribute to the creation of that discourse. Moreover, in line with Foucault's (1980) tenets, elites possess the truth (the knowledge) and that knowledge keeps them in power. That power is maintained because it "traverses and produces things, it induces pleasure, forms knowledge, produces discourse" (1980: 119). In 1984 *Newspeak* is artificially developed by the Party so that it can remain in control. In BNW the mantras conveyed through hypnopaedia ensure the hegemony of privileged castes whose scientific and technological advances keep people content, surrounded by pleasure and oblivion. In HT a discourse nurturing religious despotism and the subjugation of women keeps the military elite in power. In TC dozens of inventions conveniently tagged with apparently harmless names (*PastPerfect, SeeYou*) pretend to benefit the population but actually deprive them of privacy and freedom, and maintain a corporation of science and technology nerds as a privileged elite that intends to control all the information and thus hold all the power.

Lastly, the recurrent use of the same device to create neologisms can also be interpreted as a contribution to the critical quality of dystopian narrative, that is, ample use is aimed at denouncing. Thus, for instance, the frequent use of respelled items and compressed compounds in names of products (*TruYou, TruYouth, LuvLuv, ChildTrack, SoulSearch*) in TC calls attention to the slavery of hi-tech consumerism; the repeated use of derivatives built out of Ford in BNW (*Fordship, Fordliness, Fordian*) and the initialism *A.F.* are reminders of the ubiquitous presence of Ford as the new mundane god in a hedonistic society; and the extensive use of compressed compounds (*doublethink, sexcrime*) and clipped compounds (*Ingsoc, Minipax*) in 1984 warns of the dangers of mind- and language-moulding dictatorships.

6. Conclusion

The language used in most dystopian novels set in future times can be described as anachronistic in the sense that it is too similar to the language of the intended readers, and therefore not sufficiently evolved considering the prospective worlds these novels depict. However, this anachronism can be regarded as an artistic licence which helps readers to connect the realities portrayed with their own lives and to appreciate the criticism of present situations. The language must be understandable for practical reasons but evolution must be noticed, and this is done by resorting to newly coined words, which name new concepts and thus satisfy pragmatic needs. As we have outlined in this paper, the creation of new words is an efficient instrument to cater for those needs, since neologisms name new realities: actions (HT: *prayvaganza*, TC: *Demoxie*, 1984: *doublethink*), objects (HT: *compunumber*, BNW: *feelies*, 1984: *telescreen*, TC: *CHAD*) and beings (HT: *econowife*, TC: *Circler*, 1984: *unperson*). Dystopian neologisms contribute to building an alternative reality in the text world while keeping the connections with the world beyond the text. This is in line with the didactic power of dystopian fiction, which lies in its ability "to enable the reader to make enlightening connections between the fictional world and his or her own base-reality" (Millward 2007: 105).

At a deeper level, neologisms can also be used to mask inconvenient realities, to constrain and guide the thoughts of individuals or, in sum, to build and maintain a desirable status quo. In that way, languages (and therefore neologisms) can hide uncomfortable truths (1984: *joycamp*, HT: *particicution*) and even go one step further. The ministerial jargon of 1984 and the jargon of *Circlers* in TC (*PartiRank, CR, T2K*) keep groups apart, provide exclusivity and perpetuate a useful division of people. In HT, a totalitarian theocracy is reinforced by an oppressive language which debases women (*unwoman, econowives, Gyn Ed*) and which is permeated with biblical allusions ('Blessed be the fruit'). In BNW the scientific and technological knowledge produced by the upper castes (*feelies, Bokanovskify, VPS, hypnopaedia*) keep people satisfied and apparently happy, but actually enslaved. Neologisms complement the discourse of which they form part, a discourse that is taken as universal truth because, in Foucault's terms, it is produced by the groups in power (the Party, the Alphas, the military elite, or the Circle), who, in turn, are maintained in control because they produce knowledge and discourse. When this role of newly coined words becomes apparent, it is possible to see how they add to the critical quality of dystopian fiction.

Languages can exert control over minds with political aims, guide people to orthodox states of mind or keep them appeased and content, and this manipulative

discourse is developed with the help of neologisms. As long as they form part of discourse, new lexical items created using word-formation devices become suitable tools that respond to the needs mentioned above, as well as providing a hint of authenticity in the fictional worlds portrayed and contributing to the critical and didactic nature of dystopian narrative.

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Notes

[1]. Neologisms are described by Stockwell (2000) and Millward (2007) as "new words" or "new word forms". Algeo (1991: 2) defines a new word as "a form or the use of a form not recorded in general dictionaries". He therefore includes in his definition both neologisms and neosemes (see Section 3).

[2]. Reduplicatives are regarded by Bauer and Huddleston (2002: 1666) as "phonologically motivated compounds". Mattiello (2013: 141) classifies reduplicatives as instances of extra-grammatical morphology together with abbreviations or blends, and defines them as "words obtained by repeating sounds, syllables or words, either exactly, as in *boo-boo*, or with alternation of vowels (*chit-chat*), consonants (*teeny-weeny*), or groups of sounds (*creepy-crawly*)".

[3]. Bauer and Huddleston (2002: 134) define clipping as an operation involving "cutting off part of an existing word or phrase to leave a phonologically shorter sequence", as in *lab* from *laboratory*.

[4]. A base is "any item to which affixes may be added" (Bauer 1988: 238), for example, *comfort* is the base for *comfortable*, and *comfortable* is the base for *uncomfortable*.

[5]. Combining forms are "allomorphs of full words that are used in neoclassical compounds" (Lehrer 1996: 362), such as *geo-* in *geology*. They are often elements of Latin or Greek origin. Neoclassical compounding is the process of forming words "where at least one of the component bases is a combining form" (Bauer and Huddleston 2002: 1661). These new combinations "are not attested in the original languages" (Plag 2003: 155).

[6]. See Note 5.

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SYNCHRONIC VARIABILITY IN THE COMPLEMENTATION PROFILE OF *REMEMBER*: FINITE VS NON-FINITE CLAUSES IN INDIAN AND BRITISH ENGLISH

VARIACIÓN SINCRÓNICA EN EL PERFIL DE COMPLEMENTACIÓN DE *REMEMBER*: CLÁUSULAS FINITAS VERSUS CLÁUSULAS NO FINITAS EN LOS INGLESES INDIO Y BRITÁNICO

LAURA GARCÍA-CASTRO
Universidad de Vigo
l.garcia@uvigo.es

Abstract

This paper explores the prevalent simplification of morphosyntactic features occurring in Postcolonial Englishes (cf. e.g. Williams 1987) by addressing the hypothesis that finite complement clauses (CCs) should be more common in these varieties than a non-finite counterpart due to their higher explicitness. The hypothesis is tested in two varieties of English, British English as a reference variety and Indian English, exploring the complementation profile of REMEMBER by means of a corpus-based approach. In addition, a variable analysis aims at shedding light on the language-internal features potentially conditioning the choice between CCs in competition. The results partially confirm the hypothesis; there is a larger proportion of finite CCs in Indian English than in British English but non-finite CCs are the most common option in the two varieties. Furthermore, not only simplification, but also other factors such as substrate influence or second-language acquisition processes may be responsible for the distribution found in Indian English. As for language-internal features, while some factors condition the choice across varieties, others are variety-specific.

Keywords: corpus linguistics, complementation, simplification, Postcolonial Englishes.

Resumen

Este artículo versa sobre la frecuente simplificación de rasgos morfosintácticos que se da en las lenguas inglesas postcoloniales (cf. ej. Williams 1987) y explora la hipótesis de que las cláusulas de complementación finitas fueran más comunes en estas variedades del inglés que su equivalente no finita debido a que son más explícitas. Este trabajo pone a prueba esta hipótesis en dos variedades del inglés, el inglés británico como variedad de referencia y el inglés indio, y explora el perfil de complementación del verbo *remember* mediante una metodología de corpus. Además, un análisis cualitativo de variables intenta arrojar luz sobre los factores internos del lenguaje que condicionan la elección de cláusulas de complementación que compiten entre sí. Los resultados confirman la hipótesis parcialmente; hay una mayor proporción de cláusulas finitas en inglés indio, aunque las cláusulas no finitas son la opción más común en las dos variedades. Además, se observa que no solo la simplificación, sino otros factores como la influencia del substrato o los procesos típicos de la adquisición de una segunda lengua pueden ser los responsables de la distribución hallada en el inglés indio. En cuanto a los factores internos del lenguaje, mientras algunos factores condicionan la elección en las dos variedades, otros son específicos de cada una.

Palabras clave: lingüística de corpus, complementación, simplificación, ingleses postcoloniales.

1. Introduction

In Present-day English, *to*-infinitival and gerund-participial complement clauses (CCs) are frequently attested in complementary distribution after retrospective verbs such as REMEMBER, REGRET and DENY (Quirk et al. 1985: 1193; Fanego 1996: 71), as shown in (1) and (2). These types of clauses are not freely interchangeable, due to their specific functional differentiation: while *to*-infinitival CCs encode a situation which is projected into the future and has not yet taken place in relation to the time of remembering, as in example (1), gerund-participial CCs encode a situation which has already happened and is prior to the time of remembering, as in (2) (Mair 2006: 215; Cuyckens et al. 2014: 182).

(1) *Remember* ***to call*** *when you get there!*
(2) *I remember her* ***calling*** *when she got there.*

In addition to *to*-infinitival and gerund-participial CCs, the retrospective verb REMEMBER, when it conveys the meaning 'recall',[1] can also take finite declarative clauses (Mair 2006: 216; Cuyckens et al. 2014: 182-183), as in (3). Unlike the

functional differentiation between *to*-infinitival and gerund-participial CCs (cf. (1) and (2)), declarative clauses and gerund-participial clauses seem to be freely interchangeable on the basis of their identical propositional contents, as illustrated in (3) and (4). Therefore, as has been described in the literature (Fanego 1996; Cuyckens et al. 2014), non-categorical variation exists between declarative and gerund-participial CCs after REMEMBER, which is part of what this paper sets out to explore.

(3) *I remember* ***that I called her***.
(4) *I remember* ***calling her***.

Since the complementation profile of verbs (and adjectives) is said to be one of the classic examples where Postcolonial Englishes (PCEs) exhibit differences with respect to other varieties (Schneider 2007: 86), the current study examines CC variation between finite declarative clauses and non-finite gerund-participial clauses (and some types of *to*-infinitival clauses) after the verb REMEMBER in two relevant World Englishes by performing a corpus-based analysis with data from British English, an L1 and Inner Circle variety of English, and Indian English, a PCE and Outer Circle variety of English (cf. B. Kachru 1985). Furthermore, the study investigates the factors that condition the choice of CC, firstly by coding the data on the basis of a number of relevant intralinguistic variables, and secondly by performing a regression analysis of such factors. The main purpose of this article then is to establish whether there are differences between British and Indian English, that is, between an L1 and an L2 variety of English, and explore the potential language-external and language-internal factors conditioning the variation between finite and non-finite CCs.

The article is organised as follows: Section 2 presents a theoretical survey of sentential verb complementation and of the complementation profile of REMEMBER in particular, which serves as the main focus of the study. Section 3 describes the data and the methodology followed. Section 4 shows the results of the variable analysis and the binary logistic regression analysis, which are discussed in relation to claims made in the literature regarding CC variation in general, and more specifically the variation that pertains to the envelope of variation under discussion here. Finally, Section 5 offers a brief summary of the main conclusions and their theoretical and methodological repercussions on research into complementation, particularly in Postcolonial Englishes.

2. Sentential Verb Complementation

Verb complementation, and more specifically clausal verb complementation, has been a relevant area of interest in linguistics, not least within generative and

cognitive-functional frameworks. The initial studies are synchronic in nature and focus mainly on syntactic issues (e.g. the constituent structure of different complementation patterns; cf. Bresnan 1970, 1979) and semantic issues (e.g. the match between a particular verb and certain complementation options; cf. Noonan 2007). Over the last three decades, a large body of research has focused on diachronic studies on the matter, providing an account of variation and change in the complementation system of English throughout history (Cuyckens et al. 2014: 183-184; cf. Fanego 1996, 2004, 2007, 2016; Rohdenburg 2006, 2007, 2014, among others) and also in recent times (cf. e.g. Kaunisto et al. 2018; Rickman and Rudanko 2018).

Cuyckens et al. (2014), following the diachronic research tendency of recent decades, look at the envelope of variation between finite and non-finite CCs after the verbs REMEMBER, REGRET and DENY. The justification for their study is that this type of variation is non-categorical: these clauses co-exist and seem to be used depending on the speaker's preferences and the time period involved, which they explore in terms of the frequency, distribution and a number of variables that influence the choice. Among these variables, they explore a set of structural factors (e.g. TYPE SUBJECT CC and COMPLEXITY CC) based on what Rohdenburg (1996, 2006) proposes in the Complexity Principle. According to this principle, in more cognitively complex environments, the more explicit option should be preferred, which in this case are finite CCs (they have an expressed subject, code for tense and mode, among other features). Additionally, Mair (2006) points out that, in relation to this same envelope of variation, a high degree of elaboration makes the use of non-finite CCs less likely than finite CCs after REMEMBER, although the choice remains free.

The results of their binary logistic regression analysis are summarised in Table 1, in which the variables analysed are divided into those which favour non-finite complementation and those which disfavour it (Cuyckens et al. 2014: 196-197).

Favouring factors	Disfavouring factors
- TYPE SUBJECT MAIN CLAUSE (MC) - COMPLEXITY CC - VOICE CC VERB	- MEANING CC - INTERVENING MATERIAL IN WORDS - TYPE SUBJECT CC - DENOTATION - ANIMACY CC SUBJECT - TEMPORAL RELATION - PERIOD

Table 1. Factors favouring and disfavouring non-finite complementation in Cuyckens et al. (2014)

As can be seen in Table 1, there are non-structural factors that influence the choice, such as MEANING CC, DENOTATION, ANIMACY CC SUBJECT, TEMPORAL RELATION (between the clauses) and PERIOD. Furthermore, there are interesting results regarding those variables which can be used to measure the cognitive complexity of the environment. In line with Rohdenburg's (1996, 2006) Complexity Principle, grammatical manifestations of cognitive complexity such as INTERVENING MATERIAL (between the MC and the CC) and complex subjects of the CC disfavour non-finite CCs (Cuyckens et al. 2014: 199). However, complex CC predicates and passive structures, which in theory would increase cognitive complexity, favour non-finite CCs. From this, Cuyckens et al. (2014: 199) conclude that "Rohdenburg's proposed disfavouring effect cannot be generalized to all structural complexity factors". This paper will examine these and other intralinguistic factors in the L1 and L2 data selected for the study (see Section 4.2).

As already noted, sentential verb complementation in English has been studied both from a synchronic and a diachronic perspective. However, the topic remains under-researched in the blossoming field of Postcolonial Englishes, that is, varieties of English that emerged in former British and American colonial contexts. This is so even though the complementation profile of nouns and verbs is considered a feature likely to be subject to innovation and change in such varieties (Schneider 2007: 86). Indian English, the PCE chosen for the present analysis, is among the most researched varieties within the field of Postcolonial Englishes. A number of studies have dealt with nominal and prepositional complementation in Indian English (cf. Nihalani et al. 1979; Leitner 1994; Shastri 1996; Olavarría de Ersson and Shaw 2003; Mukherjee and Hoffmann 2006; Schilk 2011; Schilk et al. 2013; Röthlisberger et al. 2017, among others). However, research on sentential verb complementation is scarce (cf. Steger and Schneider 2012; Bernaisch 2015; Deshors 2015; Deshors and Gries 2016; Romasanta 2017)[2]. The present study intends to contribute to the lexicogrammatical documentation of Indian English by describing the sentential complementation profile of the verb REMEMBER, and also to contrast Indian and British English here in order to explore whether, and if so to what extent, the factors said to influence the development of PCEs can explain a potential divergence between the two varieties. Among these factors (cf. Williams 1987; Schneider 2007: 88-90, 99-107; Brunner 2014, 2017; Suárez-Gómez 2017, among others), the most pertinent for this study are:

(i) Innovation: It refers to "the results of internal change and linguistic creativity" (Schneider 2007: 102), which may be caused by three main types of processes: restructuring, exaptation and simplification. The most relevant for the present paper is the tendency towards simplification, which subsumes

various mechanisms and processes such as the tendency towards transparency, and which mainly affects morphosyntactic constructions (Schneider 2007: 102; cf. Wong 1983; Williams 1987; de Klerk 2003). Transparency (also known as the one-to-one principle in second-language acquisition (SLA) research; cf. Andersen 1984) is understood as "a transparent one-to-one mapping of conceptual structure and surface form" (Steger and Schneider 2012: 156; cf. Williams 1987: 179; Schneider 2013: 145; Suárez-Gómez 2017: 215, among others). This configuration minimises the acquisition effort for L2 speakers (Steger and Schneider 2012: 157), and should lead to a preference for more transparent constructions in PCEs, in that these are L2 varieties arising from individual and community SLA (Steger and Schneider 2012: 157). In this case, finite CCs are more transparent than non-finite CCs.

(ii) Language contact: It may lead to the direct transfer of linguistic material from the substrate languages, can have an impact on the frequency of use of a certain structure, and it can also trigger a preference for particular patterns (Brunner 2014: 23; cf. Brunner 2017; Suárez-Gómez 2017). Sometimes, language contact can also trigger or accelerate other processes, such as those within innovation.

(iii) SLA processes: They also condition the development of PCEs, since these varieties are the result of single and group SLA, and hence such processes usually intersect with innovation and language contact (Schneider 2013: 143, 148; cf. Thomason 2001). For instance, processes associated with this kind of acquisition may lead to speakers selecting options more similar to their L1, that is, a substrate language (the Shortest Path Principle; cf. Wald 1996), or sticking to structures that they know well and can use with confidence (the Teddy Bear Principle; cf. Hasselgren 1994).

I have surveyed the complementation profile of the four most spoken languages in India, that is Hindi, Telugu, Bengali and Tamil (in that order; cf. Eberhard et al. 2019). All these languages seem to have structures equivalent to declarative CCs but only Telugu has a parallel structure to English gerund-participial CCs (see Appendix 1; Annamalai and Steever 1998: 122; Krishnamurti 1998: 234-235; Y. Kachru 2006: 217; Thompson 2012: 195).

Hence, this study examines the non-categorical variation between finite and non-finite CCs following the verb REMEMBER, as shown in (5) and (6), in British and Indian English. Such variation is characterised by indeterminacy: speakers can choose freely between the two clauses at the level of usage (De Smet 2013: 27-29).

(5) *I remember on the 1996 tour of England,* ***I went to the gym only once*** *(…)* (GloWbE IN)

(6) *(…) he remembers* ***going to Havelian and then to Golra junction near Texla to catch the Frontier Mail to Lahore****.* (GloWbE IN)

With this purpose in mind my first methodological step is to explore the frequency distribution of the two CC options in British and Indian English, and then, by means of a binary logistic regression analysis, I proceed to seek which factors significantly predict (in terms of odd ratios) the choice of CC and whether these factors are the same in the two varieties. In doing so I will be testing the following hypotheses, as informed by earlier claims made in the literature:

(a) Discrepancies between British and Indian English (if they exist) are the result of the factors that drive the linguistic evolution of PCEs, described above as (i), (ii) and (iii), and

(b) Related to (a), in accordance with Rohdenburg's (1996, 2006) Complexity Principle (cf. Section 3.2), complex environments will favour the use of finite CCs in both British and Indian English, but the Complexity Principle will have a stronger impact on Indian English, due to factors (i) to (iii) above.

3. Data and Methodology

3.1. Data Selection

As discussed in Sections 1 and 2, REMEMBER with the meaning 'recall' allows free variation between finite and non-finite CCs, something few verbs do. These CCs always have a retrospective temporal relationship with respect to REMEMBER (cf. Cuyckens et al. 2014). Starting with finite CCs after REMEMBER, these are declarative CCs, following the taxonomy of CCs in Huddleston and Pullum (2002: 951-953), which can be either bare declarative clauses, as in (7), or expanded declarative ones, as in (8).

(7) *I remember* ***Ø*** *I asked her to buy them. (GloWbE GB)*

(8) *I remember* ***that*** *I asked her to buy them.*

As for non-finite CCs after REMEMBER with the meaning 'recall', these are predominantly gerund-participial CCs with or without an explicit subject, as in (9) and (10) respectively. In addition, perfect *to*-infinitival CCs, as in (11), can also be found, although very rarely.

(9) *(…) I remember* ***HT doing a story on this very topic!*** (GloWbE IN)
(10) *(…) I tried to remember* ***ever loving him.*** (GloWbE GB)
(11) *A more natural story we do not remember* ***to have read.*** (GloWbE GB)

In order to study this variation, data were extracted from the Corpus of Global Web-based English (GloWbE; cf. Davies 2013), by searching for the forms <remember, remembers, remembered, remembering> and retrieving all examples, which were then randomised. From the randomised data sets I selected a 3,000-hit random sample from each variety, that is, British and Indian English. GloWbE contains material retrieved from the Internet in 2012 and can be considered to represent English as used on the web (Loureiro-Porto 2017: 455). Additionally, it is an invaluable tool in the research of World Englishes since it contains abundant data from 20 countries (L1 varieties like British English, PCE varieties like Indian English, ESD —English as a Second Dialect— varieties such as Jamaican English, etc.) and allows for research into low-frequency phenomena such as CC variation. Other corpora containing PCEs, such as ICE (The International Corpus of English) prove too small for such an endeavour (cf. García-Castro 2018).

The two random samples were pruned of all spurious hits manually, which included non-valid hits (e.g. incomplete, repeated and ambiguous examples, among others) and instances in which REMEMBER takes nominal complements or clausal complements not in competition. This resulted in the following numbers. In GloWbE GB there are 138 instances (i.e. 25.5%) of <remember + finite CCs> and 404 instances (74.5%) of <remember + non-finite CCs> after REMEMBER meaning 'recall' while in GloWbE IN the numbers are 103 (32.5%) instances of <remember + finite CCs> and 216 instances (67.5%) of <remember + non-finite CCs>. These examples were then coded as described in Section 3.2.

3.2. Coding of the Data

Each relevant corpus attestation consisting of <remember + CC> was entered into an IBM SPSS (Statistical Package for the Social Sciences) Statistics 25.0 (IBM Corp. 2017) software package database. Hits were coded for a number of factors which might determine the CC choice: characteristics of the main clause (MC), characteristic of the CC, and characteristics of the combined structure of the MC and the CC, which are listed in Table 2 (See Appendix 2, where examples of each variable and value are provided). The selection of potentially significant factors was drawn from the literature, and comprises semantic, structural and other additional factors (cf. Bresnan and Hay 2008; Nam et al. 2013; Cuyckens et al. 2014; Deshors and Gries 2016; Shank et al. 2016).

	Name of variable	Values
Semantic factors	MEANING CC	*Event/Action* *State*
	TIME REFERENCE	*Independent time reference* *Dependent time reference*
Structural factors	TYPE SUBJECT MC	*Pronominal* *Non-pronominal* *Non-expressed*
	TYPE SUBJECT CC	*Pronominal* *Non-pronominal* *Non-expressed*
	COMPLEXITY CC IN NO. OF CONSTITUENTS	*Short (0-1)* *Medium (2-3)* *Long (4-5)*
	COMPLEXITY CC IN NO. OF WORDS	*1-7* *8-14* *+15*
	INTERVENING MATERIAL	*Presence* *Absence*
	VOICE CC VERB	*Active* *Passive*
	SUPPLEMENTATION	*Presence* *Absence*
	COORDINATION	*Presence* *Absence*
	POLARITY MC	*Positive* *Negative*
	POLARITY CC	*Positive* *Negative*
Additional factors	ANIMACY CC SUBJECT	*Animate* *Inanimate*
	CO-REFERENTIALITY BETWEEN THE MC AND THE CC SUBJECTS	*Co-referential* *Non-co-referential*
	COMPLEMENTATION TYPE	*Finite* *Non-finite*

Table 2. List of language-internal variables coded

As for semantic factors, Cuyckens et al. (2014: 196) find that MEANING CC is a determinant factor since MEANING CC = *state* disfavours non-finite complementation. They also consider TIME-REFERENCE, a factor that "designates the relation between the time referent of the complement and the meaning of the CTP [complement-taking predicate]" (Cuyckens et al. 2014: 189; cf. Noonan 2007). Structural factors are related to the Complexity Principle (Rohdenburg 1996, 2006) and, in addition to the variables TYPE SUBJECT MC, TYPE SUBJECT CC, COMPLEXITY OF CC IN NO. OF CONSTITUENTS, INTERVENING MATERIAL and VOICE CC VERB, I also included the following variables: COMPLEXITY OF CC IN NO. OF WORDS as another means to measure the overall structural complexity of the CCs, SUPPLEMENTATION[3], COORDINATION and POLARITY MC and POLARITY CC to account for these features, whose presence increases the complexity of the environment (cf. Rohdenburg 1996, 2006). Finally, as for additional factors, ANIMACY CC SUBJECT and CO-REFERENTIALITY BETWEEN THE MC AND THE CC are considered since they are found to condition CC-variation in Cuyckens et al. (2014: 196), with *inanimate subjects* and *non-co-referential subjects* disfavouring non-finite complementation. The variable COMPLEMENTATION TYPE was included as it classifies CCs in the envelope of variation after REMEMBER meaning 'recall'.

4. Results

4.1. Distribution of Complement Clauses in British and Indian English

Table 3 presents the distribution of finite and non-finite CCs after REMEMBER across the two samples, that is, GloWbE GB (Great Britain) and GloWbE IN (India). As can be observed, the proportion of non-finite CCs in GloWbE GB (74.5%) is higher than in GloWbE IN (67.5%) and the difference is significant at $p < 0.05$.

	GloWbE GB		GloWbE IN	
	No.	%	No.	%
Finite CCs	138	**25.5**	103	**32.5**
Non-finite CCs	404	**74.5**	216	**67.5**
Total	542	**100**	319	**100**

Table 3. Distribution of finite and non-finite CCs after REMEMBER ('recall') in GloWbE ($\chi^2 = 4.643$, df = 1, p-value = 0.031)

These results are in line with the hypothesis that the proportion of finite CCs should be larger in L2 varieties of English than in L1 varieties. This hypothesis is based on claims that processes of simplification (cf. (i) in Section 2) will lead L2 speakers (here speakers of Indian English) to select finite structures proportionally more often than L1 speakers (British English speakers), due to the closer correspondence between form and meaning characteristic of finite clauses (e.g. expressed subject and tense marking; cf. Steger and Schneider 2012: 172).

Furthermore, the larger proportion of finite CCs in Indian English may be explained by substrate influence and SLA processes as well. As pointed out in Section 2, the four most widely spoken substrate languages in India (Hindi, Telugu, Bengali and Tamil; cf. Eberhard et al. 2019) have an equivalent structure to English declarative CCs. However, only Telugu has a construction similar to the English gerund-participial CC. Therefore, SLA processes such as the Teddy Bear Principle (the tendency to select structures that the speaker knows and thus feels safe using) and the Shortest Path Principle (the tendency to select the structure closer to the one existing in the L1, when several are available) may have influenced speakers to choose finite CCs, which is the option closest to their L1 and hence which they feel most comfortable using, at the expense of non-finite CCs.

Thus, our first hypothesis is confirmed, since discrepancies between British and Indian English seem to be caused by those factors that drive the linguistic evolution of PCEs, namely simplification (as part of innovation), language contact, and SLA.

4.2. Factors Conditioning Complement Clause Variation

The results of the manual variable analysis described in Section 3.2 show that none of the factors studied uniquely conditions one outcome or the other. Although certain values trigger one option, they also allow the other. Consider, for example, the results of the variable MEANING CC, shown in Table 4. Although the meaning *event/action* triggers non-finite CCs in both varieties, as illustrated in (12), this meaning is also expressed by means of finite CCs, as in (13).

(12) *I clearly remember my Aunt* ***buying*** *a coal mining cottage in Pontypridd (…)* (GloWbE GB)

(13) *(…) he remembered he* ***had bought*** *a new memory foam mattress (…)* (GloWbE GB)

		Finite CCs		Non-finite CCs		Total	
		No.	%	No.	%	No.	%
GloWbE GB	*State*	36	**46.0**	42	**54.0**	78	**100**
	Event/action	102	**22.0**	362	**78.0**	464	**100**
	Total	138	**25.5**	404	**74.5**	542	**100**
		No.	%	No.	%	No.	%
GloWbE IN	*State*	26	**65.0**	14	**35.0**	40	**100**
	Event/action	77	**27.5**	202	**72.5**	279	**100**
	Total	103	**32.5**	216	**67.5**	319	**100**

Table 4. Distribution of finite and non-finite CCs according to the variable MEANING CC[4]

In a similar vein, following the Complexity Principle (cf. Rohdenburg 1996, 2006), which states that complex environments should favour the use of explicit alternatives, in this case finite CCs, we could hypothesise that CCs with no or few constituents would be expressed by means of non-finite CCs, and CCs with four and five constituents would be expressed by means of finite CCs. However, as shown in Table 5, both long non-finite CCs and short finite CCs are found.

		Finite CCs		Non-finite CCs		Total	
		No.	%	No.	%	No.	%
GloWbE GB	*Short (0-1)*	46	**23.0**	152	**77.0**	198	**100**
	Medium (2-3)	84	**27.0**	229	**73.0**	313	**100**
	Long (4-5)	8	**26.0**	23	**74.0**	31	**100**
	Total	138	**25.5**	404	**74.5**	542	**100**
		No.	%	No.	%	No.	%
GloWbE IN	*Short (0-1)*	21	**22.5**	72	**77.5**	93	**100**
	Medium (2-3)	71	**34.5**	134	**65.5**	205	**100**
	Long (4-5)	11	**52.5**	10	**47.5**	21	**100**
	Total	103	**32.5**	216	**67.5**	319	**100**

Table 5. Distribution of finite and non-finite CCs in the variable COMPLEXITY CC MEASURED IN NO. OF CONSTITUENTS[5]

Tables 4 and 5 show that frequency distribution, although statistically significant, cannot be used to identify which factors are determinant in the choice and which type of CC is favoured in each case; the number of non-finite CCs is higher than that of finite CCs, and thus these are always likely to be favoured to a higher degree. In light of this, frequency distributions alone are clearly not enough to tell us which variables determine the choice. Thus, we turn to a regression model, since we are dealing with probabilistic complementation choice in a context where various factors are in play. The variables analysed, then, will be used as predictors, which in a statistical model such as the one described in the following paragraphs, are factors triggering a particular outcome which are considered to have a certain predictive value.

The next section describes the binary logistic regression analysis of the variables carried out to examine their impact on CC choice. As will be explained below, some variables had to be excluded due to issues related to their collinearity with the dependent or independent variables, and also due to problems in their analyses. Also, some variables were discarded from the model because their results were not significant. These were:

TIME REFERENCE. The analysis confirms that both declarative finite CCs and gerund-participial CCs have an independent —and the same— time reference, since the time of the action in the CC is not conditioned by the time of the action in the MC and is always anterior (cf. also Cuyckens et al. 2014).

TYPE SUBJECT CC. Findings for this variable show that CCs without an expressed subject correspond to non-finite CCs, since non-finite CCs whose subject is co-referential with that of the MC do not have an expressed subject. Therefore, *non-expressed subjects*, rather than conditioning the choice of clause, are a feature of most non-finite CCs.

4.3. Binary Logistic Regression Analysis

Binary logistic regression analysis predicts the choice between two variants (in this case finite and non-finite CCs, that is, the dependent variable) based on a series of explanatory factors (i.e., each of the variables under study; Field 2009: 265). The analysis yields a value "that reflects the chances of one outcome compared with the other outcome for a given combination of values of the predictors" (Levshina 2015: 253). When we apply a logistic regression model "the algorithm tries again and again different sets of values of the model parameters and returns the combination which maximally closely models the actual outcomes" (Levshina 2015: 254). However, before running a logistic regression model, it is necessary to check that the data and the predictors used do not violate the requirements and assumptions of logistic regression.

The crucial value for the interpretation of logistic regression analysis is the odds ratio value (OR). The OR is an indicator of the change in odds that results from a unit change in the predictor and can be interpreted as follows (Field 2009: 270-271; Levhsina 2015: 260):

— If the value is higher than 1 it indicates that as the predictor increases, the odds of the outcome occurring increase (the outcome being one of the values of the dependent variable).
— If the value is lower than 1 it indicates that as the predictor increases, the odds of the outcome occurring decrease.

In this analysis, COMPLEMENTATION TYPE is the dependent variable, with the values finite CCs and non-finite CCs. The results of the regression analysis (namely *predicted odds*) indicate whether the independent variables and their values favour or disfavour non-finite CCs (*the outcome*, in statistical terms). I followed the customary steps to obtain an adequate regression model, that is, I began by establishing a model which included all the potentially relevant language-internal variables (with the exclusion of TIME REFERENCE and TYPE SUBJECT CC, as previously noted). Subsequently, the models, one for each variety of English, were refined by excluding non-suitable variables, that is, those that showed collinearity with another variable or (quasi-)complete separation from the dependent variable.

I performed two binary logistic regression analyses, one for each sample of data, as described below.

GloWbE GB

In the analysis of the data sample for GloWbE GB, the variables INTERVENING MATERIAL and POLARITY CC were discarded because the distribution of the data did not fulfil the chi-square assumptions. Table 6 lists the significant factors out of all those included in the binary logistic regression model. The factors that favour non-finite CCs are the following: MEANING CC, where the value *event/action* increases the odds for non-finite CC by a factor of 2.477 with respect to the default *state*, and POLARITY MC, where *negative* MCs increase the odds for non-finite CC by a factor of 10.056 against the default *positive* MCs. The shadowed cells in Table 6 show the values that disfavour non-finite CCs. CO-REFERENTIALITY BETWEEN THE MC AND THE CC SUBJECTS has a slightly disfavouring effect on complementation choice; if the value is *non-co-referential*, the odds for non-finite CCs decrease by a factor of 0.949 (that is, 5.1%). As for ANIMACY CC SUBJECT, the value *inanimate subjects* disfavours non-finite CCs robustly by a factor of 0.373 (62.7%).

	Odd ratios (OR)		95% Confidence interval	
			Lower	Upper
(Intercept)	Not significant			
MEANING CC (default state)				
Event/action	2.477	**[6]	1.266	4.848
CO-REFERENTIALITY BETWEEN THE MC AND THE CC SUBJECTS (default *same*)				
Different	0.949	***	0.099	0.278
POLARITY MC (default *positive*)				
Negative	10.056	***	2.715	7.246
ANIMACY CC SUBJECT (default *animate*)				
Inanimate	0.373	**	0.180	0.775

Table 6. Significant variables in the model and confidence interval at 95% of these variables (GloWbE GB)

The 95% confidence interval confirms these results (cf. Table 6). The values that correspond to *event/action* and *negative* MCs display values higher than 1, which means that as the predictor variable increases so do the odds of non-finite CCs. In contrast, the remaining values are lower than 1 (shadowed cells in Table 6), which means that as the predictor variable increases the odds of non-finite CCs decrease, which also agrees with the results of the odd ratios.

These results show that MEANING CC, CO-REFERENTIALITY BETWEEN THE MC AND THE CC SUBJECTS, POLARITY MC and ANIMACY CC SUBJECT condition the choice of CC. As was the case in Cuyckens et al. (2014), in my data *non-co-referentiality* between the MC and the CC subject and *inanimate subjects* of the CC disfavour the use of non-finite CCs.

GloWbE INDIA

For the data in GloWbE IN, the variables TYPE SUBJECT MC, INTERVENING MATERIAL, POLARITY MC and POLARITY CC are not included because they violate the chi-square assumptions. The collinearity test shows no signs of any collinearity issues, so all variables are included in the model. The significant factors, presented in Table 7, indicate that the only one that favours non-finite CCs is MEANING CC, where the

value *event/action* increases the odds for non-finite CC by a factor of 4.346 with respect to the default *state*.

In contrast, the shadowed cells in Table 7 show the values that disfavour non-finite CCs. In terms of CO-REFERENTIALITY BETWEEN THE MC AND THE CC SUBJECTS, *non-co-referential* have a robustly disfavouring effect on complementation choice since the odds for non-finite CCs decrease by a factor of 0.138 (86.2%). COMPLEXITY CC MEASURED IN NO. OF WORDS also disfavours non-finite complementation, since *medium* CCs disfavour non-finite CCs by a factor of 0.357 (64.3%).

	Odd ratios (OR)		95% Confidence interval	
			Lower	Upper
(Intercept)	Not significant			
MEANING CC (default *state*)				
Event/action	4.715	***	2.031	10.945
CO-REFERENTIALITY BETWEEN THE MC AND THE CC SUBJECTS (default *same*)				
Different	0.138	***	0.076	0.251
COMPLEXITY CC MEASURED IN NO. WORDS (default *short*)				
Medium	0.357	*	0.137	0.926
Long	Not significant			

Table 7. Significant variables in the model and confidence interval at 95% of these variables (GloWbE IN)

As can be seen in Table 7, the 95% confidence interval values confirm these results, in that *event/action* has values greater than 1. On the other hand, the remaining values (shadowed cells in Table 7) are lower than 1, which means that as the predictor variable increases the odds of non-finite CCs decrease, which also agrees with the results of the odd ratios.

Therefore, the factors that influence the choice of CC in GloWbE IN are MEANING CC, CO-REFERENTIALITY BETWEEN THE MC and THE CC SUBJECTS and COMPLEXITY CC MEASURED IN NO. OF WORDS. These results are in accordance with Cuyckens et al.'s (2014) study in that *non-co-referentiality* between the MC and the CC subject disfavours non-finite CCs in both studies.

The main results from the regression analysis of the two data samples can be summarised as follows:

— Non-finite CCs are favoured by MEANING CC = *event/action* in both varieties, and by POLARITY MC = *negative* in GloWbE GB.
— Non-finite CCs are disfavoured by CO-REFERENTIALITY = *non-co-referential* in both varieties, by ANIMACY CC SUBJECT = *inanimate* in GloWbE GB and by COMPLEXITY CC IN NUMBER OF WORDS = *medium* in GloWbE IN.

In sum, there are common features that condition the choice of CC within the different sections of GloWbE, no matter whether they represent an L1 or an L2 variety. These are the values *event/action*, which favours the use of non-finite CCs, and *non-co-referential subjects*, which disfavours the use of non-finite CCs. As for differences between the L1 and L2 varieties analysed, in GloWbE GB *negative polarity* of the MC also favours non-finite CCs while *inanimate* CC subjects disfavour their use. In GloWbE IN, however, these values have no apparent effect, whereas *medium* CCs in number of words, that is, CCs between 8 and 14 words long, disfavour the use of non-finite CCs.

4.4. Discussion of Results

The results concerning differences in the features that determine the choice of CC between sections of GloWbE are interesting in themselves, but are more relevant if discussed in relation to the Complexity Principle (see hypothesis (b) in Section 2; Rohdenburg 1996, 2006) and to claims that the evolution of PCEs is conditioned, among other factors, by simplification (cf. Williams 1987; Schneider 2007, among others; cf. Section 2). Starting with the Complexity Principle, our hypothesis was that this would be found to be at work especially in Indian English, since PCEs are claimed to prefer simpler structures (finite CCs in this case; cf. Steger and Schneider 2012), which are easier to process and produce. This is exactly what the results here show: in the case of GloWbE IN, a feature involving an increase in the complexity of the CC, particularly longer CCs in number of words, disfavour the use of (less explicit and thus more difficult to process) non-finite CCs. Therefore, the results in Indian English are in line with the Complexity Principle (Rohdenburg 1996, 2006), since more cognitively complex environments disfavour the use of the less iconic option, that is, non-finite CCs. However, in GloWbE GB, which is an L1 and then less likely to be affected by simplification, a feature that adds complexity, the *negative polarity* of the MC, favours the use of non-finite CCs, and thus goes against claims of the Complexity Principle.

Furthermore, these results also tie in with diachronic research on the complementation profile of REMEMBER. Some of the factors that are shown to determine variation between finite and non-finite CCs in Cuyckens et al.'s (2014)

study[7] are the same as in this study; particularly MEANING CC and CO-REFERENTIALITY OF THE MC AND CC SUBJECTS.

Finally, my results seem to confirm some of the claims made in previous research on complementation in PCEs: (i) there are common cross-varietal features shared by varieties of English which predict the choice of syntactic construction and, thus, it seems that the core probabilistic grammar determining the choice is stable across varieties (cf. Schilk et al. 2013; Bernaisch et al. 2014; Szmrecsanyi et al. 2016; Röthlisberger et al. 2017); but (ii) there are also factors not shared among varieties which may be related to SLA phenomena and language contact phenomena and which may indicate that L1 and L2 speakers do not share the same abstract knowledge of the morphosyntactic constraints associated with these constructions (cf. Deshors 2015; Röthlisberger et al. 2017).

In sum, the conclusion derived from these analyses is twofold. On the one hand, there are language-internal factors that condition the choice of CC in the two varieties of English, independently of their status (L1 or L2). On the other hand, there seem to be other language-internal factors conditioning the variation which are not shared between the L1 and L2 varieties and which are in line with claims made in the literature regarding the Complexity Principle and the alleged preference of PCEs for simpler, more transparent and more iconic structures (cf. Williams 1987; Rohdenburg 1996, 2006; Schneider 2007; Steger and Schneider 2012; Brunner 2017, among others).

5. Conclusion

In this study I have examined the variability in the sentential complementation profile of REMEMBER when it means 'recall' in British and Indian English as represented in GloWbE. I have explored the distribution of finite and non-finite CCs as happening in competition in these two varieties of English and, in order to explore the multivariate nature of complementation choice, I have applied a binary logistic regression analysis so as to shed light on what factors favour non-finite complementation and what these factors are in the case of two specific varieties of English. Finally I considered the relevance of the observed preferences for (i) the alleged factors driving the linguistic evolution of PCEs, and (ii) Rohdenburg's (1996) Complexity Principle.

The most pertinent results from this study are that: (i) although non-finite CCs are the most common type of CC in the two sections of GloWbE, the preference is statistically significant less marked in GloWbE IN, which seems in line with the tendency towards transparency that is often identified in L2 varieties of English (cf.

Williams 1987; Steger and Schneider 2012) since non-finite CCs, the less transparent option, are used less frequently than in the L1 variety. The preference for finite CCs in the L2 variety may also be the result of language contact and the subsequent influence of substrate languages, as four of the most widely spoken, Hindi, Telugu, Bengali and Tamil, can express complementation via CCs equivalent to English declarative CCs and lack a construction equivalent to the English gerund-participial CC (except for Telugu).

The conclusions derived from the variable analysis and the two binary logistic regression analyses are twofold: (i) there are some factors that condition the choice of CC across the two varieties, but (ii) there are also variety-specific factors that condition the choice in the case of each variety. In addition, these results can be connected to the Complexity Principle (Rohdenburg 1996, 2006), they agree partially with diachronic research on the verb REMEMBER (cf. Cuyckens et al. 2014), and tie in with previous research on complementation in PCEs.

So, the findings presented here largely corroborate earlier claims on the evolution of PCEs and the expected behaviour of morphosyntactic structures in competition, and thus support the hypotheses formulated in this article. Unlike other studies, however, the present one uses a data set large enough to study the complementation profile of REMEMBER and state-of-the-art methodology by applying statistical modelling to CC variation in PCEs, which hence provides a more solid empirical grounding than was the case in previous work.

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Notes

[1]. REMEMBER governs CCs with three different meanings: 'recall', followed by finite and non-finite CCs; 'bear in mind the fact', followed by finite CCs; and 'remember to do', followed by non-finite CCs. Therefore, 'recall' is the only meaning with which an envelope of variation is found (cf. Fanego 1996; Mair 2006; Cuyckens et al. 2014).

[2]. Romasanta (2017) explores the complementation profile of the verb REGRET,

which, like REMEMBER, allows finite and non-finite CCs in competition, across World Englishes. However, in the distribution of finite and non-finite CCs after REGRET (Romasanta 2017: 136-137) she includes all finite and non-finite CCs, not only those in competition. Therefore, her results are not suitable for comparison.

[3]. According to Huddleston and Pullum (2002: 1350), supplements are "elements which occupy a position in linear sequence without being integrated into the syntactic structure of the sentence". Supplements are not accounted for in the variable that measures complexity in number of constituents (cf. Huddleston and Pullum 2002: 1353).

[4]. The results for both varieties are significant at p<0.05 (GloWbE GB: χ^2 = 20.556, p-value = 0.000; GloWbE IN: χ^2 = 20.384, p-value = 0.000).

[5]. Only the results for GloWbE IN are significant at p<0.05 (GloWbE GB: χ^2 = 0.832, p-value = 0.660; GloWbE IN: χ^2 = 8.402, p-value = 0.015).

[6]. * significant at p < 0.05, ** significant at p < 0.01, *** significant at p < 0.001.

[7]. These factors are MEANING CC, INTERVENING MATERIAL, TYPE SUBJECT MC, TYPE SUBJECT CC, CO-REFERENTIALITY BETWEEN THE MC AND THE CC, COMPLEXITY CC MEASURED IN NO. OF CONSTITUENTS, VOICE CC VERB, ANIMACY CC SUBJECT, TEMPORAL RELATION and PERIOD.

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Appendix 1 - Complementation in substrate languages

India is linguistically complex, with 29 languages spoken by over one million speakers, and a total of 448 living languages, according to Ethnologue (Eberhard et al. 2019). I selected the most widely spoken languages: Hindi (predominant in the north of India), Bengali, Tamil (predominant in the south of India) and Telugu (Eberhard et al. 2019). In all these languages there are structures equivalent to English declarative CCs but only Telugu shows a structure similar to gerund-participial CCs.

In Hindi, finite clauses as objects are introduced by the conjunction *ki* 'that' (Y. Kachru 2006: 217), as can be seen in (1).

(1) *us ne* ***kəha ki*** *vəh pūne mẽ nɔkrī kərta hæ*
he *AG* ***say.PERF.M.SG that*** *he Pune in job do.IMPF.M.SPRES.SG*
'He ***said that*** *he has a job in Pune'.* (Y. Kachru 2006: 217)

In Bengali we can find complex sentences which consist of at least one MC and one CC, both finite, which are usually, but not always, linked by a conjunction (Thompson 2012: 195). An example of a complex clause in Bengali is (2) below, where the conjunction *ye*, equivalent to English *that*, may be used (2) or not (3), as happens with expanded and bare declarative CCs in English (Thompson 2012: 195).

(2) *ami jani* ***ye tumi asbe***
I know.1st.PR.SG ***that you come.FUT***
'I know ***that you will come'. (Thompson 2012: 195)***
(3) *ami jani* ***tumi asbe***
I know.1st.PR.SG ***you come.FUT***
'I know ***you will come'. (Thompson 2012: 195)***

Tamil lacks conjunctions and complementation and coordination are marked through verb morphology. CCs can be finite and non-finite. Finite CCs can be embedded using a set of clitic particles, which combine with the host verb and form a phonological word with it. See for instance (4), where the verb *Varu-v-*ān 'come' has the clitic ō attached (Annamalai and Steever 1998: 122).

(4) *rāmaṇ nāḷaikku* ***Varu-v-***ān***=ō*** *enakku cantēkam*
Raman-NOM tomorrow ***come-FUT-3.SG.M=or*** *I-DAT doubt-COM*
'I doubt whether Rama ***will come*** *tomorrow'.* (Annamalai and Steever 1998: 122)

In Telugu any clause can be embedded in another one as a CC if it contains a gerundive, which is formed by adding the suffix *aṭam/aḍam* to the verb, as in (5), where the verb *ceyyaṭam* 'do' has the *aṭam* suffix and becomes a gerund which complements the verb *mānēsæru* 'stopped' (Krishnamurti 1998: 234). The formation of the gerundive reminds of the English gerund-participial, which is formed by adding the suffix *ing* to the bare form of the verb, as in *remembering*.

(5) Āfisar *lēkapōwaṭam walla gumāstālu pani*
of the officer not be-GERUND there because the clerks the work
ceyyaṭam mānēsæru
do-GER stop-PAST
'Because of the officer not being there, the clerks ***stopped doing the work'.*** (Krishnamurti 1998: 234)

The perfect conjunctive of the verb *ani* 'say' is used as a complementizer to introduce finite CCs with the verb *an* 'to say', as illustrated in (6), where *ani* introduces the CC headed by the verb *ceppænu* 'said' (Krishnamurti 1998: 235).

(6) *nēnu rēpu wastān(u)* ***ani ceppænu***
I tomorrow come-FUT ***that say-PAST***
'I ***said that*** *(I) will come tomorrow'.* (Krishnamurti 1998: 235)

Appendix 2: Variables analysed

A. ***Semantic factors***

I. Meaning CC

Value	Example
State	(1) *I remember **being** impatient with Rom that morning (…)* (GloWbE IN)
Event/action	(2) *I remember I **asked** her to buy them.* (GloWbE GB)

II. Time-Reference (Noonan 2007)

Value	Example
ITR	(3) *(…) Math should remember **that correlation does not equal causation**.* (GloWbE GB)
DTR	(4) *(…) people need to remember **to be patient**.* (GloWbE IN)

B. ***Structural factors***

III. Type subject MC

Value	Example
pronominal subject	(5) ***I** hadn't remembered writing a suicide note.* (GloWbE G)
non-pronominal	(6) ***Jamie** remembers that it was he who left his bait to putrefy and cause a ghastly stink as Vin did at "Starlings".* (GloWbE GB)
non-expressed subject	(7) *(…) it's important **Ø** to remember to have a good sense of balance throughout your time at university; (…)* (GloWbE GB)

IV. Type subject CC

I use the same values for the subject of the CC as I use for that of the MC (see (III) above).

V. Complexity CC measured in no. of constituents

Value	Example
Zero	(8) *(…) and remember it can be renewed!* (GloWbE GB)
One	(9) *(…) I do remember doing my Ranger promise... #* (GloWbE GB)
Two	(10) *I remember telling him to 'take me home'.* (GloWbE GB)
Three	(11) *I remember that I also published my first guest post on HBB (…)* (GloWbE IN)
Four	(12) *I remembered then that I had heard Matthew there the first morning too.* (GloWbE GB)
Five	(13) *I remember first picking up this book from my brother's bookshelf when I was thirteen (…)* (GloWbE IN)

VI. Complexity CC measured in no. of words

Value	Example
1-7	(14) *I don't remember* ***that the older series was that drab****.* (GloWbE GB)
8-14	(15) *I remember* ***this captured my imagination as a small child****.* (GloWbE GB)
+15	(16) *I distinctly remember* ***the Conservatives in the 2005 Election and before that saying immigration needed to be controlled****.* (GloWbE GB)

VII. Intervening material

Value	Example
Presence	(17) *I remember* ***very clearly*** *that in 1993 most SYs (including myself) were waiting expectantly for the Sahaj leadership to put the collective desire into action (…)* (GloWbE IN)
Absence	(18) *(…) they could remember being born* (…) (GloWbE GB)

VIII. Voice CC verb

Value	Example
Active	(19) *(…) I don't remember my predictions* ***going wrong****.* (GloWbE IN)
Passive	(20) *The screams of people that she remembered* ***being echoed*** *earlier was reduced to a faint buzzing in the back of her head.* (GloWbE IN)

IX. Supplementation

Value	Example
Presence	(21) *(…) we need to remember that a section of the society* ***—the armchair critics—*** *like to say things are bad.* (GloWbE IN)
Absence	(22) *I don't remember having confessed.* (GloWbE GB)

X. Coordination

Value	Example
Presence	(23) *He also remembers that on that November Sunday in Calcutta, he was involved in the run-out of Allan Border, and that he dropped John Emburey on the cover-point boundary.* (GloWbE IN)
Absence	(24) *I remember watching Barfi!* (GloWbE GB)

XI. Polarity MC

Value	Example
Positive	(25) *I* ***remember*** *writing an Astro Boy story when I was about 6.* (GloWbE GB)
Negative	(26) *I* ***can't remember*** *having seen another national team play the way Spain do.* (GloWbE IN)

XII. Polarity CC

Value	Example
Positive	(27) *But I also remember* ***reading*** *a comment piece by you a few years ago (…)* (GloWbE GB)
Negative	(28) *I remember* ***not wanting*** *to tell anyone about it.* (GloWbE GB)

C. *Additional factors*

XIII. Animacy CC subject

Value	Example
Animate	(29) *I remember* ***my class teacher*** *coming late to the film (…)* (GloWbE IN)
Inanimate	(30) *I remember* ***a party*** *happening on the day we launched (…)* (GloWbE GB)

XIV. Co-referentiality between the MC and the CC subjects

This variable indicates whether the subjects of the MC and of the CC are the same or not.

Value	Example
Co-referential	(31) ***I*** *remember* ***Ø*** *earning about 120 a day in the 1980s from the council pool (…)* (GloWbE GB) (32) ***I*** *remember once* ***I*** *heard this story of a lady walking on the beach after a terrible storm.* (GloWbE IN)
Non-co-referential	(33) ***I*** *remember* ***you*** *had earlier mentioned that you would raise around may be Rs 1400 crore of total debt.* (GloWbE IN)

XV. Complementation type

Value	Example
Finite	(34) *I still remember* ***that last year I got an interview call from a very renowned company*** *(…)* (GloWbE IN) (35) *But I remember* ***I stayed up all night thinking that even if my heart is into it, I can not sell my family off.*** (GloWbE IN)
Non-finite	(36) *I remember* ***many representatives of countries telling me a single decision of the COP (Conference of the Parties) is an agreed outcome*** *(…)* (GloWbE GB) (37) *(…) a few lines from a hymn which I remember* ***to have repeated from my earliest boyhood*** *(…)* (GloWbE IN)

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Reviews

DISCURSIVE PRACTICES IN BARACK OBAMA'S STATE OF THE UNION ADDRESSES

Antonia Enache
Saarbrücken: LAP Lambert Academic Publishing, 2017
(by Elena Serrano Moya, Universidad Internacional de La Rioja)
elena.serrano@unir.net

The public image of Barack Obama in the United States and around the world is marked by his iconic logo 'Yes we can', coined during the presidential campaign of 2008 during one of the deepest and most severe economic crises up to now. American society was suffering from a deadlock caused by a Republican government more worried about the enemies outside American territory since the 9/11 attack in New York than about the financial enemies within American soil who provoked the destruction of jobs, cuts on health and education and social apathy towards the government and its policies (Jacobson 2010: 207-208; Ostrom et al. 2018: 318-319).

One of the most important political acts during a presidential term is the State of the Union Address as the president himself presents to American society, both his opponents and his voters, his political tenets. In this context, *Discursive Practices in Barack Obama's State of the Union Addresses*, written by Antonia Enache, contributes to the field of political discourse analysis of a recent political figure. The book is divided into fourteen chapters, the first two of which provide the necessary theoretical framework of the basics of American democracy, the political and philosophical tenets of the two main parties, the main functions of the president and the role of the State of the Union Addresses in the American political scene. In addition to this, each of these chapters finishes with a concrete reference to Barack Obama's political figure: on the one hand, in Chapter 1 Enache provides

a thorough summary of Obama's historical presidency; on the other hand, in Chapter 2, looking at Obama's addresses from the points of view of both political communication and discourse analysis, the author offers an overview of the topics Obama consistently tackles in his speeches such as education, the fight against discrimination, unemployment and poverty, health coverage, taxation and environmental issues. These topics are grouped under more general frameworks such as the American hegemony in the world as well as participatory citizenship and the American Dream, as the author points out in her book. In this sense, the recurrent topics and the continuous references to the American ideals explicitly embodied by Obama provide a context for textual cohesion in terms of lexis. This textual cohesion refers back to Halliday's metafunctions of language, which are especially important in discourse analysis, and specifically in political speeches.

The following three chapters deal with the ideas of continuity and change, as Obama wants to present himself as the change America needs to recover from the financial and ideological crisis especially in his first years in office but also as the continuity America needs for reforms to work out after that period (Chapter 3). To do this, he regularly uses specific people throughout his narratives as they serve as examples of his successful policies (Chapter 4). As he is the embodiment of the American Dream and a symbol of overcoming discrimination (Chapter 5), it is quite important to focus on the politically correct use of language in his speeches, employed to fight inequality and express diversity and difference.

In Chapter 6 Enache analyses the use of 'buzzwords' such as 'responsibility', 'transparency', 'cooperation', 'compromise', 'patience', 'justice', 'trust', 'selflessness', 'dignity' and 'meritocracy' to appeal to the emotional side of the audience of the State of the Union Addresses. The reader may find this chapter helpful as all these abstract concepts are used in Obama's rhetoric and discourse to make them apprehensible to the American voter because this is what America is, i.e., Obama defines The United States of America and the American Dream. Thus, if you define the country, you are defining its citizens through their work, their economy, their dreams, their successes, their sacrifices and their differences and diversity. In other words, when Obama uses these general and abstract ideas, his intention is to appeal and connect to every single citizen in the US as those words define them individually. Moreover, in order to emphasize the connection between the abstract and the personal experience, the author shows through Chapters 7 to 9 how Obama not only presents himself as the embodiment of the American Dream but how he also urges citizens to participate actively in the game of democracy as it is one of the defining features of American society. In these examples, Obama establishes a conversation with the listeners, the American society, by personalizing the relationship between him and society,

which fits Halliday's Interpersonal Function of language. According to this linguist, it is through this metafunction of language that participants in a speech act establish their social relationships (1985: 68). It is true that in the addresses the speech act may not be complete as the hearers are not able to respond immediately, but Obama constructs his addresses in order to establish a personal relationship between him and the listeners, the American population (Sharififar and Rahimi: 2015: 344), by setting himself as an example, and a political relationship by explicitly commenting on his achievements. Moreover, Obama does so as he knows as a politician that American society's response will be through the vote.

As Enache explains in her book, Obama's political agenda during his presidency was not free of political controversy especially related to topics such as immigration (Chapter 10) and the apparently diminishing role of the USA in the world (Chapter 11). Yet, he was able to reverse that controversy by linking those topics to positive buzzwords such as 'education', 'prosperity' and 'economic growth' in relation to immigration and 'leadership', 'security', 'diplomacy' and 'cooperation' regarding the US hegemony in the world. Moreover, what Enache shows in her book is how Obama seeks for legitimacy in his speeches by presenting his achievements to the audience as part of his communication strategy and of course invoking vulnerable citizens like women or the elderly as part of his fight for justice, as is shown in the last three chapters of the book.

Throughout the book the admiration Enache has for Barack Obama's rhetoric and political persona is clearly shown. Yet, somehow, a comparative approach to the seven State of the Union Addresses, i.e., an analysis of how Obama's political communication and discourse practices changed, if they did, throughout his presidency, considering his achievements and failures, is missing. Indeed, it would be interesting for the reader to know how Obama communicated his political legacy to the American society and the rest of the world in his addresses during his second term, when both Houses were controlled by the Republican party, who blocked many of Obama's initiatives.

A good strategy the author implements is the use of a thorough quotation and after-thought analysis which give the reader a complete understanding of Obama's rhetoric and political communication style. For instance, Enache not only provides examples of the president offering a personal and emotional touch to his speech by providing personal instances of successful Americans fulfilling the American Dream (Ex. 6, Chapter 4, p. 52), of Obama explaining his criticized policy of coalition and collaboration with other nations (Ex. 5, Chapter 7, p. 107), or of the president delivering a complete summary of his political thoughts (Ex. 5, Chapter 8, p. 114), but also a comprehensive contextual analysis of the situation within American

society, which helps the reader, especially those who may not be very familiar with Obama's legacy yet, to understand the speeches within the American political arena and to understand Obama's style.

In terms of the book's organization, the division into chapters could have been more concise and specific as the reader may find some of the topics repetitive and some others scarce. For instance, Chapters 8, 9 and 10 deal with the topics of the American Dream, American identity and the issues of nationalism and immigration, which are interrelated as Obama repeatedly implies in his speeches, especially since he is the embodiment of the American Dream, being the first black president of the USA, whose identity has been attacked by the current American president. Therefore, as they are interrelated, they could have been dealt with in the same chapter so as to give full meaning to these concepts. Similarly, topics in the last four chapters should have been discussed earlier —in fact, some of them are implicitly tackled throughout previous chapters— to allow for a deeper analysis of the speeches and the selected quotations.

To sum up, the topic of the book is quite relevant to the study of Barack Obama's two terms in the White House. Firstly, Enache's study emphasizes the importance of the State of the Union Address as part of the strategy of being in a permanent campaign (Ornstein and Mann cited in Doherty 2007: 750), which the president undertakes in order to constantly remind the voter of the challenges he has overcome, his achievements and his pending promises. Secondly, this analysis provides us with a journey through Obama's main political tenets during his presidency and how with the use of specific language, his rhetorical prowess, plus his unique and iconic image, he can effectively deliver his message to the audience, his political colleagues, and American society at the same time. Lastly, in the addresses the president in office looks for legitimation by the audience, that is, the voter, as he thoroughly presents his achievements in the previous year and his goals for the future.

Anyone interested in American Studies, American politics and discourse analysis may find this book useful for studying one of the most iconic political figures in recent years, especially in terms of how Barack Obama uses language and discourse to construct his political agenda and persona. In addition to this, throughout Enache's analysis of Obama's seven State of the Union Addresses, we witness how the audience —the voter— is at the center of his speeches appealing to the emotional side of the audience by personalizing his political agenda. I believe the analysis presented in the book will stimulate future research by the author and other American Studies experts. Yet, Obama's presidency is still quite recent and it will take some time until his legacy takes form and is understood in his own terms and his political context, both at home and abroad.

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NARRATIVE VOICE IN POPULAR SCIENCE IN THE BRITISH PRESS: A CORPUS ANALYSIS ON THE CONSTRUAL OF ATTRIBUTED MEANINGS

Miriam Pérez Veneros
Salamanca: Ediciones Universidad de Salamanca, 2017
(by Ruth Breeze, Universidad de Navarra)
rbreeze@unav.es

The media reporting of science has been under scrutiny for some decades now, and the importance of the mediating role of journalists in communicating complex issues to large, non-specialist audiences has become increasingly evident. Articles which appear in newspapers have a determining role in mass communication in society in general, and media popularizations remain one of the main ways in which science is communicated "outside the realm of science itself" (Calsamiglia and Van Dijk 2004: 371) to audiences who have little or no knowledge of the specialised fields in which this knowledge was generated. Over the last thirty years, discourse analysts have examined the reporting of issues as varied as climate change, food poisoning or vaccines, illustrating how institutional pressures within the media may lead to an imbalance or even systematic bias in reporting, which is often materialised through the selective use of specific information sources and the choice of discursive role allotted to different expert and non-expert voices within the text.

Along similar lines to these discourse analytical studies, but from a more technical linguistic perspective, the previous literature yields various approaches to analysing media science reports. Linguists have examined the way in which media writers indicate the status of information sources (e.g. de Oliveira and Pagano 2006), the roles of different types of reported speech used to convey contents (e.g. Casado Velarde and de Lucas 2013), the use of recontextualisation and reformulation

(Gotti 2014), and the strategies used to highlight novelty and engage readers (Luzón 2013). The study by Miriam Pérez Veneros, recently presented as a PhD thesis at the University of Salamanca, is designed to provide deeper insights into the way the presentation of scientific information from different sources can be understood, through a detailed systematic linguistic analysis of the strategies of attribution and averral used by journalists to integrate the information that they have gathered into the text.

As the author herself explains, journalists writing about science operate within a specific set of constraints: on the one hand, they want to disseminate scientific knowledge, bringing in authoritative 'expert' voices in order to establish the legitimacy of the claims being made; on the other, like all journalists, they want to attract readers' attention and maintain their interest. Journalists can achieve these goals by a careful orchestration of their own and others' voices. Particularly important in this process is the notion of projection, that is, the way in which writers make reference to/bring forth a previously worded representation of the world. Reported speech is obviously one of the key affordances through which projection is achieved, and one which offers writers multiple means of modulating their stance towards the reported content and its sources, while averral, in which the writer is presented as the source of the language event, is also extremely important. Here, the author starts from Thompson's (1996) parameters for the description of language reports, covering voice, message, signal and attitude, and Calsamiglia and López Ferrero's (2003) classification of citation styles into direct, indirect, integrated and inserted citations. However, she expands these perspectives by offering a useful overview of "clines of speech presentation" (116) and various classifications of reporting verbs (Thompson and Yiyun 1991; Caldas-Coulthard 1994), as well as Thompson's (1994) classification of the functions of the reporting signal and Halliday and Matthiesen's (2004) breakdown of verbs serving as 'process' in clauses reporting ideas. To complete this (already complex) panorama, she also builds a broad and detailed picture of the participants in such processes and their discursive roles, integrating these into her overall taxonomy covering attribution, averral, verbal and mental processes, and participants. She then uses this as the basis for her annotation scheme to tag the units of voice in her corpus of 180 texts from *The Guardian*'s "Science" section. She identifies all the instances of attribution, averral and (simple or complex) units of voice in this corpus. She finds that attribution is more frequent than averral (61% vs. 39%), a phenomenon which can be explained by the fact that journalists rely on others' voices to lend credibility and reliability to the texts they write. In hypotactic projections, indirect speech is more common than direct speech, and in around one tenth of cases this is embedded in various ways. Particularly interesting are the cases of indirect speech in which the projecting clause occurs at the end, which seem to be

particularly common in first paragraphs of popularisation articles, and the cases of partial rewordings and fragments of quotes embedded in journalists' narratives. With paratactic projections, direct speech is particularly important in legitimising the text: "the journalist includes a quotation not just to show that he/she is relying on faithful sources of attribution, but also because he/she wants to justify their own previous interpretation of the information" (205). Her study also reveals the presence of a number of "combined structures" (207) in which the journalist either rephrases or evaluates the words that (we assume) the scientists used. She concludes that "[j]ournalists interact with and contextualise knowledge for readers by building up a discourse in which, even if they include voices coming from external sources of information to give credibility and reliability, their voice can also be heard" (253).

All in all, this piece of research provides an exhaustive overview of some of the linguistic resources used to communicate science in the press. The previous bibliography from both Systemic Functional Linguistics and several complementary models (e.g. Hunston and Thompson 2000; Bednarek 2006; Hyland 2009) is consistently and conscientiously used. The taxonomy has a thorough grounding and is carefully explained, with illustrative examples for each category. The results bring out a number of ways in which specific resources co-occur, which opens up a new avenue for research. However, it is a little disappointing to observe that at the exact point where for many of us the really interesting part begins, the analysis stops: for example, when reporting her most interesting results, the author writes: "Even if the journalist keeps distance from the information included in the quotation, there are some cases in which he/she uses a non-neutral verbal process to reproduce the experts' words" (247). However, perhaps because this is strictly a linguistic, rather than a discourse, study, no further information is provided about the context where this happens, or even the actual verb used. Similarly, she concludes, probably correctly, that the journalist "aims at mediating between the scientists and the readers in an institutional-and-personally-detached way" (265), but again, it is clear that this conjecture would need to be investigated further, and the notion of 'institutional' and 'personal' voice would require theoretical elaboration. It is to be hoped that future studies will take up this challenge and apply the extremely useful taxonomies and lists (presented in full in the appendices to this publication) to different corpora of media texts: not only to science popularisations, where their relevance is indisputed, but perhaps also to texts on political and social issues where the journalist's 'objective' reporting may often convey a considerable degree of subliminal bias. In particular, future research should use the excellent tools presented here to consider how and why different (expert and non-expert) voices are presented in the context of particular issues, and how exactly these voices are subtly legitimised or delegitimised in the text.

Researchers could also build on the present study to look in more detail at the commonplace notion that science popularisation is a hybrid genre and/or an instance of overlapping registers (Matthiesen and Teruya 2016), and explore exactly how and where the evidence for this hybridisation or register overlap is to be found, or alternatively, to track how generic transformations and recontextualisations are performed in terms of language and discourse.

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Notes for contributors

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Revista *Miscelánea*
Departamento de Filología Inglesa y Alemana
Facultad de Filosofía y Letras
C/ San Juan Bosco, 7
Universidad de Zaragoza
50009 Zaragoza
SPAIN
editors@miscelaneajournal.net

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"…narrative to their function" (Labov and Waletzky 1967: 12).

…following Blakemore (1987: 35),…

…perform a distinctive function in discourse (Blakemore 1987).

…this issue has received a lot of attention by relevance theorists (Blakemore 1987, 1992; Wilson and Sperber 1993).

Should part of the original text be omitted, this will be made clear by inserting […], NOT (…).

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Bibliographical references should be included in alphabetical order at the end of the manuscript and under the heading WORKS CITED. Authors' full first names should be used unless the authors themselves customarily use only initials. Set the author's last name(s) in small caps. References to two or more works by the same author in a single year should be accompanied by a lower-case a, b, etc. after the year of publication, both in the reference list and in citations in the text. References to books should include the place of publication and the publisher's name, and references to articles in journals should include volume, issue number (if necessary) and page numbers. Titles of books and journals will be written in italics. Titles of articles and of book chapters will be placed in double inverted commas.

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GERLACH, John. 1989. "The Margins of Narrative: The Very Short Story. The Prose Poem and the Lyric". In Lohafer, Susan and Jo Ellyn Clarey (eds.) *Short Story Theory at a Crossroads.* Baton Rouge: Louisiana U.P.: 74-84.

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WILLIAMS, Tennessee. 1983. *La gata sobre el tejado de zinc caliente.* Trans. A. Diosdado. Madrid: Ediciones MK.

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* Additional comments should appear in between long dashes: (—) rather than (-); —this is an example—, leaving no spaces in between the dashes and the text within them.
* There should be no full stops after interrogation and exclamation marks.
* Inverted commas should never appear after punctuation marks (e.g. "this is correct", but "this isn't.").
* Current (CG Times or Times New Roman) typefaces should be used, and special symbols should be avoided as much as possible.
* "&" should be avoided whenever possible.
* Generally speaking, punctuation and orthography should be coherent (British or American style) all through the article. For example: "emphasise/ recognise" rather than "emphasize/ recognise"; "colour/ colour" rather than "colour/ color".
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