How Reduced are Reduced Relatives?
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1. Introduction

In this paper we will argue that the prenominal participial constituent in (1) cannot be analyzed as a preposed reduced relative clause, contra Kayne (1994):

(1) the recently sent book

First we will show, on the basis of French and English data, that participial modifiers are, in principle, susceptible to being analyzed as reduced relatives. We will argue that reduced relatives differ from simple adjectives in terms of argument structure: whereas reduced relatives are the projection of a head with its arguments, simple adjectives do not have argument structure at all. Subsequently, we will investigate the status of the modifier in (1).

2. Kayne’s analysis

Kayne (1994) analyzes postnominal participial constituents in English and French as reduced relative clauses. For antisymmetry reasons, full relatives are not generated as right-adjuncts, but as CPs selected by $D^0$. The antecedent noun raises from within the clause to Spec,CP:

(2) $\text{DP}[\text{the CP}[\text{book}_t \text{ sent}_t \text{ to John}]]$
(3) $\text{DP}[\text{le CP}[\text{livre}_t \text{ envoyé}_t \text{ à Jean}]]$

‘the book sent to John’

The prenominal position of the participial constituent recently sent in (1) is derived by movement of the predicate to Spec,CP whereas the NP stays in Spec,IP.

This analysis is also proposed for simple adjectives such as yellow:

(4) $\text{DP}[\text{the CP}[[\text{yellow}], \text{book}_t]]$
Kayne states that Spec,CP has to be filled. However, in cases such as (2), the predicate, which is followed by a complement, cannot move because of a head-final constraint like Emonds’ (1976) Surface Recursion Restriction. In this case, it is the NP that moves to Spec,CP.

Simple adjectives in French are derived like their English counterparts, as in (4). To account for the postnominal position of most of the adjectives in French, Kayne assumes that in this language there is subsequent overt noun movement to a functional head dominating CP (Valois 1991, Cinque 1994):

\[(5) \quad \text{DP[le livre} \_i \_t_i \text{CP[jaune} \_j \_t_j\text{]]} \]
\[\text{the book yellow} \]
\[\text{‘the yellow book’} \]

In Sleeman and Verheugd (1998), we argue, contra Kayne, that simple adjectives lack argument structure and can therefore not project a clausal structure consisting of a predicate with its subject. We simply follow Valois (1991), who proposes that simple adjectives are generated within the functional projections of NP, as in (6), with the noun moving to a higher functional projection in (7):

\[(6) \quad \text{DP[the yellow NP[book]]} \]
\[(7) \quad \text{DP[le livre} \_i \_t_i \text{jaune NP[t_j]}\text{]} \]

In the next section we will present arguments for the idea that simple adjectives in French and English do not have argument structure.

### 3. Reduced relatives versus simple adjectives

An argument for the idea that simple adjectives have to be analyzed in another way than participial constituents in French, is that they behave differently w.r.t. their combination with the demonstrative pronoun celui ‘the one’:

\[(8) \quad \text{celui envoyé à Jean} \]
\[\text{the one sent to John} \]
\[\text{‘the one sent to John’} \]
\[(9) \quad *\text{celui jaune} \]
\[\text{the one yellow} \]
\[\text{‘the yellow one’} \]

Since the demonstrative pronoun can also be combined with a full relative clause, the contrast in grammaticality between (8) and (9) suggests that in (8) but not in (9) we are dealing with some sort of relative clause. The grammatical example
(8) can be derived by moving *celui*, the subject of IP, to Spec,CP, whereas the predicate stays in situ, as in (3) above. Kayne analyzes *celui* as an XP that can only be interpreted in Spec,CP. There can be no further material inside this XP. D° is necessarily empty with *celui*. We propose that an adjective in the functional projections dominated by DP is not possible because of the XP character of *celui*. We assume, following in part Higginbotham (1985), that adjectives in the functional projections of NP are semantically related to the noun by means of theta-identification, which is a relation between A° and N°. This is in line with Bouchard’s (to appear) ideas about adjectival modification. According to Bouchard, simple adjectives that are combined with a noun, participate in the extensity of the noun, whereas modifiers that are combined with *celui* do not participate in the pronoun’s extensity. They do not combine with the pronoun in one coherent property, but are predicated of the actual referent of the pronoun. This explains the ungrammaticality of (9). Being an XP, *celui* cannot be theta-identified with the simple adjective.

As Sandfeld (1965) and Rothenberg (1985) show, not only full relative clauses and past participles combine with *celui*, but the following constituents as well:

\[
\begin{align*}
\text{à } + \text{ infinitive} \\
\text{celui } à \text{ faire} \\
\text{the one to do} \\
\text{‘the one to do’} \\
\text{present participles} \\
\text{celui chantant une chanson} \\
\text{the one singing a song} \\
\text{‘the one singing a song’} \\
\text{adjectives ending in } -\text{ble} \\
\text{celui recyclable} \\
\text{the one recyclable} \\
\text{‘the one that can be recycled’} \\
\text{adjectives followed by a complement} \\
\text{celui fier de son fils} \\
\text{the one proud of his son} \\
\text{‘the one proud of his son’}
\end{align*}
\]

Sadler and Arnold (1994) show that the corresponding constituents in English can or must be generated in postnominal position, just like full relative clauses and unlike simple adjectives:

(14) the jewels stolen
(15) the key to open the door with
(16) the man sitting on the sidelines
(17) the rivers navigable
(18) a man fond of his children

They can also follow the pronominal element *those*, just like full relatives, whereas simple adjectives cannot:

(19) those stolen
(20) those navigable
(21) *those yellow

We propose that all the constituents that combine with *celui* and *those* and that follow the noun in English are clausal entities, consisting of a predicate with its subject. We propose that they are reduced relatives. In our view, reduced relatives are the projection of a head plus its arguments, one of which moves to Spec,CP, in a raising analysis of relative clauses. In most of the reduced relative types the syntactic argument structure is associated with the verbal or deverbal nature of the predicate’s head. This is the case with á/to + infinitive, present and past participles and -ble adjectives. In the case of transitive adjectives, the presence of a complement implies the presence of an external argument, just as in the case of transitive verbs. So, in all these cases there is projection of syntactic arguments, of which one can be promoted to Spec,CP.

We assume that simple adjectives such as yellow or jaune, on the other hand, do not have syntactic arguments. In their use as modifiers of the noun, they do not project a clausal constituent (i.e. a reduced relative) and there is no argument that can be raised to Spec,CP. This type of adjective can therefore be generated in the functional projections of NP. This does not mean that simple adjectives cannot be predicates and project a subject. They clearly do so in copular constructions. However, we assume that such a derivation is more costly. Since, as we will argue below, simple adjectives used as modifiers can satisfy the theta-role associated with them in their Lexical Conceptual Structure (Jackendoff 1983, Rappaport and Levin 1988, Grimshaw 1990) without projecting a syntactic subject, we assume that, if possible, this more simple derivation is chosen.

It must be noted, however, that in the examples given above, the participles and -ble adjectives clearly have a verbal meaning. In the French example (11), for example, the obligatory presence of a complement is a consequence of the verbal nature of the participle. And both ‘verbal’ French and English -ble adjectives can be paraphrased by a verb and be accompanied by a complement expressing the agent. The example (17), for example, can be paraphrased by ‘that
can be navigated on’ and can be followed by by freighters. In other cases, however, both types of modifiers seem to be more like simple adjectives. We are dealing then with totally lexicalized forms, which are no longer in a completely transparent semantic relationship with the verb and which have lost the argument structure of their verbal base. For English, astonishing and remarkable are cases in point:

(22) an astonishing remark (≠ ‘that astonishes’)
(23) a remarkable success (≠ ‘that can be remarked’)

The difference in argument structure between simple adjectival modifiers and the more complex modifiers we analyzed as reduced relatives has also implications for the way in which the modifier is semantically related to the noun (or a pronoun like celui). Since in reduced relatives the (pro)noun raised to Spec,CP originates as an argument, it is theta-marked by the predicate. Simple adjectives, which are generated in the functional projections of NP, do not have syntactic argument structure and cannot theta-mark the noun they modify. However, at the level of Lexical Conceptual Structure (LCS) one theta-role is associated with simple adjectives. Following Higginbotham (1985), we propose that this theta-role can be saturated by the mechanism of theta-identification: the theta-role of the adjective is identified directly by the noun, without the projection of this role as a syntactic argument. This is the difference then between predication and attribution.

We now turn to the main question of this paper: is recently sent, the prenominal modifier in (1), the preposed predicate of a reduced relative? In order to answer this question, we will study in more detail prenominal and postnominal modifiers in English.

4. Prenominal and postnominal modifiers in English

A complicating factor for an analysis of the modifier in (1) as the predicate of a reduced relative clause, which moves to Spec,CP, is the fact that some modifiers in English can occur both in prenominal and postnominal position, as shown by Bolinger (1967):

(24) the stolen jewels
(25) the jewels stolen
(26) the visible stars
(27) the stars visible
If the predicate of a reduced relative moves to Spec,CP unless this is blocked by the head-final constraint, as suggested by Kayne, why then can the predicate in (25) and (27) stay in situ? Furthermore, there is a slight difference in interpretation between (24) and (26) on the one hand and (25) and (27) on the other, as observed by Bolinger. Whereas the modifier in prenominal position denotes a property and is combined with the noun into one single property, which results in what Bolinger calls the ‘characterizing’ reading (the visible stars for instance, are the stars that have the property of being in principle visible) the postnominal modifier expresses a temporary state and refers to a particular occasion (the stars visible, for instance, are the stars that you can see now). It seems difficult to capture this difference in meaning in Kayne’s analysis, because in both cases the predicate has the same argument structure. It is unlikely that the difference in meaning is simply the result of the movement of the predicate to Spec,CP.

Furthermore, Bolinger observes that both positions are not always possible. Whereas (28) is normal, with the postnominal participial phrase expressing temporariness (‘money when it is withdrawn’), (29) is not, because withdrawn does not characterize. In this respect, withdrawn differs from deposited, which can be used in prenominal position, see (30). Deposited characterizes a class of money. As Bolinger observes, deposited money contrasts, in our manner of keeping accounts, with invested money and pocket money.

(28) Money withdrawn does not yield interest.
(29) *withdrawn money
(30) deposited money

In order to account for these facts, we propose that the participle is a polysemic entity, with the difference in meaning being the consequence of a difference in argument structure. Whereas English deverbal modifiers in postnominal position have their complete syntactic argument structure as well as event structure (in the sense of Grimshaw 1990 e.a.) and express purely an event, there is no syntactic argument structure in the case of the prenominal modifiers in (24) and (26). Although event structure is still present, there is no mapping of thematic arguments from LCS onto syntactic argument structure. This means that the participial prenominal modifier denotes a transition between an event and a property. So, (24) and (26) will have the representations in (31)–(32), with the deverbal modifier generated directly in the slot available for simple adjectives; on the one hand the modifier denotes an event, and as such is verbal in nature, on the other it has its thematic theta-role saturated via theta-identification, and as such is adjectival in nature:

(31) \[\text{DP}[\text{the stolen}^1 \text{NP[jewels}^1]]\]
That visible expresses an event in (32) is shown by the possibility of combining it with an adverb such as currently (the currently visible stars). Stolen in (31) can be combined with an adverb such as recently, which shows that it also expresses an event. The same adverb is present in (1), repeated here as (33), which contrasts with (34):

(33) the recently sent book
(34) the book sent recently

Both (33) and (34) have an eventive meaning, but whereas (34) has clausal structure, which means that the participle has syntactic argument structure, (33) has not. This is shown by the difference in the position of the adverb (recently sent versus sent recently): in (34) the participle moves to a functional head dominating the adverb, see (35), in (34) no movement is possible, in the absence of a functional projection dominating the adverb, see (36):

(35) $\text{DP}[\text{the CP} \text{book} \text{C}_0 \text{t}_1 \text{sent}_t \text{recently}_t \text{t}_j]$
(36) $\text{DP}[\text{the recently sent NP}[\text{book}]]$

Whereas sent recently denotes purely an event, recently sent expresses a transition from an event into a property: there is event structure but no syntactic arguments.

The third type of deverbal modifier is the purely adjectival form with complete deletion of argument and event structure (cp. the broken vase ‘in pieces’ and a remarkable success ‘striking’). This type of deverbal modifier expresses purely a property and is generated in the functional projections of NP.

The distinction that we make between three polysemic variants of modifiers is not new. For English present and past participles and -ble adjectives Fabb (1984) distinguishes also between three readings: in postnominal position they project clausal structure (reduced relatives), in prenominal position they are either syntactically derived (‘verbal’ reading) or lexically derived (‘adjectival’, i.e. totally lexicalized reading) in Fabb’s analysis.

Van der Putten (1997) makes a distinction between syntactically derived and lexically derived prenominal (de)verbal modifiers in Dutch. Syntactically derived (de)verbal modifiers are present and past participles and -baar adjectives, which correspond to English and French -ble adjectives. If they have a lexicalized meaning, they are lexically derived. Van der Putten assumes that in the syntactically derived cases the modifier is referentially linked to the noun, just as in the case of lexically derived modifiers, which suggests that theta-identification applies and that there is no syntactic argument involved.

We differ from Fabb and van der Putten in that we adopt a strong lexicalist
view and assume that all derivations take place in the lexicon. We do not
distinguish syntactically derived deverbal modifiers, but assume that deverbal
modifiers may differ with respect to their syntactic behavior as a consequence of
a difference in argument and/or event structure.

In this section, we have proposed that, in English, modifiers with a ‘verbal’
reading, but without syntactic arguments, can be generated in the functional
projections of NP. In the next section, we will argue that this is also possible in
French.

5. French

For French we have argued that deverbal modifiers can have full syntactic
argument structure, which results in the projection of a reduced relative. This
happens in the same cases as in English. Furthermore, total lexicalization is also
possible, see (37) with what is called a ‘verbal adjective’ and (38) with an
adjectival passive:

(37) une attitude étonnante (≠ ‘qui étonne’)
    an attitude astonishing (≠ ‘that astonishes’).
    ‘an astonishing attitude’

(38) la porte ouverte (≠ ‘qui a été ouverte’)
    the door open (≠ ‘that has been opened’)
    ‘the open door’

Lexicalized -ble adjectives are aimable ‘amiable’ or remarquable ‘remarkable’.

But are there also eventive argumentless modifiers in French? In French,
modifiers generally occur to the right of the noun, so that it cannot be argued on
the basis of the modifier’s position whether it is clausal, i.e. a reduced relative,
or an argumentless eventive modifier generated in the position available for
simple adjectives. However, in the previous section we showed for English that
there can be an additional difference: the position of an adverb. We repeat the
relevant examples below:

(39) the recently sent book
(40) the book sent recently

Now, in French both adverb positions are also possible:

(41) une fille récemment grandie
    a girl recently grown up
    ‘a recently grown up girl’
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This would mean that whereas in (40) and (42) there is clausal structure, with the participle moving to a functional projecting dominating the adverb, there is no clausal structure in (41), just as in the English example (39). The modifier is generated in the adjectival slot, i.e. in the functional projections of the noun, and the noun moves to a functional head dominating the modifier:

(43) \[ \text{DP[une [fille]i récemment grandie NP[\text{N}]]} \]

For English we stated that the eventive modifier has a property reading in *the recently sent book*. Both in English and in French only some adverbs allow the participle to denote a property that can be combined with the noun into one coherent property. In English, these are adverbs like *recently* or *currently*. In French, these are adverbs like *récemment* ‘recently’, *fraîchement* ‘freshly’ or *nouvellement* ‘newly’):

(44) des robes fraîchement repassées
some dresses freshly ironed
‘recently ironed dresses’

(45) un président nouvellement élu
a president newly chosen
‘a recently chosen president’

So, the conclusion is that French patterns with English. There can be event structure plus argument structure, event structure without argument structure, or neither of these, i.e. complete lexicalization. The question now is of course why modifiers of the noun display this sort of variation in argument structure. We will answer this question in the next section. We will show furthermore that it is not an isolated phenomenon, since it occurs also in the category of the noun.

6. Variation in argument structure

Modifiers such as *astonishing* or *remarkable*, which have an idiosyncratic meaning in comparison with their verbal base, are simply the result of complete lexicalization. The question is, however, why (de)verbal modifiers can either have both event structure and syntactic argument structure or have only event structure, but no argument structure. We suggested that in the last case, the modifier is related to the noun in an adjectival way, that is by theta-identification. As
Sadler and Arnold (1994) observe, the modifier and the noun express in that case one coherent property. We consider this to be the most ideal option, either for semantic reasons (the conjunction of properties) or for economy reasons (the projection of non clausal and thus simpler structures for modifiers). There is only complete mapping of the modifier’s LCS onto syntactic argument structure — and hence reduced relative formation — if there is reason to do so. One of the reasons for complete mapping is that one wants to highlight a purely eventive reading: the jewels stolen (yesterday), une invention importée récemment or that one needs a subject to form a clause (copular constructions). Another case is when theta-identification is not possible, as in the case of the French pronoun celui:

(46)  DP[ CP[celui recyclable]]
     the one recyclable
     ‘the one that can be recycled’

It should be noted furthermore that modifiers cannot always be generated in the functional projections of NP. The head-final constraint excludes modifiers followed by a complement or adjunct in these projections. In cases like these, a reduced relative will be formed:

(47)  aCP[girl_i t_i speaking four languages]
(48)  the CP[book_i t_i read t_i by John]

Our analysis of (de)verbal modifiers shows that the process of adjectivalization is a gradual process, going from full event and argument structure ((reduced) relatives) via event, but no syntactic argument structure to the total absence of both (complete lexicalization). That adjectivalization can be a gradual process, is also shown by Leeman (1992) for -ble adjectives: whereas some -ble adjectives have retained most of the verbal properties of their base (they can, for example, be paraphrased by a verb and they can have the agent expressed in a paraphrase), others have lost them completely. But there are also -ble adjectives that are situated in between these two extremes.

Van Hout (1991), following Zubizarreta (1987), shows that the delimitation effected by nominalization is also a gradual process. Van Hout proposes that, in a first step, nominalization highlights the state node of the original event structure, thereby turning the verb into an event nominal. Process nouns that have undergone this step, are not countable, take obligatorily one or more internal arguments and can be followed by a by-phrase, which means that besides syntactic argument structure there is also event structure (the destruction (*s) of the city (by the enemies)). The transformation of the denotation from an event into an object is a second step. After this step has taken place, the process noun is
countable and can optionally be followed by an internal argument and an agentive by-phrase or genitive phrase (I attended all performances (of/ by Jouri Egorov)(of the Schumann program)). The deletion of the event structure altogether is the final step and gives rise to a result noun (John’s proposals). In this way, complex modifiers parallel event nominals. Event nominals allow for an event reading and a result reading and something in between. In the same way, participial constituents such as recently sent are in between verbal event-denoting modifiers and adjectival property-denoting modifiers.

So, we conclude that lexical heads may not only vary w.r.t. their LCS, but also with respect to the projection of LCS-participants onto syntactic argument structure.

7. Conclusion

In this paper we have argued that prenominal complex modifiers in English such as recently sent cannot be analyzed as the predicate of a reduced relative clause that moves to Spec,CP, contra Kayne (1994). We have proposed, both for English and for French, that modifiers can in principle be three way ambiguous: they either have their full argument structure, or they have event structure but no argument structure or they have neither. In this way, there is a parallel between complex event nominals and modifiers of the noun. Reduced relatives are the projection of a modifier that has a complete syntactic argument structure as well as event structure. We have proposed that both eventive and non-eventive argumentless modifiers are generated in the functional projections of NP, where they are linked to the noun via theta-identification.

This analysis has the theoretical advantage that no movement of predicates to Spec,CP needs to be stipulated. In our approach, it is always the antecedent NP that moves to Spec,CP, just as in full relative clauses. This is a welcome result. There is now a uniform raising analysis of both full relative clauses and reduced relatives.

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Notes

1. In principle, participles and adjectives ending in -ble can also be prenominal, as in the stolen jewels, the navigable rivers. We will come back to this point below.

2. In a language like Dutch, these kind of adverbs combine with the participle into one word, which suggests that they form together a coherent property: pasgeboren kinderen 'recently born children', versgevangen vis 'freshcaught fish', de nieuwgekozen voorzitter 'the newly chosen president'. In English, this happens in cases like freshcaught and new-born.

3. Although this restriction is generally attributed to something like Williams' (1982) Head-Final Filter, it might simply be the consequence of the theta-identification relation that has to be established between the noun and the modifier in its functional projections. Theta-identification might only be possible if the modifier's head and the noun are adjacent.

References


