

## Another turn of the screw on the history of the Reaction Object Construction

### Abstract

This article deals with the Reaction Object Construction (ROC), as in *She smiled disbelief*, where an intransitive verb (*smile*), by adding an emotional object (*disbelief*), acquires the extended sense “express X by V-ing” (i.e. “She expressed disbelief by smiling”). Earlier research has suggested a diachronic connection between the ROC and Direct Discourse Constructions (DDCs) of the type *She smiled, “I don’t believe you”* (Visser 1963–1973). More recently, Bouso (2018) has shown that the ROC is primarily a feature of 19th century narrative fiction. This paper aims to bring together these insights. On the basis of a self-compiled corpus and De Smet’s *Corpus of English Novels*, it investigates the productivity of the ROC in 19th and 20th century fiction, and the role of DDCs on its development. The results reveal a peak in the productivity of the ROC that coincides with the development of the sentimental novel, and a correlation between the development of the ROC on the one hand and of those DDCs that have been mistakenly hypothesised to be its single source constructions on the other. Extravagance is proposed as a triggering factor for the use of the ROC in the 19th century as an alternative to DDCs.

**Keywords:** Reaction Object Construction; Direct Discourse Constructions; sentimental novel, Diachronic Construction Grammar; Corpus Stylistics; *Maxim of Extravagance*; productivity

## 1. Introduction

This article deals with the so-called Reaction Object Construction (Levin 1993) (henceforth ROC) as in (1), and its connection with the 19th century sentimental novel and innovative Direct Discourse Constructions (henceforth DDCs; Visser 1963–1973, I: §142) of the type shown in (2).

- (1) a. She **smiled** *disbelief*.  
b. He **grunted** *his gratitude*.
  
- (2) a. She **smiled** “*I don’t believe you*”.  
b. She **grunted** “*I thank you*”.

As evinced in the first couple of examples (1a–b), the ROC consists of an intransitive verb of manner of action (*smile* and *grunt*) followed by a nonprototypical type of object (*disbelief* and *gratitude*) that expresses a reaction or an emotion of some kind. The result of this syntactic amalgam is a transitivity construction whose overall meaning is “express X by V-ing” as in “She expressed her thanks by smiling” and “He expressed his gratitude by grunting” in (1a) and (1b) respectively.

Research on the ROC is not abundant, and for an overview we refer the readers to Visser’s (1963–1973: I, §§134–144) historical grammar and to the various publications by Bouso (2014, 2017, 2018, 2020). Visser examines the ROC in the context of the large-scale process of transitivity that has affected the English language since Old English times (for a summary, see Bouso 2020; also van Gelderen 2011). He also hypothesises (1963–1973: I, §142) that the ROC (1a–b) could have developed out of innovative DDCs like the ones in (2a–b), which differ from ordinary DDCs in that, like the ROC itself, they involve intransitive verbs of manner of action instead of the more neutral transitive reporting verbs *say* and *tell*.

More recently, Bouso (2017, 2018, 2020) addresses the characterisation and historical development of the ROC in detail from the perspective of Diachronic Construction Grammar (DCxG) (Barðdal 1999, 2001; Bergs & Diewald 2008; Croft 2000; Hilpert 2013; Israel 1996; Noël 2007; Traugott & Trousdale 2013). The author argues for the treatment of the ROC as a form-meaning

pairing whose seeds can be found in the Early Modern English (EModE) period (1473–1700). The real development of the ROC is however located in the transition from the 18th to the 19th century with the identification in Bouso's (2018) data of highly emotional ROC examples such as *She smiled ineffable Sweetness and Blessedness upon me* (1765-70), and *The philosophers muttered their sage contempt* (1834). Since more than 70% of the data is attested in narrative fiction, the author proposes that the history of the ROC might well be a direct consequence of the continuous development of the novel and, in particular, of the British sentimental novel. Among the reasons put forward to support this view are: (i) the chronological coincidence, (ii) the emphasis on “emotional response” and “feeling” (Rowland 2008: 193; cf. also Baldick 2001; Hunt *et al.* 1806; Piper & Jean So 2015) which characterises the British sentimental novel and which the ROC evidently shares, and (iii) the extensive use by the British sentimental novel of those DDCs which Visser hypothesised to be the source constructions of the ROC (cf. 2a–b) (for additional examples of such DDCs constructions, see Busse 2010; Ruano San Segundo 2017).

The purpose of this article is to build on these previous studies and delve further into the development of the ROC over the course of the Late Modern English (LModE) period so as to provide an in-depth account of the relation between the ROC, the sentimental novel and DDCs. More precisely, the two main research questions (RQs) that this paper seeks to address regarding these two so far underexplored dimensions of the ROC are the following,

RQ1: How tight is the relation between the ROC and the 19th century sentimental novel? And more specifically:

- a. Is it possible to claim that this novel subtype became, in fact, a fertile soil for the development of the ROC?
- b. From the perspective of one of the theoretical frameworks adopted here, that of CxG as developed by Goldberg (1995, 2006, 2019), if there is such a close relation between the ROC

and this genre subtype, would it be legitimate to consider the sentimental novel as part of the meaning pole of the ROC?

RQ2: What is the precise role (if any) of DDCs on the development of the ROC? To phrase it differently,

- a. Do DDCs of the type mentioned by Visser (1963–1973) (cf. 2a–b) and ROCs develop independently over time or in a parallel, correlated fashion?
- b. If they do develop in a parallel fashion, are they relatively similar in terms of their semantic and structural characteristics, since ROCs are in fact derived from DDCs?

With regard to the first research question, the hypothesis is put forward that if the use of the reaction object (henceforth RO) in 19th century novels is relatively high and more diverse than in the 20th century, then the intimate relation between the sentimental novel and the ROC would have been empirically confirmed. As for the second research question regarding the role of DDCs on the history of the ROC, our hypothesis is inspired by Visser's (1963–1973) suggestion that the source construction of the ROC are innovative DDCs involving intransitive manner of action verbs such as *smile* and *grunt* (2a–b).<sup>1</sup> We will refer to Visser's assumption as the reduction hypothesis as it implies a process of morphosyntactic reduction (Givón 1979), that is, the original construction (i.e. the innovative DDC) is condensed into a simple transitive clause (i.e. the ROC). If the reduction hypothesis holds up, the ROC and these innovative DDCs would develop in a parallel, correlated fashion, and quite crucially, they would also be relatively similar in terms of their semantic and structural characteristics.

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<sup>1</sup> As pointed by one of the reviewers, one may ask here why the hypothesis that the ROC develops from the cognate object construction is not pursued; after all, the only assumption that needs to be made is that the object slot gets extended from cognate objects (i.e. *she smiled her smile*) to ROs (i.e. *she smiled her thanks*). This is implausible as, contrary to the subtype of DDC under discussion, the cognate object construction rarely occurs with one of the two prototypical verb classes of the ROC, i.e. that of verbs of manner of speaking such as *mumble* and *murmur* (cf. Lavidas p.c., cf. also Höche 2009: 298–303).

As regards the methodology adopted in the present analysis, it is in line with usage-based constructionist approaches (Barðdal 2008; Goldberg 2006, 2019) and, most particularly, with (Diachronic) Construction Grammar (CxG) (Barðdal 1999, 2001; Bergs & Diewald 2008; Croft 2000; Hilpert 2013; Israel 1996; Noël 2007; Traugott & Trousdale 2013), the theoretical framework which has been proven to be the most appropriate to deal with both the nature and the history of the ROC (Bouso 2017, 2018, 2020). In addition to this, the analysis of the ROC will also rely on Corpus Stylistics (McIntyre & Walker 2019; Semino & Short 2004) in order to investigate the functional similarities between it and the DDC. In doing so, we have tried to adopt a full integrative approach, combining both statistical evidence from authentic historical usage data with close philological scrutiny of individual instances of the ROC.

The remainder of this article is organised as follows. Section 2.1 draws heavily on Bouso (2017, 2018, 2020) and therefore it only aims to provide a sketch of the characterisation and diachronic development of the ROC from the perspective of DCxG. This section also focuses on the function of the ROC, arguing for the very first time in the literature how it fits within the paradigm of discourse presentation constructions, and also how it differs in this regard from the DDC. Section 3 moves on to the methodology used for data collection and examination. Section 4 presents the results and the analysis. Last, Section 5 offers some concluding remarks and suggestions for future research.

## **2. State of the art**

### **2.1 Characterisation and history of the ROC**

The ROC will be characterised in this section in the light of CxG (Croft 2001; Fillmore *et al.* 1988; Goldberg 1995, 2006, 2019; Lakoff 1987, among others), a theory of linguistic knowledge that claims that the totality of our knowledge of a language consists of a large network of constructions or form-meaning pairings. Instances of the modern ROC are those included in (1a–b), and those in (3) which exemplify the three categories of ROs identified in the literature (Bouso 2020; Martínez-Vázquez

2015): delocutives (*thanks, welcome*), deverbal illocutionary nouns (*assent*), and predicative expressive nouns (*adoration*).

- (3)
- a. Pauline **smiled** *her thanks*. (Levin 1993: 98)
  - b. The door **jingled** *a welcome*. (Martínez-Vázquez 2010: 555)
  - c. Tristram **nodded** *assent*. (Bouso 2017: 198)
  - d. She **mumbled** *her adoration*. (Levin 1993: 98)

The examples of ROCs in (3) are also characterised by the presence of an originally intransitive verb of manner of action (*smile, jingle*, etc.) that when accompanied by one of the categories of ROs just mentioned takes on the extended sense “express / communicate / signal a reaction or an attitude by V—ing”, as in “Pauline expressed her thanks by smiling” in (3a), and “The door signalled a welcome by jingling” in (3b). The modern ROC can, in this way, be regarded as a form-function pairing in the traditional Goldbergian sense. It has an unusual syntax and lacks compositionality, as its overall meaning is not strictly predictable from its component parts. Bouso (2020) proposes the constructional schema for the ROC specified in (4).

(4) **Syntax:** SUBJ<sub>i</sub> [V<sub>INTR</sub><sub>manner/means</sub> (OBJ1) OBJ2<sub>i</sub>]. Where OBJ2 = (POSS)<sub>i</sub> NP

**Semantics:** ‘Sentient agent<sub>i</sub> cause Y<sub>i</sub> become expressed while/by<sub>manner/means</sub> doing V’

In this schema, the SUBJ is a sentient agent, OBJ2 is the RO proper, and OBJ1 represents the recipient, which is not always but most often left implicit (see 3c where *Tristram nodded [him] assent*, with an explicit OBJ2, would also be a possibility). Finally, V is an intransitive verb of manner of action that codes either means or manner. As for the diachronic dimension of the ROC, the origins of the ROC as represented in (4) have been claimed to lie in the EModE period (1473–1700), to judge from instances of ROCs attested with two of the most prototypical verbs of the construction, namely the verbs *wave* and *nod* (Bouso 2020). From the LModE period onwards the ROC undergoes

important “constructional changes” (Hilpert 2013; Traugott & Trousdale 2013): it first experiences an important boost in frequency in the 19th century (Bouso 2017, 2018, 2020), and afterwards spreads over to American English expanding over the course of the 20th century to new verb types and classes (Bouso 2018).

## 2.2 The function of the ROC

In this section it will be argued that the ROC can be treated as one more option to project someone else’s verbal or mental discourse. To investigate whether the ROC is part of the paradigm of discourse presentation constructions and explore in which ways the ROC differs from more typical, well-known discourse presentation strategies such as direct and indirect speech, we draw here on the model originally proposed by Leech & Short (1981), later revised and developed by Semino & Short (2004).

The Leech & Short model of discourse presentation has become widely accepted and used by a number of scholars (Busse 2010; Caldas-Coulthard 1994; Fludernik 1993; Simpson 1993; Thompson 1996; Toolan 2001; among others). It was the first to distinguish systematically between the presentation of speech and the presentation of thought in narrative fiction. These two scales (speech and thought) were built on the basis of five fine-grained parallel categories defined analogously. Each category is associated with different degrees of faithfulness to an original, that is, by moving along the cline, from the more bound to the more free end, the interference on the reporter’s part becomes less and less noticeable. Although the effects of the categories are different in each scale (Semino & Short 2004: 15), the formal discriminating features of the speech and thought presentation modes are the same. This can be observed in Table 1, which provides specific examples for each category.

**Table 1.** Examples and formal discriminating features of the five categories of the speech and thought presentation modes of the Leech & Short’s (1981) model of discourse presentation<sup>2</sup>

	Category	Examples
+ Bound	1 1a. NRSA <b>Narrative Report of Speech Acts</b>	He looked straight at her and <b>told her about his imminent return</b> . She was pleased.
	1b. NRTA <b>Narrative Report of Thought Acts</b>	He looked straight at her and <b>thought about his imminent return</b> . She remained unaware of his plan until the following day.
↑	2 2a. IS <b>Indirect Speech</b>	He looked straight at her and <b>told her that he would definitely return the following day</b> . She was pleased.
	2b. IT <b>Indirect Thought</b>	He looked straight at her and <b>decided that he would definitely return the following day</b> . She remained unaware of his plan until the following day.
3	3a. FIS <b>Free Indirect Speech</b>	He looked straight at her. <i>He would definitely come back tomorrow!</i> She was pleased.
	3b. FIT <b>Free Indirect Thought</b>	He looked straight at her. <i>He would definitely come back tomorrow!</i> She remained unaware of his plan until the following day.
4	4a. DS <b>Direct Speech</b>	He looked straight at her and <b>said “I’ll definitely come back tomorrow!”</b> .
	4b. DT <b>Direct Thought</b>	He looked straight at her and <b>decided “I’ll definitely come back tomorrow!”</b> . She remained unaware of his plan until the following day.
+ Free	5 5a. FDS <b>Free Direct Speech</b>	He looked straight at her. <i>“I’ll definitely come back tomorrow!”</i> She was pleased.
	5b. FDT <b>Free Direct Thought</b>	He looked straight at her. <i>“I’ll definitely come back tomorrow!”</i> She remained unaware of his plan until the following day.

ROCs such as *She smiled disbelief* (cf. 1a) or *He grunted his gratitude* (cf. 1b) are difficult to incorporate into the already established categories shown in Table 1. This aspect of the ROC, alongside its overall low frequency (Bouso 2017, 2018, 2020), may be the two major reasons why they were overlooked by the proponents of the model and their advocates. The ROC clearly does not fall into the free end of the scales, where the verbatim words / thoughts are provided, as it clearly occurs in cases of DS / DT and FDS / FDT. It is not indirect discourse either given that there is no reference to a reported clause, as in the prototypical examples of IS / IT *He told her/decided that he would definitely return the following day* (see Table 1). The ROC must therefore fit into the more bound category of NRSA / NRTA (Narrative Report of Speech / Thought Acts), where a minimal

<sup>2</sup> For convenience, we have used the same examples as in Semino & Short (2004). In bold type and italics, we have included the formal discriminating features of the five categories of the two discourse presentation modes.

account of the discourse reported is given. And indeed prototypical ROC examples such as *He grunted his gratitude* (1b) and *She mumbled her adoration* (3d) involve the formal features described by Semino & Short (2004: 14) for this category: the reporting verb is followed by a noun phrase that indicates the topic of the speech (or thought) presented, as in *He told her / thought about his imminent return*. There is, however, a crucial difference between *He told her / thought about his imminent return* (a NRSA / NRTA) and structures such as *She smiled disbelief* and *He grunted his gratitude* (ROCs). In the former, there is a minimal account of the discourse reported; in the latter, there is not an exact indication of content either, but there is a clear motivation on the part of the reporter to account for the illocutionary force of this content. This illocutionary force is disclosed through the nonprototypical object that follows the verb, and that expresses a reaction or emotion of some kind (e.g. *gratitude*). Thus, although formally similar, the effect achieved is different: in a prototypical example of NRSA / NRTA there is a greater interference on the reporter's behalf than in ROCs, where the narrator, despite being still quite distant, is closer to the original act of communication conveyed by the character.

This slight difference in function, despite the similarity in form, leads us to believe that the ROC can be regarded as a subcategory of NRSA / NRTA in the Leech & Short model of discourse presentation (see Table 1). The ROC will be used when the reporter wants to offer a minimal account of the discourse reported but at the same time wishes to make the illocutionary force of such discourse reported explicit. The addition of a subcategory of NRSA / NRTA is in line with other subcategories proposed later on in Semino & Short (2004), such as Narrator's Representation of Speech / Thought Acts with Topic (NRSAp and NRTAp), quotation phenomena in Narrator's Representation of Speech / Thought Acts (NRSAq and NRTAq) or hypothetical Narrator's Representation of Speech / Thought Acts (NRSAh and NRTAh) (Semino & Short 2004: 52ff). A ROC such as *She smiled disbelief* would fall into the NRSA / NRTA category, being another subcategory. Although the main concern of this article is not to incorporate the ROC in the Leech & Short model (1981), in our view, the ROC must

be understood as a Narrator’s Representation of Speech / Thought Acts (NRSA / NRTA) with illocutionary force.

### 3. Data and methodology

The present study is mostly based on a self-compiled corpus of British sentimental novels for the Romantic (1798–1836) and Victorian periods (1837–1900) (Ruano San Segundo and Bouso 2019). They were written by eleven canonical Romantic and Victorian novelists (e.g. Austen, Shelley, Brontë, Gaskell, Elliot, Scott, Dickens, Thackeray, Meredith, Trollope and Hardy). The several texts extracted for each of the eleven authors selected amount up to a total of more than 21 million words. To allow diachronic analysis, as shown in Table 2, the whole corpus was divided into eight main periods. Finally, additional data were retrieved from the American section of the *Corpus of English Novels* (CEN; 1881–1922; De Smet 2008; see Table 3) in order to confidently respond to the overarching RQs by comparing the frequency and distribution of ROCs and DDCs across varieties and sub-periods.

**Table 2.** Contents of the *BSNC*, per sub-period

Sub-corpora	Number of texts (files)	Number of words
<i>BSNC1</i> (1798–1820)	17	2584897
<i>BSNC2</i> (1821–1836)	11	2033305
<i>BSNC3</i> (1837–1850)	19	4051335
<i>BSNC4</i> (1851–1960)	18	3284005
<i>BSNC5</i> (1861–1870)	18	4059461
<i>BSNC6</i> (1871–1880)	19	3545750
<i>BSNC7</i> (1881–1890)	7	911120
<i>BSNC8</i> (1891–1900)	5	682247
<b>TOTAL</b>	114	21,152,120

**Table 3.** Contents of *CEN* (North-American novelists), per sub-period

Sub-corpora	Number of texts (files)	Number of words
<i>CEN1</i> (1881–1890)	11	1080262
<i>CEN2</i> (1891–1900)	32	2109422
<i>CEN3</i> (1901–1910)	39	2969038
<i>CEN4</i> (1911–1922)	26	1849064
<b>TOTAL</b>	108	8,007,786

For the retrieval of the data, the software employed was *Wordsmith 6.0* (Scott 2012) and the approach adopted was a bottom-up one focusing on the seven most prototypical verbs in the ROC: *mutter*, *murmur*, *smile*, *nod*, *whisper*, *shout* and *wave* (Bouso 2017). Only those instances that complied with the ROC constructional schema presented in section 2.1 (cf. 4) were annotated for further analysis. In this way, formally related but functionally different structures from the ROC such as the ones shown in (5) were discarded. Though superficially similar, the NP objects of such instances do not fit into any of the three categories of ROs mentioned in Section 2.1. For instance, the NP “messages” in (5a) describes a neutral type of communication and, as already argued in Section 2.2, this would clearly be an instance of NRTA where the illocutionary force of the discourse reported is missing. On another level, the constructional meaning of the examples in (5b) and (5c) differs from the one expressed by the ROC (cf. 4): the NP object “success” in (5b) does not refer to the subject (i.e. *My heart*) but to the object (i.e. *me*), and the NP object “imprisonment” in (5c) is a depictive predicative complement (Huddleston & Pullum *et al.* 2002: 251), that is, it suggests that the mountains resemble prisons.

- (5) a. The Gloucester men **shouted** *messages* to their wives.  
 b. My heart **whispers** me *success*.  
 c. Tight mounds **shout** *imprisonment* in the ears.

For each occurrence we also annotated whether it was an example of a reporting verb introducing a stretch of direct discourse, i.e., whether it was a DDC or not. To be more specific, in the annotation process we have only focused on canonical examples of DDCs in which the reporting verbs introduce

the stretch of discourse and the reported clause occurs in between inverted commas, which are the normative markers for the 19th century direct discourse (Mahlberg *et al.* 2019: 326). Model examples that have not been taken into account in this study are those included in (6a–b) in which the *-ing* forms (*nodding* and *waving*) act as adjuncts.

- (6) a. “George,” says the man, **nodding**, “*how do you find yourself?*” (BSNC 1852, Dickens; *Bleak House*)
- b. “Ha!” said Mould. “*He’s evidently gratified. Poor fellow! I am quite glad you did it, my love. Bye bye, Mrs Gamp!*” **waving** his hand. “*There he goes; there he goes!*” (BSNC 1843, Dickens; *Martin Chuzzlewit*)

Since RQ1 deals with the productivity of the ROC, and there is a vast amount of literature around this notion and the different ways to operationalise it (e.g. Baayen 2009; Barðdal 2008; Hilpert 2013), some clarifications are in order here. The most commonly accepted way of understanding the concept of productivity is in the sense of extensibility, or the ability of a particular linguistic structure to occur with new items (Barðdal 2008). In the case of the ROC and in the present study, this translates into the ability of the ROC to occur with new RO types.

As for the ways to operationalise it, Baayen (2009) and colleagues (Baayen & Lieber 1991; Hilpert 2013) have proposed a number of corpus-based measures to gauge the productivity of constructions. Two of these are realised productivity and potential productivity. Since these measures vary depending on the size of the corpus and other factors such as genre, fruitful uses of these measures are attained by comparing either different phenomena within the same corpus or different measures for the same phenomenon also within the same corpus (Hilpert 2013: 128). To provide an answer to RQ1, similarly to other studies in the field (cf. Norde & Van Goethem 2018), we opted out here for the latter option.<sup>3</sup>

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<sup>3</sup> The ideal scenario to perform these operationalisations would be on the basis of the same amount of tokens; this method is not feasible here as the minimum amount of tokens for some sub-periods is very small (cf. Table 6 and Table 7 in Section 4.2). For similar problems, see Hilpert (2013) and Norde & Van Goethem (2018).

Realised productivity is estimated by type frequency and it refers to the size or level of generality of a construction. This is operationalised here by the sum of types of a construction divided by the token frequency of this pattern. As for potential productivity, this is calculated in the same way but on the basis of hapax legomena rather than on types. It indicates, in Baayen's words, "the extent to which the market for a category is saturated" (2009: 902). This means that the larger the resulting number (i.e. the closer the number is to 1) the less saturated it is and the higher the probability of encountering new RO types in the construction. From a constructionist point of view, the size of the number is an indicative of the degree of cognitive ease with which speakers can produce and process new patterns (Hilpert 2019).

Finally, in order to examine the semantic similarities between the ROC and DDCs and investigate whether the ROC derives in fact from DDCs (see RQ2-b), distinctive collexeme analysis (Gries 2014; Gries & Stefanowitsch 2004) was performed on our historical data. This is an extension of colostruational analysis, a family of methods developed by Stefanowitsch & Gries (2003) to measure the degree to which lexical items are attracted to constructions (for an overview, see Hilpert 2014). Distinctive collexeme analysis, in particular, is used for the analysis of pairs of constructions to calculate the preference of a lexical item for one construction over the other. It thus allows the linguist to uncover semantic differences between two functionally similar constructions, as has been argued in Section 2.2 to be the case of the ROC and the DDC.

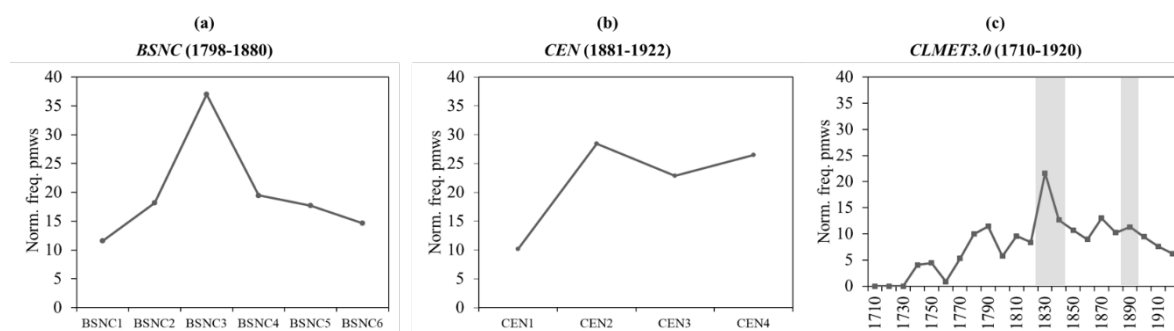
## **4. Results and discussion**

### **4.1 Relation between the ROC and the sentimental novel**

As shown in Figure 1, the results obtained from the *BSNC* (1798–1880) and *CEN* (1881–1922) concur with Bouso's previous findings based on *CLMET3.0* (2017: 207; Figure 3 and Figure 4). Note here that the last two decades of the *BSNC*, i.e. *BSNC7* (1881–1890) and *BSNC8* (1891–1900), have been excluded from the analysis because these are overlapping periods with *CEN1* (1881–1890) and *CEN2*

(1891–1900) and they are underrepresented with regard to the other periods of the *BSNC* (see Table 2 and Table 3).

Once again the highest peak in token frequency falls right in the middle of the 19th century (*BSNC3* = 1837–1850); from this point onwards the frequency of the ROC gradually decreases to slightly rise up again at the turn of the 20<sup>th</sup> century (*CEN2* = 1891–1900). This last rise is especially noteworthy as it is not evinced in previous LModE data based on British English (1710–1920) (cf. Figure 1c), and also goes alongside the hypothesis put forward in Bouso (2018) that American English is lagging somewhat behind in their use of ROCs in novels (Carter & McRae 1996: 78, 122–123; see also Samuels 1992; Hart 2004).



**Figure 1.** Development of the ROC in the *BSNC*, *CEN* and *CLMET3.0*

Moving now on to the productivity of the ROC, or its ability to occur with new RO types, the figures shown in Table 4 and Table 5 roughly line up with the bumpy curve of token frequencies obtained for each corpus. The most productive periods in terms of types (realised productivity) and hapax legomena (potential productivity) are *BSNC2* (1821–1836) and *BSNC4* (1851–1860). Figure 2, which represents the percentage of hapaxes per RO class and sub-period, serves to confirm this idea as it shows that the greatest diversity of RO types is precisely found around *BSNC2* (1821–1836), *BSNC3* (1837–1850) and *BSNC4* (1851–1860). Not only do we find at these points in time the three typical RO types mentioned in Section 2.1 (i.e. delocutives, deverbal illocutionary nouns and

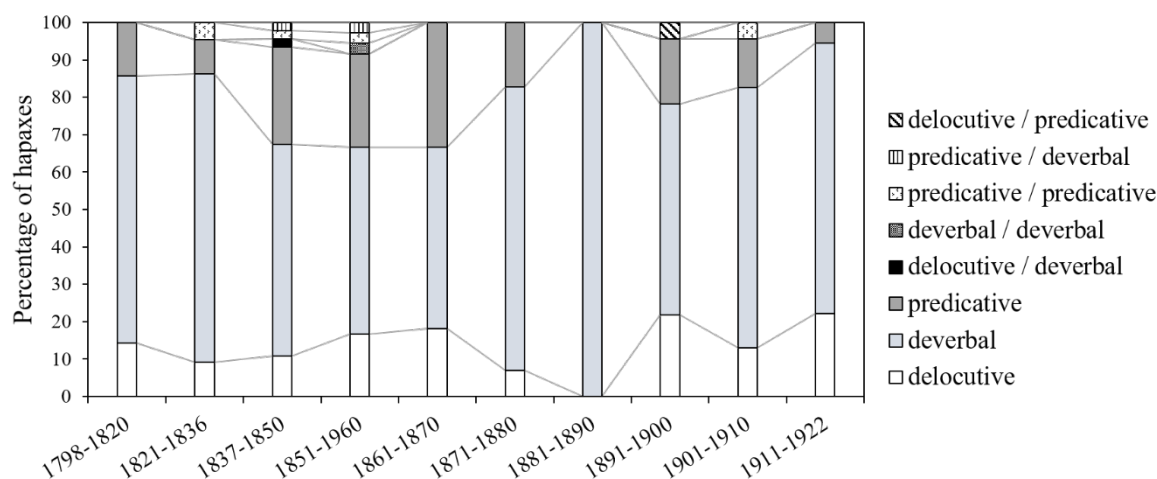
predicative expressive nouns), but also some ROCs involving coordination of ROs of various types: delocutives with deverbals (i.e. *thanks* and *blessings*), and predicatives with deverbals (i.e. *admiration* and *approbation*).

**Table 4.** Tokens, types and hapaxes in the *BSNC*

	<i>BSNC1</i> 1798–1820	<i>BSNC2</i> 1821–1836	<i>BSNC3</i> 1837–1850	<i>BSNC4</i> 1851–1860	<i>BSNC5</i> 1861–1870	<i>BSNC6</i> 1871–1880	Total
<b>Tokens</b>	30	37	150	64	72	52	<b>405</b>
<b>Types</b>	19	28	69	46	46	34	-
<b>Realised productivity</b>	0.63	0.75	0.46	0.71	0.63	0.65	-
<b>Hapaxes</b>	14	22	46	36	33	29	-
<b>Potential productivity</b>	0.46	0.59	0.30	0.56	0.45	0.55	-

**Table 5.** Tokens, types and hapaxes in *CEN*

	<i>CEN1</i> 1881–1890	<i>CEN2</i> 1891–1900	<i>CEN3</i> 1901–1910	<i>CEN4</i> 1911–1922	Total
<b>Tokens</b>	11	60	68	49	<b>188</b>
<b>Types</b>	7	29	34	26	-
<b>Realised productivity</b>	0.63	0.48	0.5	0.53	-
<b>Hapaxes</b>	5	23	23	18	-
<b>Potential productivity</b>	0.45	0.38	0.33	0.36	-

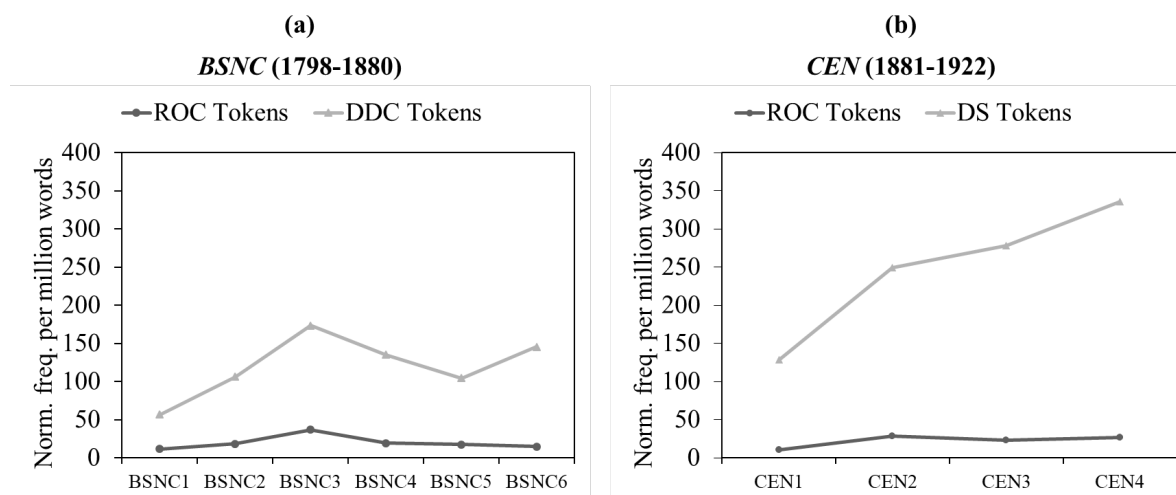


**Figure 2.** Diversity of RO types across sub-periods

On the whole, from these results one can safely conclude on an empirical basis that the sentimental novel became a fertile soil for the development of the ROC (RQ1–a). The first clear indicative of this is the amount of ROCs attested in the *BSNC*. Using a larger corpus and for a total of 40 verb types, Bouso (2017) was only able to identify barely 300 ROCs. In the present study, by contrast, for only seven verbs more than 400 ROCs were attested in the *BSNC* and almost 200 in *CEN*. Our data also reveals that the ROC was clearly much more productive and diverse in the 19th century (i.e. *BSNC2* – *BSNC4*) than in the 20th century.

#### 4.2 The role of DDCs in the development of the ROC

Our second major research question (RQ2) addresses the role of DDCs on the development of the ROC. As shown in Figure 3, the corpus-based studies conducted reveal a strong positive time-frequency correlation between these two types of structures (Pearson, Kendal’s  $\tau$  and Spearman’s  $\rho$ ;  $p < 0.05$ ) (RQ2–a). In addition to this, Table 6 and Table 7 show that the crucial periods for the DDC in both corpora come to be once again *BSNC3* (1837–1850) and *CEN2* (1891–1900) (cf. Figure 1a,b).



**Figure 3.** Parallel development of the ROC and the DDC in the *BSNC* and *CEN*

**Table 6.** Parallel development of the ROC and the DDC in the *BSNC* (1798–1880)

	<i>BSNC1</i> 1798–1820	<i>BSNC2</i> 1821–1836	<i>BSNC3</i> 1837–1850	<i>BSNC4</i> 1851–1960	<i>BSNC5</i> 1861–1870	<i>BSNC6</i> 1871–1880	Total
<b>ROC</b>	30	37	150	64	72	52	<b>405</b>
<b>Tokens</b>	(11.6)*	(18.2)	(37)	(19.5)	(17.7)	(14.7)	
<b>DDC</b>	147	216	703	443	424	515	<b>2448</b>
<b>Tokens</b>	(56.9)	(106.2)	(173.5)	(134.9)	(104.4)	(145.2)	

\*In parentheses normalised frequencies per million words.

**Table 7.** Parallel development of the ROC and the DDC in *CEN* (1881–1922)

	<i>CEN1</i> 1881–1890	<i>CEN2</i> 1891–1900	<i>CEN3</i> 1901–1910	<i>CEN4</i> 1911–1922	Total
<b>ROC</b>	11	60	68	49	<b>188</b>
<b>Tokens</b>	(10.2)*	(28.4)	(22.9)	(26.5)	
<b>DDC</b>	139	526	827	621	<b>2113</b>
<b>Tokens</b>	(128.7)	(249.4)	(278.5)	(335.8)	

\*In parentheses normalised frequencies per million words.

Despite this strong correlation in frequency of use of DDCs and ROCS, DDCs are still much more prominent than ROCs in both corpora (see Figure 3). This is not only because direct discourse is the most widespread used discourse presentation strategy in fictional narratives (see Semino & Short 2004: 97) but also because the ROC is a relatively late development and a highly “poetic” and “marked linguistic structure” (Bouso 2017: 208). This last feature of the ROC leads us here to suggest that an important cognitive factor that could have played a role on its LModE consolidation is the *Maxim of Extravagance*, in which the “speakers not only want to be clear or ‘expressive’” but also wish to be “noticed” (Haspelmath 1999: 1057). As argued in Section 2.2, one aspect that distinguishes DDCs from ROCS is precisely this difference in the degree of noticeability of the narrator. Also, quite crucially, the eleven authors included in the *BSNC* use ROCs and also alternate between the ROC and the DDC in the vast majority of their novels. Examples that serve to illustrate this alternation are those in (7a) and (8a) from Dickens, and those in (7b–c) and (8b–c) from Meredith. In such examples it becomes clear that the role of the narrator is foregrounded in the ROC but backgrounded in the case of the DDC where the words of characters become most relevant (see also Section 2.2).

(7) a. The landlord **smiled** *his delight*. (*BSNC* 1837, Dickens; *The Pickwick Papers*)

- b. It sympathized on the side of his backers too much to do more than **nod** a short approval of his fortitude. (*BSNC* 1891, Meredith; *The Amazing Marriage*)
- c. Mrs. Mountstuarth **waved** her adieu. (*BSNC* 1881, Meredith; *The Egoist*)
- (8) a. He is a very creditable artist himself. *He will be delighted*, I am sure, with Mrs Granger's taste and skill."  
 "Damme, Sir!" cried Major Bagstock, "my opinion is, that you're the admirable Carker, and can do anything."  
 "Oh!" **smiled** Carker, with humility, "*you are much too sanguine, Major Bagstock.*"  
 (*BSNC* 1837, Dickens; *Dombey and Son*)
- b. "The prince is a gentleman, grandada. Come with me. We will go alone. You can relieve the prince, and protect him."  
 My father **nodded**: "*I approve.*"  
 (*BSNC* 1881, Meredith; *The Adventures of Harry Richmond*)
- c. Lady Charlotte sprang unassisted to hers. "*Ta-ta!*" she **waved** her fingers from her lips. The pairs then separated; one couple turning into green lanes, the other dipping to blue hills.  
 (*BSNC* 1881, Meredith; *Sandra Belloni*)

In order to investigate whether ROCs derive from DDCs (RQ2–b), it is not just important to explore whether they develop in a parallel, correlated fashion but also to examine if, in addition to this, they also exhibit significant semantic and structural similarities that would allow us to safely conclude that the DDC is the source construction of the ROC. In what follows, the semantic and structural similarities between the ROC and the DDC will be analysed on the basis of three parameters: (i) the verb types the ROC and the DDC are attracted to, (ii) their collocational overlap in terms of the content of the projected discourse involved in both discourse presentation strategies (see Section 2.2), and (iii) their diachronic distribution across verb types.

As shown in Table 8, out of the seven verbs analysed, the verb *smile* (in both corpora) is the verb that occurs with relatively the same frequency in both construction types: in the *BSNC* this is more frequently used in the ROC whereas in *CEN* is more frequently used in the DDC. The rest of the verbs (also in both corpora), despite occurring in both constructions, are clearly biased towards one or the

other: the manner of speaking verbs *murmur*, *mutter*, *shout* and *whisper* towards the DDC, whereas the manner of action verbs *nod* and *wave* towards the ROC. Here a distinctive collexeme analysis (Gries 2014; R Core Team 2019), which calculates the preference of particular lexical items of one construction over the other, is particularly useful to faithfully identify those verbs that are distinctive to each construction type.

**Table 8.** Distribution of DDCs and ROCs across verbs in the *BSNC* and in *CEN*

		<i>murmur</i>	<i>mutter</i>	<i>nod</i>	<i>shout</i>	<i>smile</i>	<i>wave</i>	<i>whisper</i>
<i>BSNC</i> (1798– 1900)	DDC	932 (94 %)	558 (86%)	31 (21%)	365 (93%)	27 (41%)	5 (14%)	1002 (94%)
	ROC	61 (6%)	93 (14%)	120 (79%)	26 (7%)	39 (59%)	31 (86%)	64 (6%)
<b>Tokens (total):</b>		993	651	151	391	66	36	1066
<i>CEN</i> (1881– 1922)	DDC	440 (96%)	209 (93%)	14 (16%)	503 (95%)	56 (78%)	2 (8%)	884 (98%)
	ROC	18 (4%)	15 (7%)	75 (84%)	27 (5%)	16 (22%)	22 (92%)	15 (2%)
<b>Tokens (total):</b>		458	224	89	530	72	24	899

\*Percentages in parentheses.

As shown in Table 9, the results do not differ greatly from those in Table 8 in that the verbs that are most significantly attracted to the ROC are *nod*, *wave* and *smile* (in that order) while the verbs most significantly attracted to the DDC are *whisper*, *murmur* and *shout* (in that order). There is, however, one important difference with the verb *mutter*. Although the analysis shows that the preferred construction of this verb is the ROC it is not significantly attracted to it; its collostructional strength (Coll. strength) value is lower than 1.30103 ( $p < .05$ ), and crucially, the higher the numerical value of collostructional strength, the more distinct the verb is. The difference in the results with regard to Bouso (2017) —where *mutter* is considered by far the most prototypical verb of the construction— is due to the fact that the type of collostructional analysis conducted here “does not take into account the overall corpus frequencies of the lexical elements that occur with the compared constructions” (Hilpert 2006: 250). As opposed to simple collexeme analysis, distinctive collexeme analysis “highlights differences, not characteristics that are typical of the respective constructions per se” (Hilpert 2006: 250).

**Table 9.** Distinctive collexemes (verbs) for each construction type in the *BSNC*

Verbs	DDC (obs. freq.)	ROC (obs. freq.)	DDC (exp. freq.)	ROC (exp. freq.)	Preferred construction	Coll. strength*
<i>whisper</i>	1002	64	928.06202	137.937984	DDC	17.4033331
<i>murmur</i>	932	61	864.50805	128.491950	DDC	15.2551632
<i>shout</i>	365	26	340.40549	50.594514	DDC	4.7608082
<i>nod</i>	31	120	131.46094	19.539058	ROC	82.7164490
<i>wave</i>	5	31	31.34168	4.658318	ROC	22.6416469
<i>smile</i>	27	39	57.45975	8.540250	ROC	18.3659673
<i>mutter</i>	558	93	566.76208	84.237925	ROC	0.8491017

\*Coll.strength>3 => p<0.001; coll.strength>2 => p<0.01; coll.strength>1.30103 => p<0.05 (Fisher-Yates Exact test)

Thus, what the results presented in Table 9 reveal is that the DDC and the ROC clearly differ semantically. Despite featuring the same verbs, they attract different verb types; had it not been so, the values we would have obtained would be like those included here in Table 9 for the verb *mutter*, that is, attraction to one construction or the other but under the level of significance. The collostructional strength values in Table 9, however, show exactly the opposite for the other six verbs analysed: all of them are higher than 1.30103 ( $p < .05$ ).

As for the second parameter, i.e. their degree of collocational overlap, the vast majority of the ROs attested for the prototypical verbs of the ROC (i.e. *nod*, *wave* and *smile*) are highly redundant with the verb's meaning (7) (cf. also Bouso 2017). An interesting exception is included here in (9) where the verb *nod* takes the predicative expressive nouns *admiration* and *defiance*, perhaps by analogy with the verbs *mutter* (9b), *shout* (9c) and *whisper* (9d), the latter of which takes up to a total of 20 predicate expressive nouns in the *BSNC*.

- (9) a. Here, Mr. Serjeant Buzfuz, with a tremendous emphasis on the word 'box,' smote his table with a mighty sound, and glanced at Dodson and Fogg, who **nodded** *admiration* of the Serjeant, and *indignant defiance* of the defendant. (*BSNC* 1837, Dickens; *The Pickwick Papers*)

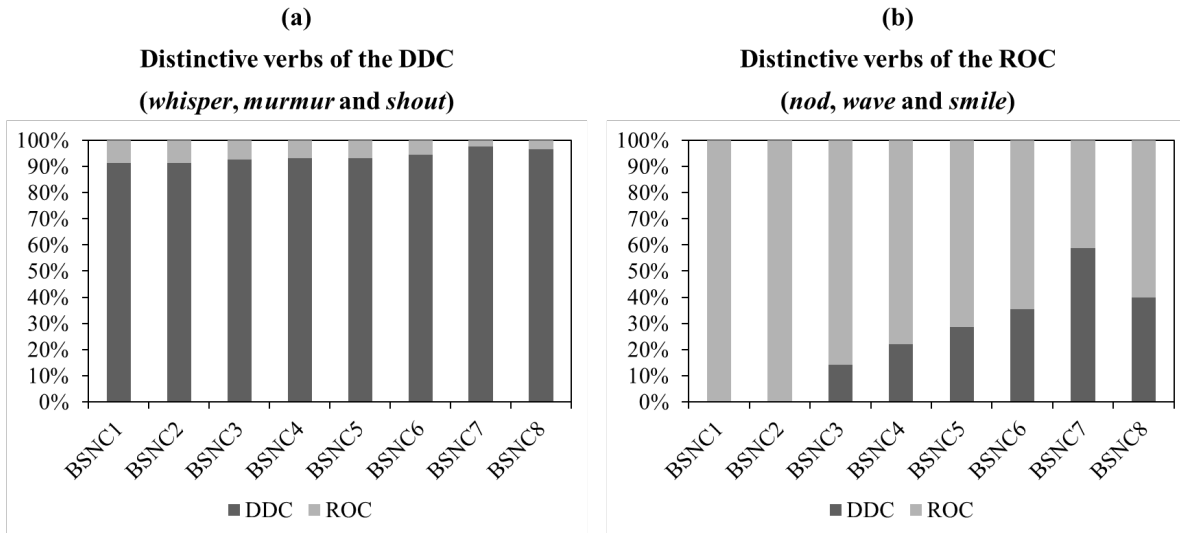
b. His head dropped upon his breast; and, **muttering** *his invincible determination* not to go to his bed, and a sanguinary regret that he had not “done for old Tupman” in the morning, he fell fast asleep; (...). (*BSNC* 1837, Dickens; *The Pickwick Papers*)

c. The caballeros **shouted** *their appreciation*, flinging gold and silver at her feet; never had El Son been given with such variations before. (*CEN* 1900, Gertrude Atherton; *The Doomswoman*)

d. [T]hey made sarcastic jokes to one another, and **whispered** *disparagement* on stairs and in bye-places. (*BSNC* 1837, Dickens; *Dombey and Son*)

Contrary to the restricted semantics of the ROC, the content of the projected discourse of the DDC is much more varied. In fact, we were only able to identify a few instances analogous to the ROCs included in our database. The examples given in (7), for instance, show interesting parallels with the ROCs given in (8) (in order of appearance). The overall absence of examples like these in our database indicates that apart from attracting different verb types, there is also minimal collocational overlap between ROCs and DDCs.

Finally, from a diachronic point of view, the distribution of the verbs analysed shows that, to a greater or lesser extent, all of them take ROs from the start (Figure 4). Something different occurs with DDCs (see Figure 4b). While distinctive verbs for the DDC (i.e. *whisper*, *murmur* and *shout*) become less and less frequent in the ROC (cf. Figure 4a), those distinctive for the ROC (i.e. *nod*, *wave* and *smile*) start to take on new functions encroaching upon the territory of DDCs (cf. Figure 4b). The earliest examples of these date from 1837 (see example (8a), and those in (10) from Dickens and Thackeray). Strikingly enough, once again the key period here is *BSNC3* (1837–1850).



**Figure 4.** Diachronic distribution of distinctive verbs in the DDC and the ROC (BSNC)

- (10) a. “Ay!” **nodded** the Captain. (BSNC 1837, Dickens; *Dombey and Son*)
- b. Emily looked at me, and laughed and **nodded** “yes”. (BSNC 1837, Dickens; *David Copperfield*)
- c. “Have you been alone, Florence, since I was here last?”  
 “Oh yes!” **smiled** Florence, hastily. (BSNC 1837, Dickens; *Dombey and Son*)
- d. The Irish servant-lass rushed up from the kitchen and **smiled** a “God bless you.” (BSNC 1837, Thackeray; *Vanity Fair*)

All together the results adduced evince important semantic and structural differences between the ROC and the DDC (RQ2–b): they attract different verb types, show minimal collocational overlap as for the content of the projected discourse, and from a diachronic perspective, it is unlikely that DDCs served as a template for the modelling of the ROC as it is only in the middle of the 19h century that the distinctive verbs for the ROC (i.e. *nod, wave and smile*) start to occur in the DDC and not vice versa. We reject in this way Visser’s (1963–1973) reduction hypothesis (see Section 1) and in the light of the data presented here we propose that the DDC, despite not being the only single source of the ROC, played a role in the shaping of the LModE ROC, to judge from their parallel development

and the way these two constructions complement each other at a functional level, with the ROC being the extravagant alternative to the more neutral DDC.

## 5. Concluding remarks and future research

The purpose of this article was to bring together previous research on the ROC and, with the aid of two different frameworks, i.e. (Diachronic) CxG and Corpus Stylistics, provide a more fine-grained answer to a number of research questions that had been posed and left unanswered in previous diachronic studies on the construction (Bouso 2017, 2018, 2020; Visser 1963–1973). More specifically, this article has aimed to offer solid evidence on the tight connection between the ROC and the sentimental novel (RQ1) and demonstrate in this way the importance of context in both the historical development and characterisation of the ROC as a form-meaning pairing. The absence of suitable historical corpora for the study of the ROC along these lines has led us to compile our own corpus of British sentimental novels, which has proved to be crucial to demonstrate that this subtype of novel became in fact a fertile soil for the development of the ROC (RQ1–a). Comparing these results with those obtained from the American section of De Smet’s *CEN* has also allowed us to somewhat confirm previous results that pointed towards the idea that the ROC is a British innovation that later on spread over to the American variety. From the perspective of CxG, it seems therefore that the sentimental novel could be treated as part of the meaning pole of the ROC (RQ1–b). In this regard, Goldberg’s (2019) new updated definition of constructions that gives particular emphasis to their “expressiveness” and “contextual dimensions” (Goldberg 2019: 7–8) especially fits in with these findings.

At a functional level, the ROC is also argued here to be an option adopted by narrators to project someone else’s verbal or mental discourse that differs from the DDC in the degree of interference of the reporter. In fact, the eleven authors included in the *BSNC*, alternate between the ROC and the DDC leading us to think that the ROC was being used as an extravagant alternative to the DDC so as

to be more noticeable against the words and thoughts of their characters. Though it is true that the compiled data has revealed that the ROC and the DDC are closely interconnected —as they clearly develop in a parallel, correlated fashion (RQ2–a)— they differ in terms of their semantic and structural properties: (i) a distinctive collexeme analysis reveals that they are attracted to different verb types, (ii) they also show minimal collocational overlap as for the content of the projected discourse, and (iii) from a diachronic perspective, our data indicates that it is highly unlikely that the DDC served as a template for the configuration of the ROC. All these findings lead us to conclude that Visser’s (1963–1973) reduction hypothesis does not really hold up. The source construction of the ROC is consequently not to be found in the DDC (RQ2–b).

These results set the ground for future research on one important research question concerning the possible source(s) of the ROC. If, as suggested here, the DDC should not be treated as the single source construction of the ROC, then, what other construction(s) —whether the cognate object construction and/or structures of the type *she smiled thankfully*, or *he cried out in rage*, among others— could have modelled the ROC? In this regard, it seems that the natural step to follow is asking the extent to which the newly coined notion of “constructional contamination” (Pijpops & Van de Velde 2016; Hilpert & Flach *fc.*) is applicable to the history of the English ROC. This aspect of the ROC will be examined in the future adopting a fully integrative approach, on the basis of the corpus compiled here and combining once again qualitative and quantitative approaches to the study of language change.

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