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ALAPSZAKOS SZAKDOLGOZAT

Participiális szerkezetek az angolban

Participial Constructions in English

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Abstract

In my thesis, I examine the category that is referred to as participial in the descriptive literature (Quirk and Greenbaum, 1973). The aim of the paper is to establish further categories among participial constructions and to provide an analysis using the principles of generative syntax. First, constructions with clausal properties (termed participle-clauses) are discussed. After differentiating them from the gerund, two major groups, adverbial and relative, will be established. These will be discussed with respect to the functional projections they contain with regard to economy principles. Second, constructions which lack clausal structure, but have adjectival properties (therefore called participial adjectives) are presented. It is shown to what extent they are similar to lexical adjectives, and where they deviate from them. In addition, a special class of verbs which behave exceptionally in the formation of participial adjectives will be introduced.

Contents

Introduction

In this paper, I am going to examine a concept which seems to underlie a number of constructions in descriptive literature (see Quirk and Greenbaum, 1973). To illustrate some of the constructions, consider the highlighted structures in (1), which are all termed participial by Quirk and Greenbaum (1973).

(1)   a) Everybody watched the **sinking** ship.

            b) We saw a **destroyed** house next to the road.

            c) **Sleeping in his bed**, Bob didn't see the mailman arrive.

            d) Ann saw an angry squirrel, **while crossing the park**.

            e) No-one knows the man **shown on TV**.

These examples (in bold) illustrate that the descriptive category participle describes a rather large and heterogeneous group of structures. The aim of this paper is to categorise and describe these constructions relying on the principles of generative syntax. In chapters 1 and 2, I will examine constructions that have clausal structures. After that I will attempt to establish further groups among the so-called *participle-clauses* (e.g. (1c-e)). Then, in chapter 3, data like (1a) and (1b) are discussed, which seem to lack clausal properties, and they are proposed to be termed *participial adjectives*. In that section their distribution is examined and it is shown what differences there are in their categories.

1. Participles vs. gerunds

The first section examines participle-clauses. Before that could be done, though, it must be defined what exactly the term participle-clause covers. This task is more complicated than it might seem at first sight as in English there is no clear evidence from morphology to identify a participle-status (contrary to languages with rich inflectional morphology, e.g. Latin, where there are certain inflections serving (more or less exclusively) for the formation of participles). According to descriptive grammars, there are two suffixes which can form

participles by attaching to verbs: *–ing* and *–en* (Huddleston and Pullum, 2005). On the other hand, the same authors introduce the term "gerund-participle" to describe every construction in which a verb bears an *–ing*-inflection and which has an internal clause-like structure. (There is less categorial ambiguity in the case of *–en* participles as those only share their form with the past tense form of most verbs (regular verbs), but those are clearly distinguishable from participial constructions.) This means that before proceeding to the analysis one must distinguish between gerunds and participle-clauses. The most conspicuous difference is found in their distribution. It is assumed that gerunds have the internal structures of VPs, but their distribution is similar to that of DPs. In other words, not only can gerunds be found in A-positions of verbs and as complements of prepositions (cf. (2a-c)), they can also be subject to transformations that are (putting PPs aside) diagnostic to DP-status (e.g. clefting (2d) or pseudoclefting (2e)).

(2) a) Tom can't stand [being outdoors].
   b) [Walking after sunset] upsets me.
   c) He always talks about [drawing comics].
   d) It is [walking after sunset] that upsets me.
   e) What he always talks about is [drawing comics].

It can be seen that the gerund can appear in the structural positions DPs can. On the other hand, participle-clauses always appear in other positions; their distribution can be similar to (i) adverbial subordinate clauses or (ii) relative clauses, as in (3).

(3) a) [Sitting on the sofa], the children watched cartoons all day.
   b) None of us knew the man [sleeping on the floor].

The examples above show that participle-clauses and gerunds can be differentiated based on distribution: that is, gerunds can appear in argument positions and in the complement position of PPs, while participle-clauses are found only in adjunct positions. There are, however, other differences between the two concerning their internal structure, the most important being the

range of subjects that are possible for a gerund and a participle-clause. Newson et al. (2006) show that gerunds can take a rather wide variety of subjects: accusative (4a), genitive (4b), or PRO, which can have either anaphoric (4c) or arbitrary (4d) reference.

(4) a) David talked about [**him** crossing the valley].
b) David talked about [**his** crossing the valley].
c) David$_i$ talked about [**PRO$_i$** crossing the valley].
d) David talked about [**PRO** crossing the valley].

The range of subjects possible in participle-clauses does not coincide with this. It can be seen in (5) that genitive subjects and arbitrary PRO are not allowed in participle-clauses while they can have nominative[1] subjects.[2]

(5) a) [**He** being on a diet], Jim didn't eat with us.
b) [**Him** being on a diet], Jim didn't eat with us.
c) *[**His** being on a diet], Jim didn't eat with us.
d) [**PRO$_i$** being on a diet], Jim$_i$ didn't eat with us.
e) *[**PRO** being on a diet], Jim didn't eat with us.

In addition, participle-clauses do not necessarily have an –*ing*-inflected element performing predicative functions: there can appear the –*en*-form of verbs or, in case of attributive relations, no verbal element at all. The former will be discussed in the next section, the latter along with *while*-type adverbial participle-clauses (section 2.1.2).

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[1] Admittedly, the issue of subjects in participle-clauses is somewhat quirky at best. This is mostly due to the fact that this particular construction has been subject to extensive prescriptivist criticism (see Huddleston and Pullum (2005) on this matter); therefore, even native speakers tend to be uncertain regarding the grammaticality of certain constructions. However, as odd as it may seem to a speaker of British English, a group of American speakers have found (5a) not even grammatical, but more acceptable than (5b).
[2] This is only true in the case of participle-clauses that serve as adverbials. The nature of the subject of participle-relatives will be discussed in detail later. The range of subjects is also reduced if there is an overt element in the C or Spec. CP position, which is discussed in detail in the sub-sections of chapter 2 as it differs overtly from the gerund.

2. Participle-clauses

This chapter is concerned with participle-constructions that have a clausal structure. The aim of this section is to show the extent to which participle-clauses are similar before proceeding with the further classification.

The present paper argues that participle-clauses can be associated with either a CP or an IP structure. The main assumption is that every participle-clause has a similar structure below Spec. IP, although a number of different groups will be established among them in the following sections. In other words, their differences are based on only the elements that can appear in Spec. IP (i.e. as subject), Spec CP, or in the C-head position. Thus, I argue that the IP is headed by either *–ing* or *–en* (cf. (6a) and (6b) respectively) in all participle-clauses, and these are the elements that assign Null Case to the PRO subjects[3]. Furthermore, it seems reasonable to assume that participle-clauses contain no vP projection headed by a tense element as they are not specified for tense (cf. Stowell, 1982). Below the IP-level the same vP projections can be found for aspect and voice (cf. (6c)) as in a finite clause, the only exception

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[3] As for PRO subjects, it is assumed that they are bound by the subject of the clause the participle-clause is adjoined to. For example, Hornstein (1999) claims that it is only the DP in Spec IP that c-commands the subject position of adjunct clauses at LF; therefore they are all under obligatory subject control. For this reason in (i) the unpronounced subject can only be under subject control.

(i) $PRO_{i/*j}$ being lost in the forest, Jim_i couldn't find his $father_j$.

However. Huddleston and Pullum (2005) claim that non-subject controlled participle-clauses are possible, but stigmatized in the prescriptivist literature as "dangling participles". In their interpretation sentences in (ii) are grammatical although in (iib) the antecedent of PRO is not even in the sentence.

(ii)   a)$^{%}PRO_i$ born and bred in Brisbane, the Sunshine coast was always my_i preferred destination...
            b)$^{%}$PRO being desperately poor, paper was always scarce – as was ink.
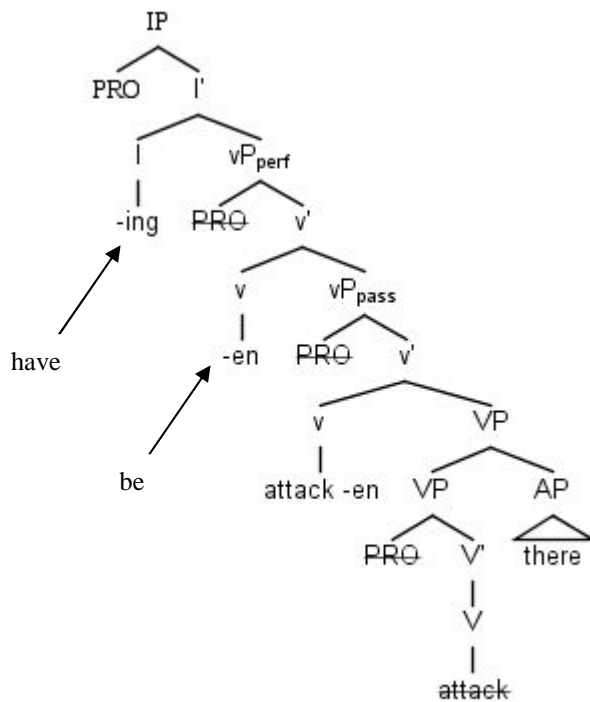
(Huddleston and Pullum, 2005: 208)

On the other hand, they do not mention that a sentence like (i) could be ambiguous for any speaker. This leads to the conclusion that non-subject-controlled PRO is available only when the subject-controlled interpretation would lead to a semantically anomalous sentence. Therefore, it is assumed that the default (or, for some speakers, the only possible) interpretation is subject control, and every deviation from that is not only highly marked, but must be motivated semantically (or pragmatically) as well.

being the double-*ing* construction in (6d), which is ruled out either on phonological grounds (Newson, 2006) or by an independent Double –*ing* Filter (Milsark, 1988).

(6) a) Eating a huge pizza, the boy seemed content.

b) Featured in a soap opera, the actress received lots of fan-mail.

c) Having been attacked there, I'll never go to that pub again.

d) *Being growling in the corner, the dog frightened us.

The structure outlined in the text above is shown in more detail in (7) in the tree diagram[4] for the clause *having been attacked there*.

(7) having been attacked there

```
                    IP
                  /    \
               PRO      I'
                      /    \
                    I      vP_perf
                    |     /    \
                  -ing  PRO     v'
                             /      \
                           v        vP_pass
                           |       /     \
                         -en     PRO      v'
                                        /    \
                                      v       VP
                                      |      /   \
                                attack -en  VP     AP
                                           / \     / \
                                         PRO  V'  there
                                              |
                                              V
                                              |
                                            attack
```

have → -ing

be → -en

The main distinction that is made among participle-clauses will be based on their distribution, i.e. whether they pattern with adverbial clauses or relative clauses. Thus, the former group will be termed adverbial, the latter relative.

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[4] Although it is hard to prove, it is assumed in (7) that PRO moves: the reasons for this are grounded in θ-role assignment and checking features on the verbal elements (e.g. the EPP feature of the inflection).

Having associated a general structure with participle-clauses, it is possible to assign them into different groups. The first criterion for forming groups is the data presented in (3) (repeated here for convenience's sake).

(3)   a) [Sitting on the sofa], the children watched cartoons all day.
        b) None of us knew the man [sleeping on the floor].

As noted above, (3a) shows a distribution similar to that of adverbial clauses, while (3b) patterns with relative clauses. Therefore, the two main categories among participle-clauses are those of adverbial and relative participle-clauses.

2.1 Adverbial participle-clauses

First, participle-clauses can be adverbial in nature, which has already been shown above, and is also demonstrated in (8). To be more precise, their distribution follows that of sentential adverbs as they can appear in front of a clause, i.e. in a position too high to be occupied by a VP-adverb (Newson et al., 2006). These clauses have been termed adverbial.

(8)   a) Being seasick, Tom slept through the day.
        b) While being seasick, Tom didn't eat anything.
        c) With Tom being seasick, we played cards without him.

The examples show that there are distinct groups even within the adverbial class. In (8a), there is no overt element preceding the verb. For this reason, participle-clauses of the like will be referred to as zero-type. In fact, it is more accurate to say that no overt element precedes the IP as sentences like (8a) exhibit the paradigm shown in (5) in the first section, i.e. they can appear with Nominative, Accusative, or PRO subjects. Whether they have projections above the IP-level, and what those may contain if they do, is a question discussed in section 2.1.3.

 (8b) belongs to another type as not only is there a subordinator preceding the verb, but it is also ungrammatical to include an overt subject.

(9)   Though (*she / *her / *Alice) feeling very angry, Alice seemed calm.

Given (8b) and (9), another group can be formed the members of which contain a subordinator and disallow overt subjects. For the sake of convenience, these constructions will be called the *while*-type.

Finally, there is (8c) that fits into neither the zero-type nor the *while*-type group. In this case the clause always has an overt Accusative subject and is introduced by *with*. Therefore, the term *with*-type participle-clause is applied to refer to them.

These three types form the basis of dividing adverbial participle-clauses into three further sub-groups that differ from each other in terms of the possible range of subjects and the nature of the elements that can precede their subject. The three categories are summarised in (10).

(10)

	Range of subjects	Overt elements preceding the subject
zero-type	Nominative/Accusative DP, PRO	nothing
***while*-type**	PRO	subordinators (*while, since, though* etc.)
***with*-type**	Accusative DP	*with*

In this section, a general introduction has been provided to adverbial participle-clauses, and they were divided into three different groups. In the following three sub-sections

they will be discussed separately with respect to the specific issues that the individual groups raise.

2.1.1. The *With*-type

The first issue to discuss here is whether *with*-type participle clauses are different from gerunds. As noted earlier, gerunds are expected to appear as complements of prepositions, and (although gerunds themselves are found in A-positions) a PP with a gerund complement can be an adjunct, just like the *with*-type participle clause. So, in both cases there is a sequence that follows a preposition. However, *with*-type clauses behave completely differently from gerunds. There are two pieces of evidence to support the claim that this structure is in fact a participle-clause. For one thing, its subject can only bear Accusative Case, while one would expect free variation between Accusative, Genitive, and PRO subjects if it were a gerund (Hordós, 2003). Compare (11a) (a gerund as a PP complement) and (11b) (a participle-clause introduced by *with*).

(11)   a) Everyone stood silently [during his / him / PRO singing the anthem].
       b) [With him / *his / *PRO having broken his leg], we can't play football.

In addition, clauses introduced by *with* seem to be ungrammatical in positions in which gerunds can appear, but clausal elements do not. For instance, while clefting is possible in (12a), which contains a gerund in a PP, it is ungrammatical in (12b).

(12)   a) It is Jerry smoking in the bathroom that we always argue about.
       b) *It is Carl living in Peru that we can't meet every week with.

Based on the data in (11) and (12), one can conclude that clauses like (1c) can be best categorised as participle-clauses, even though they resemble gerunds. That resemblance, however, is merely superficial: it is argued below that *with* in participle-clauses is actually a

C-head, not a preposition (see below). This assumption is compliance with the earlier claim that participle clauses are either CPs or IPs.

As discussed earlier, the *with*-type participle-clause is the only one that must obligatorily have an overt DP as subject. Its analysis is grounded in its similarity to infinitival clauses introduced by *for*. The assumption is that *for-to* infinitival clauses like (13a) and *with*-type participle-clauses have basically the same structure.

(13)   a) It is very important [for Jim to play the piano].
         b) [With Jim playing the piano] we couldn't watch TV.

Newson et al. (2006) argue in their analysis that in clauses like (13a) the non-finite complementiser *for* is the head that assigns Accusative Case to the subject in Spec, IP. Following that line of argumentation, *with* can be assumed to be a similar non-finite C-head that also assigns Accusative Case to the subject. This assumption can explain the observation that *with*-type clauses always have an overt subject since an unpronounced (PRO) subject could not sit in a Case Position.

There is a question that remains, however: it must be explained why there are two different complementisers for infinitival and participle-clauses. In other words, some difference must be established between them on which subcategorisation can be based given that *for* subcategorises for *to*-infinitives with an overt subject and *with* for participle-clauses.

Concerning their distribution, it can be observed that infinitival clauses can appear in A-positions while participle-clauses only in Ā-positions. Thus, CPs headed by *for* can take a θ-role whereas the ones headed by *with* cannot. In addition, if Stowell's (1982) assumptions about the tense features of infinitives are taken into consideration, it can be seen that the IP-complement of *for* has a [±tense] feature, but *with* selects only [−tense] complements (IPs headed by *–ing* or *–en*). Thus, there is evidence to suggest that *for* and *with* are both non-finite

complementisers, and they are in complementary distribution. This way, it is possible to analyse *with*-type participle-clauses as CPs headed by *with* that takes [−tense] participle-clauses as complement, and to argue that it is the C-head that assigns Accusative Case to the subject of the participle.

2.1.2 The *While*-type

While-type participle-clauses also seem to include overt elements inside the CP-projection. It is reasonable to think that the subordinators that introduce this type of clause are base-generated in one of the Split CP projections (described by Radford 2004), as they are above the IP, but cannot head the CP as they can occur in both finite and non-finite clauses (i.e. they have no influence on the finiteness of the clause). In addition to that, these subordinators are also ungrammatical with an overt C-head, which suggests that they are subject to Chomsky and Lasnik's (1977) Doubly Filled COMP-Filter (i.e. their distribution is similar to that of wh-elements).

It can be observed that these type of participle-clauses show that an overt inflection is only needed if there is a lexical verb present in the structure. Thus, if the structure is attributive and there is no overt subject, the inflection can be omitted as there is no lexical verb. This means that constructions that seem to be similar to small clauses on the surface are possible.

(14)   a) Although always helpful, he is often impolite.
        b) John, while in New York, lived on the streets

(Quirk and Greenbaum, 1973: 310)

2.1.3. The Zero-type

Zero-type participle clauses pose problems on two levels. First, it has to be decided whether or not they can be analysed as CPs. Secondly, one must account for the free variation of PRO and full DPs in their subject position.

To start with, it has to be discussed whether or not the CP-analysis of zero-type participle clauses is tenable. There are two arguments for the CP-status of zero-type participle clauses. One is grounded in the fact that the other types of participle-clauses have a CP-structure (as it has been shown in the previous sections), and it is desirable to have all three types in the same category. In addition, if the GB analysis of PRO is considered, one has to assume that every clause with a PRO subject is a CP since PRO must be contained in a phrase that is a barrier to government. This is a necessary assumption to make because PRO must be ungoverned (Newson et al., 2006).

However, if one also considers Chomsky's (1981) Empty Category Principle (ECP), the CP-analysis runs into problems. As the definition of proper government in (16) shows, the adjunct position where participle-clauses are situated is never properly governed according to Chomsky (1986).

(15) *The Empty Category Principle* (ECP): $[_\alpha\ e]$ must be properly governed

(Chomsky, 1981: 250)

(16) α properly governs β iff α θ-governs, Case-marks, or antecedent-governs β

(Chomsky, 1986: 22)

Thus, if zero-type participle-clauses are assumed to have empty CPs, the analysis faces a serious problem because that violates the ECP. There is, however, a different analysis by Bošković (1997) claiming that there is no need to associate a CP projection in the case of

zero-type clauses. He rejects the idea that categorial status (i.e. c-selection) has a role in determining the nature of elements a certain constituent subcategorises for (i.e. c-selection). Instead, he only relies on semantic (s-selection) and lexical (l-selection) properties[5]. Following his argumentation, the present work adapts his Minimal Structure Principle (MSP), which can effectively determine the status of participle-clauses.

(17)   *The Minimal Structure Principle* (MSP):
       Provided that lexical requirements of relevant elements are satisfied, if two representations have the same lexical structure and serve the same function, then the representation that has fewer projections is to be chosen as the syntactic representation serving that function.

(Bošković, 1997: 25)

Following the MSP, it is argued that participle clauses are IPs if there is no overt element that suggests a CP-projection; that is, categorial uniformity is abandoned in favour of a more economical analysis.

A second problem concerning the analysis of zero-type participle clauses is the variation between PRO and overt DP subjects. As it is shown above, only unpronounced subjects are possible in the case of the *while*-type, which is in accordance with the assumption concerning the inflection's (-*ing* or –*en)* capability to assign Null Case. It is much harder to account for, however, how full DPs can get Case in this structure. In this respect, the zero-type participle-clause is quite similar to the gerund, but the former is more complicated. In the case of gerunds structural (Accusative) and inherent (genitive) Cases (see Jeong, 2003) alternate, but in zero-type participle-clauses one finds two structural Cases (Nominative and

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[5] In other words, Bošković's (1997) analysis claims that if a constituent selects for a range of elements, selection is based on two aspects exclusively. First, selection has to conform to certain semantic requirements (e.g. the clausal complement of *think* must be [-wh]); this is termed s-selection. Second, idiosyncratic lexical properties are important in selection (called l-selection) when a given lexical element is selected (without respect to categorial status, though) by a certain constituent (e.g. the selection for prepositional complements, where certain heads allow some preposition but disallow others).

Accusative) alternating. In the case of zero-type participles, one can assume that the subjects receive Case from outside the structure, which is in accordance with the IP-analysis, the IP (unlike the CP) not being a barrier to Case assignment[6]. That approach, however, faces two major problems. First, it does not explain why PRO can sit in a position to which Case (other than Null Case) is assigned. Moreover, participle-clauses always sit in adjunct-positions (as established earlier), and it is unlikely that any element could assign Case to the subject of its adjunct as Case assignment has to take place in other configurations. Thus, the Case Filter seems to be violated in this case, and a possible direction for further research to account for this lies in the analysis of Bošković (2006) who argues that the Case Filter is violable in certain cases (although he does not claim that it would be possible for an element in Spec, IP, the canonical position for subjects).

2.2 Relative participle-clauses

It has been demonstrated so far that a group of participle-clauses is adverbial, and it has also been described what differences there are among them. In some cases, however, participle-clauses seem not to have an adverbial function.

(18)   a) *[Living next door], the man hates us.
         b) The man [living next door] hates us.

If the clause *living next door* were adverbial (similarly to the others described above), (18a) should be grammatical. The fact that it is not shows that it is not used adverbially in (18b). Note that the intonation of (18b) is also different from that of an adverbial participle-clause located between the subject and the inflected verb.

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[6] Even though the existence of a null C-head that also assigns Case could be assumed, it would be rather hard to fit the distribution of this hypothetical element into a theory of null complementisers. According to Bošković and Lasnik (2003), such clauses would require a null C-head (without an EPP feature as the subject is not extracted from the clause), but those can only occur after verbs in PF since they are PF affixes.

(19)   a) Adam, [having already done his homework], is now sleeping.
        b) The dog [chasing my cat] looks dangerous.

The same thing can be observed in (19): while in (19a) the participle-clause is separated from the matrix clause by longer pauses in pronunciation (and by commas or dashes in spelling), the one in (19b) forms one intonation unit with the matrix clause. Interestingly, restrictive relative clauses behave the same way as (19b) (Newson et al., 2006). This leads to the conclusion that participle-clauses can also have a relative interpretation; thus, it is reasonable to talk about relative participle-clauses besides adverbial ones. These relatives resemble the zero-type of adverbial clauses to the extent that they do not allow overt elements preceding their subject, either. However, there does not seem to exist a counterpart for each group of adverbial participle-clause among the relative ones. In fact, relative participle-clauses cannot have any overt elements preceding the element in the I-head position.

As far as their distribution is concerned, it is assumed that they are located in the same positions as finite relative clauses, i.e. they are right-side adjuncts of the NP. It is still an open question, however, if they are adjoined to the NP- or the N'-level; in other words, whether they are restrictive or non-restrictive. This can be decided by following the observation of Newson et al. (2006) that only restrictive relative clauses can be pronominalised with *one*.

(20)   a) The film that features a zombie attack is more exciting than the other one.
        b) *My mother, who is a doctor, treated his one.
        c) The man standing outside is scarier than the one next to me.

Based on the data presented in (20) it can be seen that relative participle clauses pattern with restrictives; thus, it can be assumed that both are adjoined to the N'-level.

Another issue to examine is what functional projections participle-relatives contain. One can follow Bošković's (1997) Minimal Structure Principle here, as well, but, concerning such an analysis, complications emerge. That is due to the fact that Bošković (1997) analyses

zero relatives (finite relative clauses that contain neither an overt wh-element nor an overt C-head) as IPs. However, (21c) shows that it is ungrammatical to extract the operator from Spec, IP in zero relatives, but in the case of participle relatives only that kind of extraction is allowed (see (21e) and (21f)). In other words, zero-relatives and relative participle-clauses seem to be in complementary distribution: in zero-relatives anything but the subject can be extracted, while in relative participle-clauses only the subject can be extracted.

(21)   a) The boy [who$_i$ t$_i$ was expelled from school] is my friend.
b) The boy [who$_i$ all the others hate t$_i$] is my friend.
c) *The boy [Op$_i$ t$_i$ was expelled from school] is my friend.
d) The boy [Op$_i$ all the others hate t$_i$] is my friend.
e) The boy [Op$_i$ t$_i$ expelled from school] is my friend.
f) *The boy [Op$_i$ all the others hating t$_i$] is my friend.

Bošković (1997) argues that (21c) is ungrammatical because in zero relatives the operator must move to the IP-adjoined position, and movement from Spec IP to that position (shown in (22)) is illicit as it does not form a proper chain[7].

(22) *the boy [$_{IP}$ Op$_i$ [$_{IP}$ t$_i$ [$_I$ was [$_{VP}$ expelled from school]]]

This analysis successfully predicts the ungrammaticality of (21c), but it would also predict participle-relatives, like (21e) to be ungrammatical. A possible direction for further research is Bošković's (1997) claim that it is grammatical to extract the operator directly from the VP in null-subject languages. Therefore, one could assume that the subjects of participle-relatives can also undergo the same extraction as they can similarly be phonologically null.

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[7] According to Bošković (1997) a proper chain (i) must have a length greater than 0, and (ii) has the length *n* "iff there are *n* "nodes" (X, X' or XP, but not segments of those" (Bošković, 1997: 27) between the extraction and the landing site. However the chain in (10) does not satisfy this condition as movement from Spec IP to the IP-adjoined position includes only a segment of a node (i.e. moving from Spec IP., an element should move up at least to the Specifier of the phrase immediately containing IP for the chain to be grammatical) according to the definition above.

3. Participial adjectives

Having discussed and categorised participle-clauses, it is time to turn to participial constructions that are not clausal in nature. Consider the following examples:

(23)   a) We saw **singing** people in the street.
           b) The **missing** cow wasn't found.
           c) They visited the **rebuilt** church.
           d) A **convicted** criminal escaped.

The distribution of these elements seems to be similar to that of adjectives; hence, they are termed as participial adjectives in the descriptive literature (Quirk and Greenbaum, 1973), and they will be referred to by this term here as well. This section is going to examine their syntactic behaviour. It aims at describing their internal structure, distribution, and relation to argument structure. After that, a group of verbs will be discussed briefly, which exhibit a systematic discrepancy in the formation of participial adjectives.

When examining the structure of participial adjectives, first it must be determined to what extent their internal structure differs from that of participle-clauses. Although Milsark (1988) argues that the morpheme *–ing* always heads an IP that is able to change its category during the derivation, I am going to argue in this section that participial adjectives are, in fact, much smaller projections than an IP. It can be seen that while participle-clauses allow aspectual and passive elements (24a), participial adjectives do not (24b).

(24)   a) Having been attacked by bees, Tim is afraid of all insects.
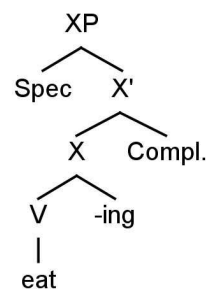   b) *Nobody could help the having been shot man.

The ungrammaticality of (24b) shows that it is not possible to have as extensive vP-projections as in the case of participle clauses (cf. the structure shown in detail in (7)) in participial adjectives. However, the verbal part of participial adjectives seems to be even smaller than the lexical VP, that is, this construction cannot even include DP or PP

complements or adjuncts[8] of the verb, nor is the adverbial particle of phrasal verbs grammatical, as in (25).

(25) a) *the comedies making director
      b) *the barking in the garden dog
      c) *a taking off plane

These data lead to the conclusion that the internal structure of participial adjectives does not consist of an element the size of a phrase; one could even view it as a word formation process taking place in syntax that involves the adjunction of two head-sized constituents. In such a configuration the rightmost head (*–ing* or *–en* in our case) is the one providing a syntactic category for the whole phrase. Thus, in (26), which represents the structure of a participial adjective, the head *eat-ing* is situated in XP projected by *ing*.

(26) eating

```
            XP
           /  \
        Spec   X'
              /  \
             X    Compl.
            / \
           V   -ing
           |
          eat
```

The question that remains is what the status of XP is. The most reasonable answer is that *–ing* heads an AP in these cases, as it has similar distribution to AP as shown below.

(27)   the cute growling little puppy

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[8] There are instances of what seem to be DP-complemented participial adjectives (e.g. *mind-blowing, fun-loving, god-fearing, goal-oriented*), but analysing these is not in the scope of this paper as all of them are compounds. This can be shown by constituency tests: for instance, both wh-movement (**What is Larry's research oriented? Goal.*) and clefting (**It is mind that this film was blowing.*) can prove the first element of these expressions is not a phrase-sized constituent.

In (27) the participial adjective *growling* is preceded and also followed by an AP, which suggests that the participial adjective is also adjoined from the left at the N'-level. Not only does it have a distribution similar to APs, but it can also have AP adjuncts (modifiers), similarly to lexical APs, as in (28).

(28)   the relentlessly barking puppy

The distributional facts about participial adjectives, however, have to be refined since there are certain points where they deviate from the general AP-pattern. This can be grounded in the special nature of the heads *–ing* and *–en*. They are bound morphemes that change the category of the (verbal) root they attach to, and at the same time some verbal properties are retained. For this reason it would unreasonable to assume that the formation of participial adjectives takes place in the lexicon (with a possible exception of a certain group discussed separately below). First, they cannot be modified by 'very' or have comparative and superlative forms. A possible explanation for this is to assume that the A-heads *–ing* and *–en* in (29a) pattern together with ungradable adjectives, the examples of which are shown in (29b), which are also ungrammatical with 'very'. A different approach to this issue is to claim that the inability to be modified by *very* is a retained verbal property: the verbal heads of participial adjectives that behave this way cannot be modified by *very much*, either (Borer, 1990; and also see (34) below).

(29)   a) *a very arriving train, *the very feared dictator, *some very sitting students
         b) *the very dead fish, *the very left chair, *very open shops

Thus, it is clear that ungradability does not exclude participial adjectives from the category A, rather defines them as belonging to one of its sub-groups. The other issue

concerning their distribution is that the data in (30) demonstrate[9] that participial adjectives cannot have a predicative function (similarly to *utter, further, elder* etc.) , while other APs can, including many ungradable ones.

(30)   a) They all considered Ann polite.
       b) *They all considered Ann hiding.
       c) This boat seems small.
       d) *This boat seems sunk.

One way to account for this fact is to argue that *–ing* and *–en* are A-heads which cannot appear in the complement position of IPs. Thus, participial adjectives can be described as having a [-gradable] feature (like ungradable adjectives) and a [-predicative] feature (similarly to adjectives like *utter)*. A possible way to account for the [-predicative] feature is to extend Milsark's (1988) analysis, who argues that *–ing* (and, in our case, *-en*, as well) heads enter the derivation with undefined [N, V] categorial features. These features get specified depending on the environment they are situated in; for instance, if the phrase they head sits in a Case position they become [+N, −V], i.e. gerunds. One could assume, therefore, that sitting in the complement position of an IP interferes with acquiring a categorial status, and (30b, d) are ungrammatical because of that.

Thematic relations in participial adjectives depend on both the argument structure of the verbal root of the participial adjective and the nature of the A-head (i.e. whether it is *–ing* or *–en*).

(31)   a) an arriving train (Theme)
       b) the sinking ship (Theme)
       c) *the sinking pirates (=pirates who sink sg.) (Agent)
       d) the applauding audience (Agent)

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[9] Note that in tests for predicative functions participial adjectives are only shown in non-finite verbal complements (i.e. small clauses and raising structures) as the grammaticality of sentences like 'The girl is sitting.' can be misleading. In these, the *–ing*-affixed element actually heads a vP, not an AP.

e) her loving parents (Experiencer)

f) a destroyed town (Theme)

g) an interesting lesson (Theme)

h) frightened passengers (Experiencer)

The data in (31) show that participial adjectives derived with *–ing* are associated with the argument bearing the most prominent θ-role[10] in the θ-grid of the verbal head (ergatives are somewhat exceptional in this respect, so they are discussed separately), the ones derived with *–en* with the least prominent. This is quite straightforward when (i) the verbal root is unaccusative, so it has only one argument as in (31a), or (ii) it has an argument that is external by definition (Grimshaw, 1992), i.e. it is an Agent as in (31d). The case of participial adjectives derived from ergative verbs is more intriguing: (31c) shows they cannot assign an Agent θ-role; in other words, their transitive use is unavailable in participial use. In other words, a participial adjective formed from an ergative verb only retains the Theme argument and never the Agent. The explanation for this may be that the minimal necessary θ-grid is available for each verb. With ergatives, that means the unaccusative use, but it excludes the transitive use, while with intransitives and transitives the Agent must also be included. This assumption is supported by the fact that transitive meaning is provided to ergatives by inflections that are unpronounced in English, but overt in Hungarian, for instance (Newson et al., 2006), see (32).

(32)   a) elmozd**ít**otta a dobozt

       away-moved-3.s. the box-acc

      'he moved the box'

    b) a doboz elmozd**ul**t

      the box-nom away-moved-3.s.

      'the box moved'   (Newson et al., 2006: 167)

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[10] Grimshaw (1992) argues that there exists a hierarchy among θ-roles, where Agent is the most prominent, but although both are less prominent than the Agent, the order of the Experiencer and the Theme roles varies depending on the verb (cf. the *fear-* and *frighten*-class).

The picture seems more complex in the case of verb roots which have Experiencer and Theme arguments, but, in fact, the same applies to them. What might seem confusing is that there are two distinct classes among them: one has a more prominent Experiencer, the so-called *fear*-class; the other has a more prominent Theme, the *frighten*-class (Grimshaw, 1992). (31e)[11] is an example of the former, (31g[12], h[13]) are of the latter; in other words, they are in compliance with the generalization formed above concerning the hierarchy of θ-roles.[14]

Finally, there is one specific group of participial adjectives that seems to be patterning with lexical adjectives instead of participial ones. That is the group of adjectives formed from Theme-Experiencer verbs (i.e. the *frighten*-class), the members of which are gradable (can be modified by 'very') and can be predicates in themselves, as well.

(33)   a) a very interesting show
       b) This film seems frightening
       c) We consider Ted boring.

The easiest answer for this problem is to assume that these participles have become lexical, and they are full-fledged adjectives, but that reasoning is weakened by the fact that only the elements of the *frighten*-class behave this way (and every member of that group does) whereas lexicalization would be expected to be more idiosyncratic than that. Some scholars claim that they are, in fact, quite similar to other participial adjectives. Borer (1990) notes that only the members of the *frighten*-class can be modified by *very much* in verbal form (see

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[11] E.g.: *Her parents love Susan.*
[12] E.g.: *The lesson interests me.*
[13] E.g.: *The noise frightened the passengers.*
[14] Note that there are certain constructions that seem to violate this pattern. Consider the following: *drinking chocolate, writing table, reading matter.* They cease to be a contradiction if their stress pattern is considered, which is 13 (*drínking chocolate*). This shows that these words are, in fact, compounds (Nádasdy, 2006); they are single N-heads in themselves, and do not concern the analysis outlined here since compounding is not in the scope of this paper.

(34)), but does not comment on the fact that (33b and c) are possible, while (30b and d) are not.

> (34) a) *The ship sank very much.
>
> b) *the very sinking ship
>
> c) The show interested the audience very much.
>
> d) the very interesting show

On the other hand, the data shown in (33) is what makes some scholars categorise the participial adjectives formed from members of the *frighten*-class differently. For instance, Emonds (1991) claims that these are adjectives derived lexically. Similarly, Brekke (1988) introduces the Experiencer Constraint to account for the behaviour of this group. That is basically a formalised statement of the phenomenon that has been described above. It claims that only verbs with a β-Experiencer (i.e. an Experiencer that is not the most dominant argument) can become full-fledged adjectives with *ing*-affixation. A more exact form of the constraint can be seen in (35).

> (35) *Experiencer Constraint*
> Pred α β
> If β= [+Exp] then
> $[V + \textit{-ing}]_V \leftrightarrow [[V + \textit{-ing}]_V]_A$

<div align="right">(Brekke, 1988: 178)</div>

Following the latter two, one must believe that the solution for this problem is grounded in semantics, in connection with the argument-structure of these verbs.

Conclusion

In this paper an attempt has been made to examine the description of participial constructions as found in traditional grammars (such as Quirk and Greenbaum, 1973; Huddleston and Pullum, 2005) with the methods of generative syntax. First, the large and

heterogeneous group of participles was divided according to clausal properties, thus forming the categories of participle-clauses and participial adjectives. The former was argued to be a clausal (CP or IP) structure, the latter an AP.

First, a number of categories have been established among participle-clauses. It was concluded that adverbial participles have a distribution similar to that of sentential adverbs, while participle relatives pattern with (restrictive) relative clauses. It was also demonstrated that adverbial participles can be divided into three further categories: *with*-type *while*-type and zero-type clauses.

Second, it was outlined how economy-approaches (like the MSP) can help the analysis of participle relatives and zero-type adverbials, and that ,as a result, an analysis that assumes less unpronounced (thus hypothetical) elements in these constructions by abandoning categorial uniformity can be achieved. In other words, by arguing for the IP-status of certain (zero-type adverbial and relative) participial clause one has to introduce less null elements the existence of which is hard to prove.

Finally, an attempt was made to account for the properties and differences of participial adjectives. It has also been shown that it is possible to conceive of *–ing* and *–en* as A-heads with special properties, that the thematic hierarchy can play a role in the formation of participial adjectives, and that there exist several verbs (the *frighten*-class) which behave differently from other verbs in the formation of participial adjectives.

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