THE SO-CALLED *REACTION OBJECT CONSTRUCTION*: REACTION OR CO-PREDICATION?

LA COSIDDETTA *REACTION OBJECT CONSTRUCTION*: REAZIONE O COPREDICAZIONE?

(Riassunto)

Malgrado il numero relativamente esiguo di occorrenze, il costrutto inglese esemplificabile con *Downes smiled agreement* o *People hummed their consent* si rivela produttivo. Questo tipo proposizionale ha suscitato interesse perché verbi intransitivi come *smile* si combinano con nomi post-verbali (NPV) che sembrano oggetti diretti. Il lavoro intende mostrare che l'etichetta maggiormente usata, 'Reaction Object Construction' (Levin 1993), è fuorviante sintatticamente e semanticamente in ciò che riguarda il ruolo del NPV, giacché questo non ha le proprietà di un oggetto diretto e non comporta necessariamente una reazione. Si mostra in particolare che il NPV svolge un ruolo predicativo comparabile al NPV di una *light verb construction*.

La ricerca si basa su un *corpus* consultato manualmente che rivela tre importanti proprietà della costruzione: (a) l'esclusione di determinanti definiti per NPV; (b) la coreferenza obbligatoria tra il soggetto e l'eventuale aggettivo possessivo di NPV; (c) le correlazioni parafrastiche tra aggettivo e avverbio che danno luogo a implicazioni logiche (*entailments*). Tali proprietà suggeriscono che NPV svolge il ruolo di predicato, il cui soggetto viene condiviso dal verbo inergativo (*equi-subject*). Il referente del soggetto fa uso di una parte del corpo e/o produce un suono.

Parole chiave: nomi predicativi, restrizioni sui determinanti, correlazioni aggettivi-avverbi, entailment, equi-subject.

1. Introduction

This paper deals with a clause type of English, exemplified in (1a), whose surface structure may be represented as in (1b) (NP_1 = [+ human] subject, V = verb, NP_2 = post-verbal noun phrase):

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(1) a. Lewis shrugged a reluctant consent (III, 242)
b. NP_1 V NP_2

The word order in (1b) also being that of an ordinary transitive sentence in English, one might consider (1a) transitive as well, thus with *a reluctant consent* as a direct object licensed by a transitive variant of a typically intransitive verb (an analysis purported by e.g. Aue-Apaikul 2006 and Martínez-Vázquez 2014a). Is this view correct?

In section 2 and 3 we show that NP_2 fails a number of tests for ordinary direct objects and that this is due to the predicative function the post-verbal noun (PVN) fulfills, which is comparable, though not identical, to the role a noun predicate plays in e.g. *He gave a reluctant consent*, a support verb construction. In section 4 we will turn to Levin's label (1993: 97–98), i.e. "Reaction Object Construction"[1], in order to show that certain assumptions and assertions in her succinct description actually misrepresent the clause type. Section 5 draws the conclusions. Only for convenience will we keep referring to the clause type with the acronym ROC.

Our analysis is based on a small corpus built with the occurrences found in the 13 Inspector Morse novels by Colin Dexter (about 4,400 pages consulted manually)[2]. Overall, 48 occurrences were traced, with the following verbs: *blow*, *grin*, *growl*, *kiss*, *laugh*, *nod*, *shrug*, *smile*, and *wave*. The lion's share belongs to *nod* (37 occurrences). Despite its size, the corpus[3] reveals key features of the construction and a peculiarity of the author's idiolect.

2. Is NP_2 an ordinary direct object?

In its minimal shape, the construction in (1) surfaces as a three-word sentence, in that a zero article for NP_2 is possible, as in (2):

(2) Morse nodded agreement (V, 237)

Many other combinations are found: the post-verbal noun (henceforth PVN) can take a possessive adjective, as in (3), an indefinite article, as in (4), a restrictive modifier, as in (5), as well as certain combinations of the above possibilities, as in (1) and (6):

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[1] Levin actually uses the plural: "Reaction object constructions" (1993: 98).

[2] The volumes were first published by Macmillan and then republished by Pan Books. The examples drawn from the volumes are followed by two figures, as in (1a): the Roman numeral indicates the volume number, whilst the Arabic numeral provides the page number.

[3] The other corpus-based work we have knowledge of is Martínez-Vázquez (2014b) (3,000 occurrences).

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(3) Morse nodded his agreement (I, 265)
(4) The Senior [...] nodded a greeting (XII, 15)
(5) [T]he Dean nodded reluctant assent (III, 7)
(6) Morse nodded a friendly greeting (III, 54)

The PVN can also occur with a prepositional phrase (PP), as shown below:

(7) He waited a little, nodding his sympathy to a woman (IX, 131)[1]
(8) The surgeon smiled a sour acknowledgement of the point (VII, 80)

The behavior of *agreement*, *greeting*, *assent*, *sympathy*, and *acknowledgement* in (3) to (8) is evidence that the PVN heads a noun phrase (NP_2). However, does NP_2 work as an ordinary direct object? That is, is NP_2 an argument licensed by a transitive verb (as opposed to PVNs unlicensed by the support verb in sentences such as *The defendant made a confession* and *She gave a smile*)? The literature shows contrasting data. Levin claims that the ROC does not have a passive counterpart (**A cheerful welcome was beamed by Sandra*, 1993: 98), as do e.g. Huddleston and Pullum (**Her assent was smiled*, 2002: 305). Other researchers provide examples of passives, often attested ones, as in (9) (from Kogusuri 2009: 35, author's italics):

(9) "You got a smoke?" the young black man asks the older white man who is pulling hard on a cigarette. "This is all I got." "How about a drag?" Without hesitation it's handed over. *Thanks are nodded*.
(*Newspaper of the Catholic Archdiocese of Atlanta, Local News Archive*)

Compared with the behavior of ordinary direct objects, the PVNs in the corpus behave differently for a number of reasons: (a) they are never pronouns (**He nodded it*)[2]; they never head a relative clause; (c) they never occur in negative or interrogative sentences, (d) NP_2 is never the target of a wh-question (**What did he smile / nod?*), and (e) NP_2 is not topicalized (no occurrences such as *Agreement, he nodded*). This amounts to saying that, syntactically, NP_2 is to a large extent inert.

[1] The verb *nod* can also license an indirect object, as in *He nodded to me in a friendly way*. The PP *to a woman* in (7), or that in *[t]he Chief [...] nodded a perfunctory greeting to the two detectives* (IX, 235), could either be licensed by the verb, by the PVN, or by both.

[2] Worthy of mention is the fact that other unselected PVNs can pronominalize: *She nodded us into the room*, *He drove me crazy*.

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3. The post-verbal noun as a noun predicate

This section will provide three pieces of evidence to support an analysis which sees the PVN as a noun predicate. The subsections 3.1 to 3.3 concisely illustrate the facts, which are then interpreted in 3.4.

3.1 The determiners of the PVN

Table 1 illustrates the distribution of the determiners occurring with the PVN in the corpus:

	Occurrences	**Percentages**
Possessive adjective	20	43%
Indefinite article	18	38%
Zero article	9	19%
Definite determiner	-	-

Table 1: Determiners for the PVN in the corpus

These results suggest at least two reasons to differentiate NP_2 from ordinary direct objects. The first comes from the absence of definite determiners (e.g. *the* / *this* / *that*), a constraint one would not expect if NP_2 were an argument of the verb[1]. The second has to do with the zero article, which in ordinary transitive sentences normally occurs with nouns that are singular and uncountable. The noun *agreement*, the uses of which oscillate between the two values of the feature [± concrete], can occur as a [+ count] noun, inasmuch as it can take the indefinite article and be plural. On the other hand, in the corpus *agreement* also occurs with a zero determiner, as in (2)[2], and invariably is [– concrete].

3.2 Obligatory coreference (Equi subject)

A prominent feature of the construction was first noticed by Ross (1970: 266): "the possessive pronoun modifying the abstract noun in the object must refer back to the subject (cf. **Tom frowned Ann's / my displeasure*)". Put differently, if the PVN is preceded by a possessive adjective (which Ross calls "possessive pronoun"), this must share number, gender, and person with NP_1, as the indexes in (10) illustrate. The lack of agreement for any of these features gives rise to unacceptable sentences, as in (11):

[1] According to Kogusuri (2009: 35): "R[eaction]O[bject]s cannot co-occur with a definite article". The author draws the conclusion that the sentence *He roared the command* (Huddleston and Pullum 2002: 305), does not exemplify the ROC. On the other hand, sentences such as *Tom roared his displeasure* (Ross 1970: 267) seem to share the structure in (1).

[2] In the corpus, the noun *agreement* also takes the indefinite article (*Lewis was about to nod a partial agreement*, XII, 250), as it also does in *reach (an) agreement*, another context in which the PVN is susceptible to being analyzed as a noun predicate.

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(10) [H]er [...] passengers$_i$ laughed their$_{i/*j}$ light-hearted approval (IX, 18)
(11) *He nodded her agreement

3.3 Adjective-adverb correlations

To the best of our knowledge, semantic equivalences such as the following ones have passed unnoticed:

(12) Lewis shrugged a reluctant consent (III, 242)
(13) Lewis reluctantly consented [to something]

(14) [A] few heads nodded a fairly vigorous assent (III, 2)
(15) A few heads assented fairly vigorously

(16) Dickson [...] stepped forward to greet the Chief Inspector [...] Morse nodded a friendly greeting (III, 54)
(17) Morse greeted [Dickson] friendly

(18) Morse nodded a feeble acquiescence (IV, 89)
(19) Morse feebly acquiesced

(20) The surgeon smiled a sour acknowledgement of the point (VII, 80)
(21) The surgeon sourly acknowledged the point

(22) Morse nodded his full appreciation of the situation (VIII, 18)
(23) Morse fully appreciated the situation

In each of the above pairs, the first sentence contains an adjective modifying the PVN, whereas the second contains the corresponding adverb. Regularly, the first sentence entails the second one (in (16) and (17) adjective and adverb do not differ). For instance, if (12) is true, then (13) must also be true.

3.4 The PVN fulfills a predicative role

The subsections above highlight three characteristics which form a coherent pattern. The first relates to determiners: the PVN never combines with a definite determiner and can be bare. The second concerns possessive adjectives: if such an adjective occurs, it must share number, gender, and person with the subject. The third has to do with adjectives working as restrictive modifiers. The PVN may be endowed with a morphologically related verb (e.g. *agreement* / *agree*, *greeting* / *greet*) and the adjective with a morphologically related adverb (e.g. *involuntary / involuntarily*, *full* / *fully*). If this is the case, a sentence built with the related verb (licensing the same subject) and the related adjective enters an

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entailment pattern[1], as in the pair *Lewis* [...] *had nodded an almost involuntary agreement* (II, 292) / *Lewis almost involuntarily agreed*.

Significantly, these properties also belong to support verb constructions such as *She gave a smile*. Let us examine each of them in detail.

Constraints on definite determiners is what one finds when the noun functions as the predicate of certain support verb constructions (see Mirto 2007, 2011 in relation to cognate and reaction objects). According to e.g. Brinton (1996: 187), the noun of a support verb construction "is normally preceded by an indefinite article" (cf. *have a think about it* vs. **have the think about it*, and %*She gave the smile*, with the percentage sign signaling the less frequent use of the definite article if compared to the indefinite article[2]). Huddleston and Pullum (2002: 191) express the same idea: "The most usual determiner with light verbs is the indefinite article". Moltmann (1989: 301) discusses the so-called "indefiniteness effect" in English, which prevents the noun predicate of a copular construction from taking the definite determiner *every*: **John is every man* (in de Swart 2007: 93). Indeed, in the corpus *every* is not found with the PVN and its occurrence seems unlikely (??*He nodded every agreement*). What follows is that there is good ground to analyze the PVN, and thus NP_2, as a noun predicate.

Constraints on the possessive adjective are a commonplace in investigations on support verb constructions. In e.g. sentences such as *John took his leave*, *They made their decision* or *He made his exit*, the possessive adjective must share the features of the subject, (cf. **John took her leave*, **They made our decision*, **He made her exit*)[3]. This equals the constraint found in the so-called ROC (*Morse nodded his gratitude* [X, 45] vs. **Morse nodded her gratitude*). Also notice that the same noun yields parallel outcomes in *We nodded our* (*their) *assent* and *We gave our* (*their) *assent*[4].

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[1] The entailment pattern holds even without an adjective: *[H]e grinned acknowledgement* (IX, 221) entails *He acknowledged* [*something*].

[2] In a support verb clause such as *She gave a smile*, a definite determiner for the PVN generally co-occurs with a modification, e.g. by a relative clause (%*She gave the smile* vs. *She gave the smile I got used to*). From this viewpoint, in the corpus the PVN appears even more constrained, given that definite determiners and relative clauses do not occur.

[3] This property distinguishes the construction in (1) from that of *She broke her leg* (cf. Kogusuri 2009: 49), in which there is no obligatory agreement: *They broke her leg*. In this regard, sentences such as *He nodded his head* or *She shrugged her shoulders* align with (1) (**He nodded her head*). Also, notice that with body parts the zero article is disallowed (**She broke leg*).

[4] This constraint excludes sentences such as *Wolfgang inhales their disappointment*, which Martínez-Vázquez (2014b: 180) provides as an example of the construction in (1).

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Finally, certain correlations between adjective and adverb are also a well-known characteristic of support verb constructions in English (e.g. *She gave a charming smile – She smiled charmingly*; *The project made rapid progress – The project progressed rapidly*, see Cattel 1984: 7–14).

4. Reaction or no reaction?

According to Levin, the PVNs "express a reaction" (1993: 98). To our knowledge, Martínez-Vázquez is the only one who noticed that: "The object does not necessarily imply a reaction" (2014b: 176)[1]. Notice that a reaction implies an action, to which it is a response. PVNs such as *acquiescence* and *consent* can be easily considered reactions, but other PVNs raise problems. In the scenario the sentences below evoke, for instance, the referents of the subjects might well act first, which means that the greetings the PVNs convey are not reactions:

(24) Morse [...] nodded "Hello" to a nice-looking secretary (IV, 121)
(25) [H]e smiled a cautious greeting (IX, 119)

Levin also claims that the reaction object expresses "an emotion or disposition" (1993: 98). These terms appear too inclusive. In discussing the nature of the PVN in e.g. *Tom scowled his displeasure*, Ross writes (1970: 267): "Other abstract nouns which cannot appear in this construction are: *recklessness*, *prejudice*, *greed*, *hope*, *kindness*, and many more". Such nouns appear to imply emotions or dispositions. It follows that the notion 'reaction', even as a result from emotions or dispositions, is not relevant to get hold of the core characteristics of the clause type.

The difficulties of such semantic characterizations also emerge from the following comparison:

(26) Morse had nodded a polite "good evening" (II, 16)
(27) [S]he [= Mrs. Seth] acknowledged a few muted "good mornings" (III, 254)

Both the PVNs of these sentences are greetings, but the two sentences differ greatly in structure: only (26) is an instance of the so-called ROC. In (26), the greeter can only be the referent of the subject, and he who greets is also he who nods, whilst in (27) this cannot be the case because it is not Mrs. Seth who conveys a few muted 'good mornings'. That is, the role the PVN fulfills in the clause depends on the verb it combines with. This is made overt

[1] As Levin 1993, Huddleston and Pullum 2002, Ross 1970, and others, also Martínez Vázquez, calls NP_2 an object, though she calls it an "expressive object" (Martínez-Vázquez 2014b).

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by the genitive in (28), inasmuch as the acknowledgement and the gesture are performed by distinct persons, i.e. Lewis and Morse respectively:

(28) Lewis acknowledged Morse's gesture of recognition (VII, 52)

Summing up, a semantic analysis of the PVN as implying a reaction proves problematic. It also seems too vague: in *I nodded yes* (from the Collins Cobuild English Language Dictionary) is "yes" an emotion or a disposition? Also notice that such notions as reactions, emotions, or dispositions impinge on pragmatic aspects which are usually unnecessary for a morpho-syntactic analysis.

5. Concluding remarks

The proposed analysis suggests a few remarks on Levin's comments (136 words overall) which can effectively serve as a conclusion to this work. The relevant part is repeated below (1993: 98):

> Certain intransitive verbs – particularly verbs of manner of speaking and verbs of gestures and signs – take nonsubcategorized objects that express a reaction (an emotion or disposition) [...] When these verbs take such objects they take on an extended sense which might be paraphrased "express (a reaction by) V-ing", where "V" is the basic sense of the verb. For instance, *She mumbled her adoration* can be paraphrased as "She expressed/signalled her adoration by mumbling" (Levin 1993: 98).

First, consider the "nonsubcategorized objects". In the light of misconstrued sentences such as **He nodded it* and **What did he nod?* (see section 2), the lack of subcategorization is evident. However, in our account it is so because the PVN is a noun predicate at clause level, as happens e.g. in *Mary gave / laughed / nodded her approval*. These clauses share the predication by *approval*, but differ in the verb: *give* does not relicense *Mary*, whilst *laugh* and *nod* do (Mirto 2007, 2011). This makes reversible Levin's assertions "intransitive verbs *take* nonsubcategorized objects" and "these verbs *take* such objects" (our emphasis). In our account, the opposite is true: the predicative PVN first licenses one or two arguments, and then selects a verb with which it must combine, thus giving rise to a multiword expression.

Second, dubious appears the verb's "extended sense", as opposed to the basic sense in "V-ing". This is best seen in connection with the paraphrase the author proposes[1], i.e. *mumble adoration = express adoration by mumbling*. The construction in (1) conflates two predications, nominal and verbal, into a

[1] Analogous to those found in dictionaries: "To express with a grin: *I grinned my approval*", "To express with a smile: *Grandmother smiled her consent*" (The Free Dictionary, online).

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single clause[1]. What Levin's paraphrase does is allocate the two predicates in distinct clauses: *adoration*, the nominal one, occurs in the main clause as the direct object of *express*, whilst *mumble*, the verbal one, is rendered as a gerund in the subordinate clause. The paraphrase works perfectly, but the "extended sense" germinates seeds of doubt. For example, depending on the elements the verb *nod* combines with, the meaning it contributes either encloses information passed to another participant, as in *Morse nodded to him to follow her*, or does not, as in *He nodded off while she was speaking to him*. In e.g. (6), *Morse nodded a friendly greeting*, the union of the nominal predication and the verbal one does yield the transmission of information, which coincides with the abstract content of the PVN, regardless of whether the second participant is overt. In (6) Morse is a >nodder< just as he is in *Morse nodded to him to follow her* and there is therefore no reason to envisage an extended sense.

Third, the semantic basis of the label "Reaction Object Construction", used almost invariably uncritically, makes it inadequate, also in relation to the type of verb. Levin distinguishes three classes: verbs of nonverbal expression, wink verbs (9 verbs, among which *nod*), and verbs of manner of speaking. Thanks to sentences such as *He puffed relief* and *Kip sighed his pleasure*, Martínez-Vázquez (2014b) shows that the third class is problematic, since *puff* and *sigh* can hardly be considered as manner of *speaking* verbs. A two-class distinction, with verbs involving either a body move or a body sound, is to be preferred (see Mirto 2007: 125, Martínez-Vázquez 2014b: 189). Both moves and sounds are used as a manner of communicating, a semantic trait the construction always conveys. Interestingly, in our corpus the second class is found only once (*Morse growled his discomfiture down the phone*, VI, 111), an exclusion that contours the author's idiolect.

The diagnostics in section 3 suggest that a key feature of the construction is the predicative nature of the PVN, which alone simultaneously accounts for the constraints on definite determiners and on possessive adjectives, as well as for the correlations between adjectives and adverbs and for the entailment patterns. Last, let us revert to the question raised in the introduction: at no point is the PVN an argument of the verb, which is not a transitivized intransitive. As happens to the noun predicate of a support verb construction, with unmarked word order NP_2 can only linearize post-verbally.

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[1] A comparable type in French is named "fusion" by Gross (1981: 45–48).

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