GERUND CLAUSES

GENERAL PROPERTIES OF GERUNDS, PARTICIPLES AND VERBAL NOUNS

1. The variety of *ing* forms

1.1 ***Preliminaries.*** Traditional grammars of English acknowledge the existence of two homonymous ING forms: the gerund and the participle. *Gerunds*, in (1a), were defined as "forms that have both nominal and verbal features, both aspects of the content being (often) apparent in the same context". (Schybsbye, 1965:61) "Participles differ from gerunds in that they don't have any nominal features, but verbal features exclusively" (op. cit.).

The picture is more complex than that for several reasons. First, participles have a verbal use, as in (1b), but also an adjectival use, illustrated in (1c) below:

(1)   a. I remember Mary's performing the concert.
        b. God willing, we shall succeed.
        c. Never flog a willing horse.

Secondly, gerunds exhibit two forms, the traditionally called *full gerund*, whose subject is in the Gen(itive) or Poss(essive) case, and a second form, whose subject is in the Acc(usative) case, known as the *half gerund*. We shall refer to the former as the *Poss-ing* construction, and to the latter as the *Acc-ing* construction.

(2)   It all depends on *their* helping us. (Poss-ing)
        It all depends on *them* helping us. (Acc-ing)

Additionally, the gerund may be subjectless. The subjectless gerund is, roughly, interpretable like the subjectless infinitive in terms of Control Theory. It is reasonable to assume that an empty pronominal then represents the gerund's subject, namely the empty pronominal PRO. We will refer to this construction as PRO-*ing*.

(3)   I avoided PRO meeting him.

Thirdly, there is an *ing* deverbal noun, a form that has only nominal properties, illustrated in (4) below. This form is traditionally known as the *verbal noun* or the *ing-of* construction.

(4)   their cruel shooting of the prisoners
        Theoretically, the more interesting ones appear to be the two gerund constructions, which exhibit mixed properties, being thus different both from IPs/CPs and from DPs.

1.2. ***More on the properties of the* -ing suffix**. Among the more obvious lexical peculiarities of English is the presence of a number of apparently distinct morphemes that share the phonological shape *-ing*. In addition to the gerund-forming affix under discussion here, we have noted the existence of the quite productive nominalizing affix exemplified in (4) above. There is also the adjective-forming suffix found in examples like *unprepossessing individual.* Then, there is the verbal participial affix found in the progressive, as well as in small clauses and adjuncts (e.g., *John being away, I was sad; I found her laughing*). Finally there is the semi-

productive mass noun forming affix, seen in the "object" or "material" senses of words like *clothing*, *fencing, writings*. It is difficult, if not impossible, to isolate a common meaning for all the types of *-ing* isolated above.

Several attempts have, however, been made to give a unitary description to the *-ing* suffix (cf. Milsark (1988), Harley and Noyer (1998)), in morpho-syntactic terms.

If there were in fact but one *-ing* in English, it would appear to have the following morphological properties: it suffixes to verbs, and the resulting complex lexical item may be *of any category*, a rather unusual property. The lack of category specification exhibited by *-ing* is unique among derivational affixes, at least in English. *-ing* is a *category-neutral affix*. If one takes the major lexical categories, N, V, A, P one notices the existence of Ns, Vs, A and Ps derived from verbs using *-ing:*

(5)   N   V   A   P
        [building]$_N$,   [avoiding]$_V$,   [(un)willing]$_A$ [concerning]$_P$.

The distribution of the *ing* suffix is limited by the requirement that it should attach to verbs, i.e. that it must check a verbal [+V] feature. This amounts to saying that *ing* attaches to either verbs or verbal projections, appearing either as a suffix or as an inflectional head, as discussed in the case of participial small clauses. The resulting form appears to be free to assume any syntactic categorization, given the above claim about the nature of *-ing*; all the possible combinations of $\pm$N, $\pm$V features are available.

Recently, Harley & Noyer (1998), Alexiadou (1999), Marantz (1999) a. o. propose that the categorial status of a constituent is syntactically determined. Because the functional structure of a phrase is different for 'nominal' and 'verbal' realizations of the same lexical root, the syntactic processes available in each type of phrase are likewise different. The difference between gerunds, verbal nouns and participles is the effect of their different syntactic functional structures and has nothing to do with the construction of nominal or adjectival forms in the Lexicon. "One might assume that syntactic categories such as noun, verb are not syntactic primitives. Rather, there is a single contentful category *r*P (read Root Phrase) which may appear in different syntactic contexts. In the context where *r*P is dominated by *v*P, *r i*s realized in its verbal form (*r*P = VP). When *r*P is dominated by DP, it is realized in its nominal form." (Harley &Noyer (1998: 149)). In fact, it is the nature of the licensed functional categories which determines the categorial features of the lexical phrase.

Conclusion

1. *Ing* is a category neutral suffix in English, attaching to verbs and deriving items of all categories, among which verbal nouns, gerunds, participles.

2. It has been proposed that the category of a phrase is determined in syntax, by the functional structure of the phrase.

2. The categorial status of the gerund constructions

There is a sharp contrast between gerunds / verbal nouns on the one hand, and *that* complements and infinitive complements on the other hand, regarding their distribution. The general point to make is that gerundial constructions are DPs, while *that* clauses and (control) infinitives are CPs. This hypothesis can account for the considerable distributional differences

between gerunds and other types of complements and is supported by a variety of empirical facts, some of which are reviewed below:

2.1. *Case*. Gerund constructions occupy case-marked positions and do not manifest any Case Resistance Principle effects. Thus, they may appear in the Nom case position (SpecI/SpecT), identified as the post-auxiliary position in inverted constructions. As discussed above, while both clauses (CPs) and DPs may be topics, only DPs may be (non-topical) subjects.

(6)   a. Did John's performing of the aria please you?
        b. Did John's performing the aria please you?
        c. ?Would John performing the aria please you?
        d. *Would (for John) to perform the aria please you?
        e. *Did that John performed the aria please you?

Secondly, gerunds and verbal nouns may occur in the structural Acc position, for instance, they may be *subjects of small clauses*, unlike infinitive and *that* complements:

(7)   a. I consider his selling of the house a big mistake.
        b. I consider his selling the house a big mistake.
        c. I consider him selling the house a big mistake.
        d. *I would consider for him to sell the house a big mistake.
        e. *I considered that he sold the house a big mistake.

Perhaps the most characteristic gerund environment is the position of object of a preposition. CP complements are excluded from this position, while noun phrases are allowed:

(8)   a. I learned about John's selling of the house.
        b. I learned about John's selling the house.
        c. I learned about John selling the house.
        d. *I learned about (for John) to sell the house.
        e. *I learned about that John sold the house.

2.2 *Position after sentence adverbs*. Another characteristic nominal position is that of subject of a sentence following a sentence adverb like *perhaps, naturally*, etc. Since these adverbs are IP adjoined, the position following them is the Spec IP, Nom position:

(9)   a. Perhaps John's selling of the house bothers his mother.
        b. Perhaps John's selling the house bothers his mother.
        c. Perhaps John selling the house bothers his mother.
        d. *Perhaps for John to sell the house would bother his mother.
        e.*Perhaps that John sold the house bothers his mother.

2.3. *Topicalization* Like DPs, verbal nouns, Poss-*ing* and Acc-*ing* constructions freely undergo Topicalization, while the topicalization of clauses was often problematic. Topicalization must leave behind case-marked traces, and clauses, unlike DPs need not be assigned case.

(10)   a. John's smoking of stogies I can't abide t.
        b. John's smoking stogies I can't abide t.
        c. John smoking stogies I can't abide t.

Horn (1975) remarks that Acc-*ing* constructions are less good topics than Poss-ing constructions, a difference that we will come back to.

2.4. ***Passive.*** Gerunds passivize, behaving like DPs from this point of view as well.

(11)   a. Everybody practiced singing the national anthem.
         b. Singing the national anthem was practiced by everybody.
(12)   a. Everybody imagined John kissing Mary.
         b. John kissing Mary was imagined by everybody.

2.5. ***Extraposition.*** Another characteristic property related to their DP status is that (with limited exceptions to be discussed below) gerunds do not extrapose, in sharp contrast with infinitive and *that* clauses. The explanation is not far to seek: verbal nouns and gerunds need case and cannot appear in caseless positions, such as the position of adjunction to VP or some other A' position characteristic of an extraposed clause:

(13)   a. Bill's making a fortune is unlikely
         b. *It is unlikely Bill's making a fortune.
(14)   a. Bill making a fortune is unlikely.
         b. *It is unlikely Bill making a fortune.
(15)   a. Bill's making of a fortune is unlikely
         b. *It is unlikely Bill's making of a fortune.

Summing up this discussion, from the point of view of their external distribution, that is, their distribution within the complex sentence, verbal nouns, Poss-ing and Acc-ing constructions behave like DPs. It is plausible to assign to them the syntactic category DP; the basic function of the *-ing* morpheme in these constructions is to be a nominalizer, i.e., to convert a verb phrase or sentence into a DP.

Conclusions

1. Gerunds and verbal nouns are DPs, differing from *that* complements and (some) infinitives which are CPs.
2. The basic function of the *ing* morpheme in these constructions is to be a nominalizer, converting verbal into nominal structures.

3. The internal structure of the *ing* constructions

Although they are all DPs, verbal nouns, Poss-ing and Acc-ing constructions differ considerably regarding their internal structure; they represent different degrees of nominalization: verbal nouns have pure DP syntax, Poss-*ing* and Acc-*ing* structures are more clause-like and may be shown to embed a VP or even an IP. It can be argued that gerunds are IPs embedded in DPs., i.e., gerunds are like clauses except for the operator layer. The operator layer of a clause is the CP layer, the operator layer of gerunds is the DP layer, like that of a nominal phrase. The DP projection is crucially involved in the syntax of the gerund subject.

3.1. Let us review the evidence that gerunds (i.e., Poss-ing and Acc-ing) embed a VP/IP. The first crucial difference between gerunds and verbal nouns is that only gerunds have verbal categories, specifically, aspect and voice. Verbal nouns do not have either aspect or voice, as shown by the impossibility of co-occurrence between the perfect auxiliary *have* and the *of*-marked object in (17)

(16)   a. His /him having criticized the book came as a surprise.
        b. His /him having been reading all day long came as a surprise.
        c. I dislike his/ him being treated like that.
(17)   *His having criticized of the book came as a surprise.

The presence of verbal categories in gerund constructions indicates the presence of verbal functional categories, such as Aspect. Moreover, given the syntax of auxiliaries, the presence of auxiliaries is, as always, a hint that there is a syntactic Tense position.

3.2 The second indication that the gerund contains a VP is its ability to assign Acc case to the Direct Object. In contrast the object of a verbal noun receives case from the (dummy case-marking) preposition *of*:

(18)   His /him selling *the house* at a good price pleased her.
        His selling *of the house* at a good price pleased her.

It is important to remark the correlation between Aspect/Tense and case. Gerunds have both, verbal nouns have neither.

(19)   a. his selling *the house* wisely
        b. his having come so slowly
        c. *his wise selling the house
        d. his wise selling of the house
        e. * his slow having coming
        f. his slow coming.

Since the gerund assigns Acc, it has sufficient functional structure to do so, i.e. , it may contain an appropriate functional case projection

3.3 The gerund allows adverbial modification by *-ly* manner adverbs, while the verbal noun allows only adjectival modification:

(20)   John's (cleverly) selling the house (cleverly)
        John's clever selling of the house.

3.4 Negation also clearly differentiates between gerunds and verbal nouns. Gerunds exhibit clausal negation by *not*, paralleling verbs from this point of view. Verbal nouns do not accept the clausal negation *not*.

(21)   a. his not reading the book in time
        b. *his not reading of the book

There is thus a sharp contrast between gerunds and verbal nouns in the way in which negation is expressed. Gerunds accept clausal negation, as in (22a, b), as well as negation incorporated in adverbs like *never*, or negative pronouns, as in (23a, b). Verbal nouns accept only negation incorporated in negative determiners or pronouns, as in (22c, d), (23c, d.).
(22)   a. We protested against his not receiving the grant.
        b. We protested against him not receiving the grant.
        c. no reading of the book.

d. No receiving of the grant was mentioned.

(23) a. Their greatness seems to consist in their *never* having done anything to distinguish themselves. (Poutsma: 476)
b. I almost expected *nobody's* showing up for the festival.
c. She had *no* intention of seeing him.
(She did not intend to see him.)
d. Her knowledge of *nothing* good about him made him reject him.
(The fact that she did not know anything good about him…

The presence of the negation *not*, as well as the presence of the aspectual auxiliaries indicates the presence of syntactic Tense position in gerunds, though not in verbal nouns.

3.5. There are certain structural operations that may affect only clausal domains (IPs) producing characteristic sentence patterns. Such is the case of the double object construction, of the Nom + Inf construction, produced by SSR, or of the Acc + Inf construction, produced by SOR, or of the Tough Movement constructions.

It is essential to remark that all these structures may have gerund counterparts, that is, the main verb is a gerund, but they do not have verbal noun counterparts (cf. Chomsky (1970)). Here are examples:

Double object structures:
(24) a. He gave her a kiss in public.
b. His giving her a kiss in public shocked us.
c. Him giving her a kiss in public shocked us.
(25) *His giving of her a kiss in public shocked everybody.

Subject to Subject Raising
(26) a. He really appeared to still love her.
b. His really appearing to still love her pleased her mother.
c. Him really appearing to still love her pleased her mother.
(27) * His real appearing / appearance to still love her pleased her mother.

Subject to Object Raising
(28) a. He believes her to be faithful to him.
b. I'm positive about his believing her to be faithful to him.
c. I'm positive about him believing her to be faithful to him.
d. *I'm positive about his believing of her to be faithful to him.

Tough Movement
(29) a. John is easy to please.
b. I'm sure about John's truly being easy to please.
c. I'm sure about John really being easy to please.
d. *I'm sure about John's real being easy to please.
e. *I'm sure about John's real easiness to please.

All these facts prove that gerunds embed at least VPs, and moreover, and more importantly that gerunds have sufficient clausal functional structure to license all these constructions. Thus the possibility of the Acc+Inf in (28) means that the gerund *believing* disposes of a structural Acc position necessary to license the Acc+Inf complement. In contrast the functional structure of the verbal noun is purely nominal so that none of these verbal or clausal constructions is possible. Verbal nouns have not only the external distribution, but also the internal structure of DPs.

One consequence of the presence of the VP is that a subject position will be projected, (Spec *v*P). The subject will be represented by a lexical DP or by PRO. It is significant that in

gerund constructions, if the subject is not assigned a θ-role it will be represented by an expletive element. Subject expletives are usually required to check the EPP feature of SpecT, a verbal category. With verbal nouns, when there is no (lexical) subject, a determiner will be present. Compare:

(30)   It rained all day on my birthday.
       I was disappointed by its / it raining all day on my birthday.
(31)   There was no beer in the house.
       They were angry about there being no beer in the house.
(32)   They once enjoyed [PRO reading the play together].
       They once enjoyed a reading of the play together.

The presence / absence of determiners clearly differentiates between verbal nouns, which require determiners, and gerunds, which disallow them.

(33)   Waiting in the rain for hours had been unpleasant.
       The waiting in the rain for hours had been unpleasant.

There are unexpected differences regarding the subject, even between the Poss-ing and the verbal noun construction. The Possessive subject of a verbal noun correlates with an *of* construction (34a,b); this does not happen with the gerund (34c,d):

(34)   a. the student's slow coming.
       b. the slow coming of the student
       c. the student's coming slowly
       d. *the coming of the students slowly

When the subject is not expressed, gerunds require controlled readings at least with certain types of verbs, specifically, *private* verbs (*like, love*, etc.) as opposed to *public* verbs (*condemn*, etc). Verbal nouns also allow uncontrolled readings, as in (35d). This is the result of the fact that noun phrases do not have to project a subject. When there is no controller, gerunds allow arbitrary readings, much like infinitive clauses (35c):

(35)   a. I like diving gracefully.
       b. I enjoyed reading the play.
       c. Reading good books is rewarding.
       d. I enjoyed a reading of the play.

We have so far established that verbal nouns have the internal structure of DPs, while gerunds embed a VP, and presumably some verbal functional categories as well in their internal structure.

Conclusions

This discussion allows us to give the following characterization to gerunds (Acc-Ing and Poss-ing) as compared to verbal nouns:

Gerunds. Gerunds have important *verbal and clausal* properties;
1. They have Tense/Aspect properties, as well as voice.
2. They allow clausal negation by means of *not*.

3. Transitive gerund verbs assign Acc Case to their DO.

4. Manner adverbial modifiers are allowed and corresponding adjectives are disallowed.

5. Typical sentence patterns such as the double object construction, the Nom+ Inf or the Acc+Inf have gerund counterparts. This strengthens the view that the functional structure of the gerund is at least partly clausal.

Gerunds also have important *nominal* properties:

6. The subject of a Poss-*ing* is in the Genitive like the subject of a DP.

7. The distributions of the Poss-*ing* and Acc-i*ng* is nominal. They appear in all case-positions.

Verbal nouns or *ing-of* constructions. Verbal nouns have only nominal properties.

1. They do not have any verbal categories and do not allow any auxiliaries of aspect and voice

2. They disallow clausal negation by means of *not*, being negated by means of the negative determiner *no*, or by negative pronouns.

3. The object of the verbal noun gets (analytical) Genitive case, marked by the preposition *of*.

4. Manner adverbial modifiers are disallowed and replaced by corresponding adjectives.

5. Typical sentence patterns such as the double object construction, the Nom+ Inf or the Acc+Inf have no verbal noun counterparts. This proves that the functional structure of the verbal noun is nominal, not clausal

6. The subject of a verbal noun gets (synthetic) Genitive case.

7. When there is no subject, a determiner must always precede the verbal noun.

4. Differences between Acc-*ing* and Poss-*ing* structures

Although in most contexts the two gerund constructions are syntactically acceptable and (roughly) equivalent semantically, there are several syntactic, interpretative and even stylistic differences between them. Stylistically, it has been claimed that the Acc-ing has a rather "marginal character" (cf. Abney 1987:). However, it will be shown that there are situations where Poss-*ing* is not available and Acc-*ing* remains the only option.

As to the syntactic differences between the two constructions, all of them point to the more "sentential nature of the Acc-*ing* construction" (cf. Abney (1987)), in contrast with the Poss-*ing* construction. Linguists like Reuland (1983), or Johnson (1987), Pires (2000) have even described the Acc-*ing* as an IP, while analyzing the Poss-*ing* as a DP. The position that we find preferable is that even if the Acc-*ing* construction are more clause-like than the Poss-ing construction, both embed an IP and both are DPs. The differences between them follow from the different manner of assigning case to the subject. (cf. also Asher (1993), Portner (1994)). The DP analysis is more unitary and is preferable on semantic grounds as well. A clausal analysis of the Acc-ing construction will also be considered. Let us review the syntactic differences between the Acc-*ing* and Poss-*ing* first.

4.1 *Agreement*. Conjoined Acc-*ing*s in subject position, like conjoined *that* complements, trigger or at least allow singular agreement on the main verb. Conjoined Poss-*ing*s in subject position trigger plural agreement behaving like full DPs.

(36) a. John coming so often and Mary leaving so often bothers / *bother Mother.

b. That John comes so often and that Mary leaves so often bothers /*bother Mother.

c. John's coming and Mary's leaving *bothers / bother Mother.

4.2 ***Quantifier scope***. It is known that the scope of quantifiers is clause bound, they are interpreted inside their clause. Consider now the following examples which show interpretative differences between the Acc-ing and the Poss-ing complements.

(37)   a. John doesn't approve of everyone's taking a day off. (OK wide scope)
        b. John doesn't approve of everyone taking a day off (*wide scope)
        c. John doesn't approve of everyone's happiness. (OK wide scope)
        d. John doesn't want everyone to take a day off. (*wide scope)

Sentence (37a) has two readings, depending on the relative scope of negation and the quantifier. The gerund is a DP of the main sentence, and the quantifier adjoins to the main sentence at LF. When the quantifier scopes above negation, the reading is "For every person, John does not approve that he should take a day off", in other words "For no one does John approve that he should take a day off". When negation scopes over the quantifier, the reading is "John doesn't approve that everyone should take a day off", i.e., not everybody should take a day off, just some of them.

Sentence (37b), an Acc-ing construction, allows only the second reading, i.e., the quantifier has narrow scope with respect to negation. It behaves like sentence (37d); as known, in (37d) the subject *everyone* has not become a member of the main clause, so it must be understood as below negation.

Sentence (37c), with a simple DP quantifier, is ambiguous as expected, just as (37a) was. The contrast between (37a) and (37b) can be understood if the Poss-*ing* is analyzed as a DP within the main sentence, while the Acc-*ing* is understood as an independent clause.

4.3 ***Wh-movement***. Elements of an Acc-ing complement may be extracted by *wh*-Movement. In contrast, Poss-*ing* constructions are islands to extraction.

(38)   a. We remember him describing Rome.
        b. What city do you remember him describing t?
(39)   a. We remember his describing Rome
        b. *What city do you remember his describing t?

The subject clause of an Acc-ing construction may be questioned or otherwise *wh*-moved. The subject of a Poss-ing construction may not undergo *wh*-movement.

(40)   a. We approved of him studying linguistics in our department.
        b. Who do you approve of studying linguistics?
        c. We approved of his studying linguistics in our department.
        d. *Whose did you approve of studying linguistics?

4.4 ***Admissible range of subject DPs***. The most important difference between the Acc-*ing* and the Poss- *ing* is the case of the subject, Acc for the former, Genitive for the latter. This difference has significant distributional consequences.

The range of acceptable Poss subjects is more limited than the range of acceptable Acc subjects. As first remarked by Ross (1973), gerunds are rather choosy in the kind of DPs that they allow as subjects. This higher selectivity has two reasons. One reason is semantic and relates to the fact that the Saxon Genitive prefers NPs higher on the animacy / personhood scale: *the bottom of the page*, *the mouth of the river* vs. *John's mouth*. The Poss-*ing* construction is thus preferred when the subject is definite or specific, and [+ animate]. Nominals which are low on the referential scale, such as idiom chunks or expletive DPs are dispreferred in the Poss-*ing* construction though they are allowed in the Acc-*ing* construction. The subject in the Acc-*ing* is not subject to any constraint. Examples and grammaticality judgments belong to Ross (1973):

(41)   a. ?*That tack's having been taken again is incredible.
           b. *?Advantage's being taken of him.
           c. *No heed's being paid to her miffed Alice.
           d. ?? Its being so hot was a real shame.
           e.?? Its having rained on my birthday was tragic.
           f. *There's being no beer in the house surprised the guests.
(42)   a. This tack being taken on devaluation is scandalous.
           b. I can understand no headway being made for ten years on this problem.
           c. I wished for it being sunny down here.
           d. I can't imagine it being likely that you'll be evicted.
           e. It having rained threw me off stride.
           f. There being no more beer in the house surprised me.

Apparently, older stages of modern English were more permissive regarding the types of Poss-ing subjects. For example Poutsma [1929: 472] comments that "*its* as the genitive of the indefinite, or the anticipative pronoun is frequent enough before a gerund." Here are some of his examples:

(43)   a. After some talk about *its being hard upon Nan to have to take leave so suddenly of her governess*, Clara's wish was granted. b. The notion of its being Sunday was the strongest in young ladies like Miss Phipps. c. I won't hear of its raining on your birthday.

The growing restrictions on the Poss-ing construction signify the corresponding strengthening of the Acc-*ing*, which appears to be the only possible gerund form for idiom chunks or formal subjects like *it*, and especially *there*.

The second reason for preferring the Acc-subject over the Poss subject is morphologic. Certain types of DPs such as demonstrative pronouns, certain partitive constructions, a.o. simply do not have a Poss form. In such cases, the Acc-ing is again the only possibility.

(44)   a. When I think of this /* this's being the last time of seeing you.
           b. We did it without either of us / *either of us's knowing that the other had taken up the subject.
           c. We stood laughing at Sir Walter and me / *[Sir Walter and my]'s falling out.

4.5 Recently, systematic semantic investigation has brought to light differences in the semantic interpretation of these complements. Portner (1994) accepts the view that Poss-ing as well as Acc-*ing* complements are DPs suggesting that Poss-ing complements are inherently definite and presuppositional, differing from Acc-*ing* constructions which may be indefinite. The difference between the two types of interpretations is apparent in examples of the following types (Portner (1994: 107)).

(45)   a. Joyce usually dreams about Mary shouting at her
           b. Joyce usually dreams about Mary's shouting at her.

Sentence (45b), but not (45a) may have the reading indicated in (46):

(46)   Most of the time, when Mary shouts at her, Joyce dreams about it.

As (46) shows the Poss-*ing* construction presupposes that the situation described in the gerund clause is real and Joan dreams of it. The Acc-*ing* simply means that the situation is real in Mary's dream world., without commitment as to whether the event has taken place in the real world or not. The same difference shows up in (47).

(47)   a. Mary didn't discuss John's coming to visit her.
         b. Mary didn't discuss John coming to visit her.

In (47a), the Poss-*ing* has a familiarity presupposition, the event of John's coming to visit her is at least familiar to the conversational background, if not actual. In contrast, the Acc-ing gerunds are completely indefinite, lacking even this type of familiarity presupposition.

It follows that Poss-*ing*s are always interpreted as definite DPs, while Acc-*ing* may also be interpreted as indefinite DPs. In certain contexts, the containing predicate suspends this difference, so that both gerunds are definite. Such a context is that of a *factive predicate*.

(48)   a. Mary didn't enjoy John's coming to visit her.
        b. Mary didn't enjoy John coming to visit her

More on the semantics of the gerund is to be found in section 9.

Conclusion:

The analysis that we propose will have to account for the differences in 4.1.-4.3. above.

5. The syntax of the Poss-ing construction

In the analysis of the several *ing* complements (Poss-ing, Acc-ing, PRO-ing), the guiding idea is that it is the nature of the available functional categories which determines the categorial features of the lexical phrase, since, as noticed above, the *ing* that attaches to a verb may produce a lexical category with any feature specification. Let us start with the Poss-ing construction.

The Poss-ing construction offers the clearest case of mixed functional categories. It has been shown that the gerund embeds a VP or IP, a phrase headed by a [+V] constituent, and yet it has the subject and the distribution of a DP. In this section, we give a more detailed description of the internal structure of the gerund, specifying its functional categories.

5.1. One of them is Aspect. The aspectual auxiliaries *have* and *be* are not in the VP, but head Aspect Phrases.

(49)   I remembered having been waiting for him for two hours once.
        I remember having heard Shaliapin once.

5.2. The evidence is also compatible with the hypothesis that the gerund clause contains a Tense position. Evidence supporting the presence of a Tense position in gerunds is not only the existence of auxiliary verbs in gerunds, but also the fact that the gerund complement may be negated by the sentential negation *not*. In this respect, the gerund differs from the verbal noun which accepts only the negative determiner *no* (see examples above). As known the sentential negation *not*, scopes over Tense

(50)   John's not knowing the truth.

*John's not knowing of the truth.

As to the interpretation of Tense in gerund complements, Guéron & Hoekstra (1995) argue that Poss-ings have a complete independent Tense Chain, since they not only have a Tense position and the lexical verb supplying the event variable in the clause, but also a Temporal Operator *Op* in the operator layer. Since the gerund is a DP, the temporal Op that "hooks the Tense of the gerund on to the world" is placed in SpecD, in a structure of the following type (omitting irrelevant details):

(51)

$$
\begin{array}{c}
\text{DP} \\
\diagup \quad 3 \\
Op \qquad\qquad \text{D'} \\
\qquad\quad \diagup \quad 3 \\
\qquad \text{D}^0 \qquad\qquad \text{TP} \\
\qquad\qquad\qquad \diagup \qquad \text{T}^0 \\
\qquad\qquad\qquad\qquad \diagup\quad\diagdown \\
\qquad\qquad\qquad\qquad\qquad \text{VP}
\end{array}
$$
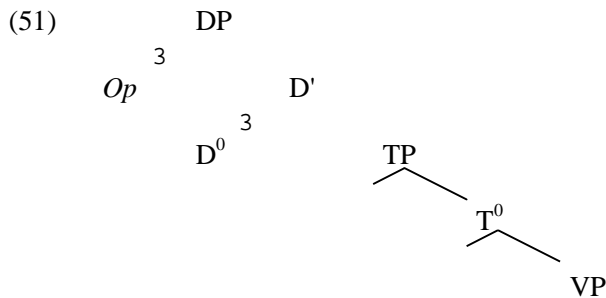
As to the content of the gerund Tense/ Mood feature, the following points should be taken into account:

a) Many verbs of propositional attitude: *believe, know, think*, etc. are not compatible with the gerund, probably because the setting they create is not suitable for evaluating the truth of a gerund clause.

b) The content of the gerund comes out more clearly in contexts where it contrasts with the infinitive:

(52)   I remembered his being bald, so I brought a wig to disguise him.
        I remembered him to be bald so I was surprised to see him wearing long hair.
(53)   They reported the enemy's being defeated.
        They reported the enemy to be defeated.
(54)   I regret to say that you are fired.
        I regret saying that you are a liar.

In all the examples, the infinitive is compatible with *future* tense (see (54a) or with *irrealis* mood (see (52b)), while the gerund shows *realis non-future tense*. The gerund in the sentences above refers to real past events or situations, contrasting with the infinitive. In fact, when more gerund containers are taken into account, it appears that the gerund indeed has *realis non-future Tense*, and it is compatible with expressing events that overlap the main clause, as in (55), as well as with events that precede the main clause as in (56). This difference is in fact aspectual as commented by Portner (1994:258): "An intuitive way to put the difference between (55) and (56) is to say that *enjoy*-class verbs give an internal (imperfective) perspective on the gerund's event, while *celebrate*-class verbs give an external perfective perspective."

(55)   I enjoyed building the house.
        I hated her writing the book just then.
        They loved traveling to Rome.
        We disliked her writing her memoirs.
(56)   a. I celebrated building my first house.
        b. They commemorated travelling to Rome.
        c. I praised her writing the book.
        d. I regretted walking to town.

c) The content of the gerund Tense/Mood feature is best apparent in subject clauses, where the interpretation of the complement clause is least dependent on the main verb. Examples like the following (from Conrad (1982: 97)) reinforce the idea that the gerund has realis non-future Tense (with respect to the main clause):

(57)   Meeting me again reminded her of her old triumphs.
        Watching all this today has made you quite excited.

These examples lead to the conclusion that there is a contentful Tense position in the gerund clause.

5.3 ***Case-assignment inside the gerund clause presents no special problem.*** Interestingly, the syntax of the gerund offers excellent confirmation of the overt object shift analysis of English Acc objects discussed in the preceding chapter. The hypothesis regarding the structure of the *v*P is that the VP has a split architecture, familiar from Larson (1998), Johnson (1991), Hale & Keyser (1993), Harley (1995), Koizumi (1995) and many others, in which the verb moves from a lower V head and adjoins to a small *v* head. An additional functional projection FP, a sort of internal AgrOP, is available *when needed* between the two V heads. FP is projected as a last resort, as a position of structural Acc case checking. This architecture is illustrated in (65) below:
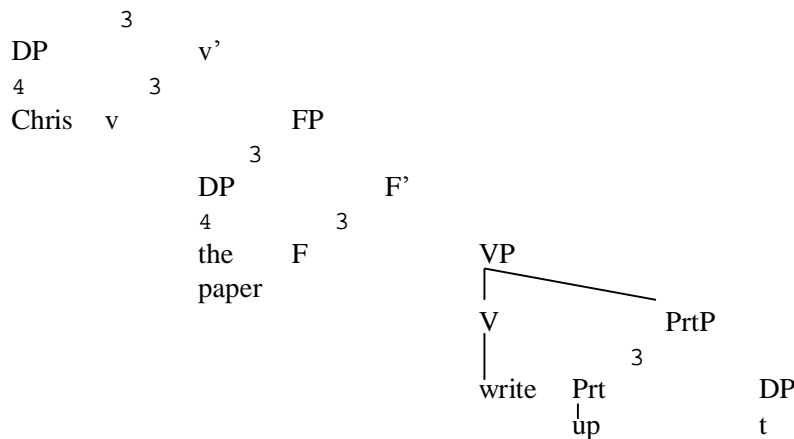   Assuming all this as given, let us investigate verb+ particle constructions, which present an interesting contrast between the gerund and the verbal noun. With the verbal noun, *of* is inserted as a case marker and there is only one available word order, as shown in (60), (63). The gerund behaves like the clausal construction, with two alternative word orders, with or without Particle Movement. There is thus an analogy between (59)/(58) and (62)/(61). Therefore, only the gerund, which has verbal behaviour allows, Particle Movement:

(58)   a. Bill wrote up the paper.
        b. Bill wrote the paper up.
(59)   a. Bill's writing the paper up.
        b. Bill's writing up the paper.
(60)   a. Bill 's writing up of the paper.
        b.* Bill's writing of the paper up.
(61)   a. He looked the word up.
        b. He looked up the word.
(62)   a. His looking the word up.
        b. His looking up of the word.
(63)   a. His looking up of the word.
        b. *His looking of the word up.

The explanation that we adopt is based on the fact that the gerund has clausal functional structure, while the verbal noun has nominal structure. The internal structure of the VP is more complex, containing several positions to which constituents may raise. This is not the case in the nominal phrase, where Particle Movement is not allowed.
    Let us review the syntax of the particle construction, briefly touched upon in the previous chapters, in examples like (64), (65):

(64)   Chris wrote the paper up.
(65)   *v*P

```
              3
DP                    v'
4           3
Chris    v                    FP
                  3
               DP                    F'
               4            3
               the      F              VP
               paper
                                    V              PrtP
                                    |            3
                                    write    Prt              DP
                                             |
                                             up               t
```

In (65), there is a representation of a sentence with Particle Movement: *Chris wrote the paper up*; recall that particles are θ- role assigners, but are ergative predicates, unable to assign case (cf. den Dikken (1995)). Consequently, the object which has been θ-marked by the particle moves to check case leaving the particle behind. Case is checked by SHA at the point where the V raises to F, and the object raises to Spec F .This is a possible derivation of the Particle Movement structure.
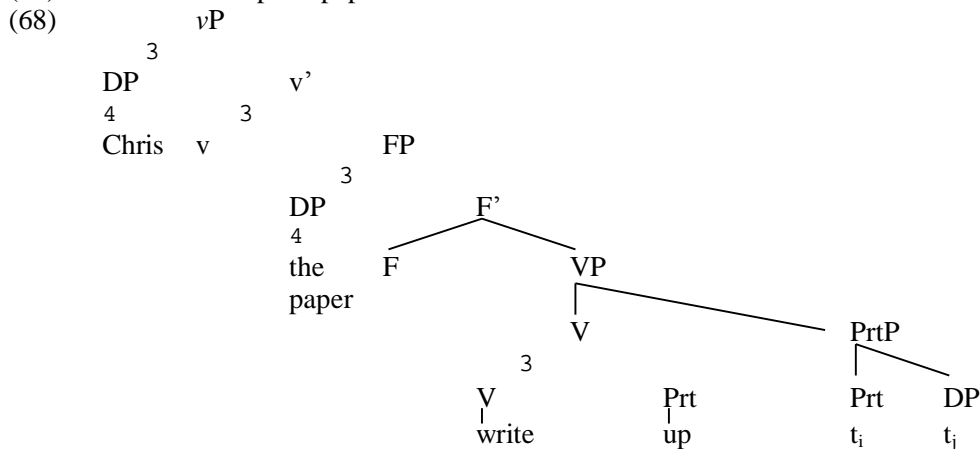
Evidence corroborating the proposed analysis of the V+ particle construction comes from coordinated structures of the type shown below; these structures show the reality of the FP constituent, since coordination may apply at this level.

(66)   a. Mary turned the gas off and the electricity on.
        b. *Mary turned on the gas and off the electricity.

In (66a) coordination correctly applies at the level of the inner FP, the DPs have been assigned case. In (66b), coordination cannot operate since *on the gas* and *off the electricity* are not constituents any longer, as seen in (68) below.

Consider now the derivation of sentence like *Chris wrote up the paper*, represented in (68) The particle first adjoins to the verb, forming the lexically complex constituent *write up* (head to head movement). Then the object raises as shown above.

(67)   Chris wrote up the paper.
(68)   vP
           3
        DP   v'
        4   3
        Chris   v   FP
                        3
                     DP   F'
                     4   3
                     the   F   VP
                     paper
                                    V   PrtP
                                 3
                              V   Prt   Prt   DP
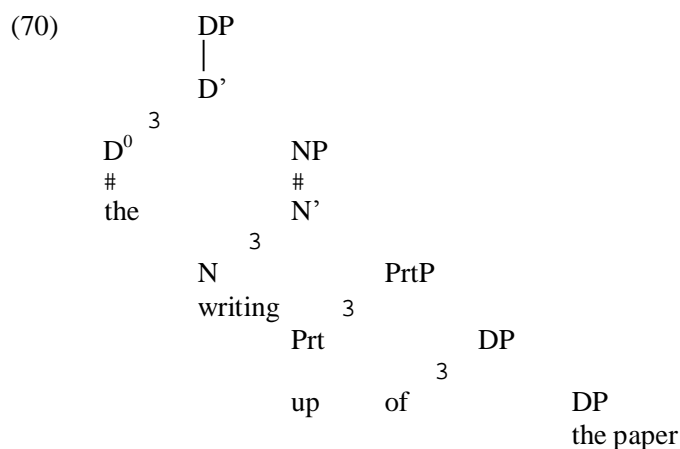 | | |
                              write   up   t_i   t_j
```

The particle has different properties before and after movement. Thus, the particle allows modification by *right*, as long as it is in final position, that is, as long as it is heading the PrtP, but not when it has been incorporated into the lexically complex verb:

(69)     a. They turned the electricity right off.
         b. *They turned right off the electricity.

Coming back to the gerund, the existence of the gerund Particle Movement construction proves that the gerund *v*P has the same internal structure as the finite clause *v*P. The possibility of Particle Movement thus depends on the existence of movement inside the *v*P. This is not possible inside the nominal structure of the verbal noun which looks as in (70) below.

(70)               DP
                   |
                   D'
                3
         D⁰            NP
         #             #
         the           N'
                    3
              N            PrtP
              writing   3
                    Prt         DP
                          3
                    up    of          DP
                                      the paper

Inside the nominal phrase there is no movement. The object DP cannot be assigned case. The preposition *of* is inserted to assign case as a last resort.

Summing up, it has so far been established that gerunds contain the verbal projections in (70a), with the detailed representation of the vP in (70b):

(70)     a. TP > Asp P > *v*P
         b. TP > Asp P > (*v*P > ( FP) > VP)

The verbal part of the gerund clause thus represents a *small clause*.

Since the gerund's subject is in the Genitive case, the gerund clause should contain the nominal projection responsible for Genitive case assignment. Following Kayne (1994), Gueron (1995), let us assume that that the Gen assigner *'s* is the head of a an AgrP, bearing a strong nominal feature.

At the same time, we have also mentioned empirical evidence in favour of a DP layer in the gerund construction; it is the layer that secures the nominal distribution. From this point of view, the D layer acts as a category shifter. Moreover, we have assumed that the T-chain of the gerund clause is headed by an *Op* in SpecD. Asher (1993), Portner (1993), Zucchi (1993) argue that gerunds are interpreted as quantified DPs, and they all agree that the Poss-ing gerund bears a [+definite feature], a "silent *the*", as Asher claims. The complete functional structure of the Poss-ing is then the following:

(71)     DP > AgrSP > NegP > TP > Asp P > (*v*P > FP > VP)

Since the silent D layer is contentful, and on the other hand, no determiners are present in the gerund clause, we will assume that the Agr  morpheme -'s raises to D⁰ to lexicalize the

definite feature, while the subject of the gerund raises to SpecD, as suggested by Gueron and Hoekstra (1995). The analysis that is proposed here is thus a variant of the $D^0$-IP analysis of the gerund. Consider an example:

(72)     Mary's not having read her book.

(73)     DP
         3
DP          D'
|           3
Mary    $D^0$       AgrsP
        |       3
        s    DP          Agrs'
             |       3
           $t_{Mary}$  $AgrS^0$       NegP
                   |       3
                  $t_s$    not     Neg'
                              3
                          $Neg^0$       TP
                                 3
                             DP          T'
                             |       3
                          $t_{Mary}$  $T^0$       AspP
                                  |       3
                               having  $Asp^0$       VP
                                      |       3
                                    $t_{aux}$   $t_{Mary}$     V'
                                                        
                                                   $V^0$       DP
                                                   |       4
                                                  read    the book

One might wonder what makes possible the combination of the Determiner with and *ing* gerund TP or *v*P, since in English such small clauses do not normally combine with determiners, as was apparent in the discussion of English small clauses. The answer is that the *ing* suffix attached to the highest verb of the small clause contributes a [+N] feature, i.e., in the case of the gerund, the combination of the verb with the −*ing* suffix yields a [+V,+N] lexical head. It is reasonable to assume that at LF the [+N] feature of the *ing* verb checks the [+N] feature of the determiner.

The gerund is thus a mixed [+V, +N] category. The [+V] feature is responsible for the extended verbal projection engendering the small clause, the [+N] feature allows combination with the a DP: the outer functional layer is nominal, so that the gerund as a whole has DP distribution.

5.4. ***More on the syntax of the Poss-ing The subject***. It was noticed by Ross (1973) a long time ago that there are certain restrictions on the type of DPs that can be subjects in gerund clauses:

Of the two expletive subjects *it, there,* in contemporary English only the former is accepted in the Poss-ing construction, and it is accepted only in some of its uses. (Examples and grammaticality judgments are due to Ross (1973)):

(74)     a.? *Its* being possible that murder will out is causing unrest in high places.
         (introductory anticipatory it)
         b. ?Its being so hot was a real shame.

(impersonal *it*)
c) ?Its having rained is tragic.
We would prefer its not raining right now. (from Abney (1987:175)
(weather *it*)
d. *There's being no beer in the house was a nightmare.
(expletive *there*)

Idiom chunks are also unacceptable as Poss subjects, although there may be exceptions (for more examples see (41) above)

(75)     *No heed's being paid to her miffed Alice.

Furthermore, DPs which are not felicitous in the Poss case for some reason (semantic or morphologic) are not used as subjects in the Poss-ing construction. Thus, on the semantic side, inanimate nouns may be excluded as gerund subjects.

(76)     ? We were upset at the refrigerator's door tipping over.
*We were upset at our idea's being unfairly criticized

*Gerunds and determiners*. In older stages of the language, exceptionally the gerund may have been  headed by lexical determiners such as, *no, this, that, any, no*, and even *the*. Jespersen (1909-49) vol. cites the following examples

(77)     a. This telling lies out of school has got to stop.
b. The judgment of heaven for my wicked leaving my father′s house […].
c. There is no enjoying life without you.

Similar examples are quoted by Schachter (1976) and Ross (1973). The appearance of determiners in gerund constructions was apparently much freer until the early XXth century. Poutsma cites numerous examples from Dickens, Thackery, Scott and other writers:

(78)     a. That having had to pay in full must have cramped your vacation plans.
b. There is hardly any desiring to refresh such a memory as that.
c. The having to fight with the boisterous wind took off his attention.
d. …the being cheerful and fresh for the first moment, and then the being weighed down by the stale and dismal oppression of remembrance (David Copperfield).
e. I am not disposed to maintain that the being born in a workhouse is in itself the most fortunate and enviable circumstance that can possibly befall a human being (Oliver Twist).

Even more disturbing are the following examples where a clear gerund is preceded by an adjective. This suggests a structure in which the VP (small clause) is inside a nominal phrase headed by an adjective, that is the nominal feature of the gerund is checked against an adjective (For details regarding the possibility that a noun phrase be headed by an adjective see Bernstein (1993)).

(79)     a. … between rheumatism and constant handling the rod and gun (Kingsley)
b. No one fancies that he can criticize this party without some little training for the task.
c. Some simple showing that it is possible to wash them may be required.
d. The world has seen nothing like this grim settling down to the suffering of wounds and privations beyond all imagining.
e.        DP
         !
         D
         3
D$^0$            AP

```
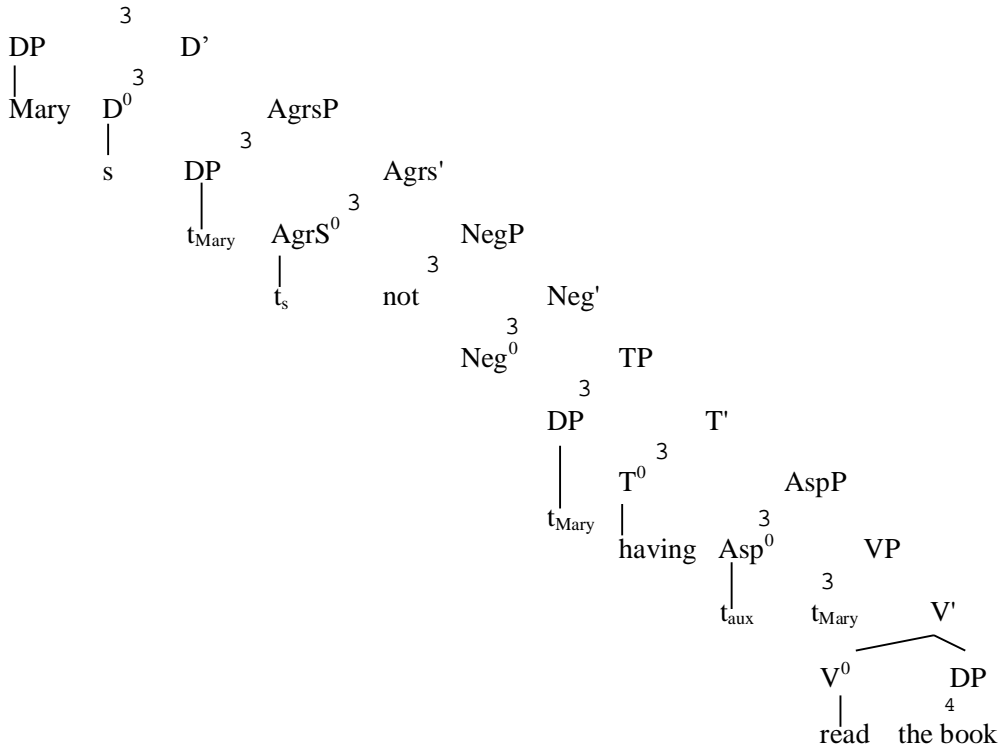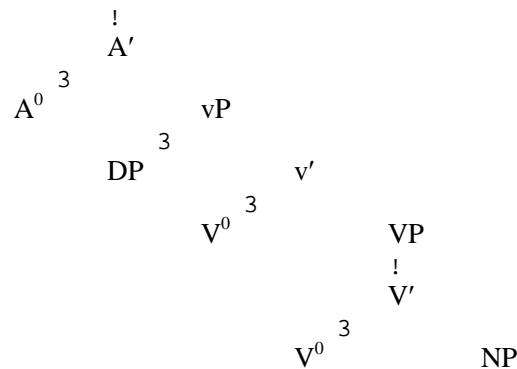                              !
                              A′
                          3
            A⁰                        vP
                              3
                      DP              v′
                              3
                  V⁰                      VP
                                          !
                                          V′
                                      3
                          V⁰                  NP
```

However, as shown by Abney (1987), it is difficult to know how to evaluate examples with adjectives and lexical determiners for the purpose of an analysis of contemporary English, since they are definitely ungrammatical in the modern idiom. According to the same linguist the only perfectly acceptable determiner is *no* in the presentational *there* construction, and occasionally *this*:

(80)　　a. There's no fixing it now.
　　　　b. There's no turning back the clock.
　　　　c. ? This mixing business and pleasure is going to catch up with you.

　　　5.5. ***More on the negation of the gerund clause.*** The gerund clause contains a NegP quite similar to the NegP of a finite clause. This analysis seems to be at variance with certain interpretative contrasts between clauses and gerunds, regarding the scope of negation. However, at closer inspection, these differences fall out from the different functional structure of the gerund, in contrast with finite clauses. Consider the difference in the interpretation of the following two seemingly parallel examples.

(81)　　a. John is $[_{Neg\,P}$ not $[_{VP}$ t $_{AP}$ happy] for five minutes each day.]
　　　　b. John's $[_{TP}$ being $[_{AP}$ not happy] for five minutes each day] is a cause for concern.

　　　There is a scope ambiguity between *not* and *for five minutes each day* in (81a) However, in (81b), there is no reading on which *not* has wider scope than the temporal modifier. In the derivation of the finite sentence, the copula *is* goes up to T, and then to the Neg head and the $AgrS^0$ head to check its agreement features. The negation *not* is in the Neg P and the temporal modifier *for five minutes a day* may be adjoined to the VP or to some other higher projection, such as SpecAgrS', above NegP, so that the reading becomes: 'For five minutes a day, John is not happy'. This reading is absent in the gerund example, which can only mean: 'the fact that John is not happy for five minutes each day'. This difference is predictable. The verb *being* in the gerund clause goes no higher then T^0, *not* is adjoined to the AP and is always lower than the durative phrase, attached as before, to the VP or to a higher projection of the gerund clause. The proposed analysis explains certain interpretative differences between gerunds and other kinds of clauses regarding negation. One of these is the interaction of negation and quantifiers. Consider the following pairs of examples:

(82)　　a. Everyone didn't smile.
　　　　b. Everyone's not smiling upset her.

The finite tense sentence is ambiguous, with the two readings, 'Not everyone smiled', $(\neg\forall x)(x$ smiled$)$, as well as 'For all the people, it is not true that they smiled', $((\forall x\neg)$ $(x$ smiled$)$. In contrast, the Poss-ing construction allows only the wide scope interpretation of *everyone*.

Consider the interpretation of the finite clause first. The wide scope reading of the QP results from interpreting the QP in situ, above negation. There are two ways one might seek to derive the narrow scope reading for the quantifier, a reading where *not* should be above *everyone*. One might claim that *everyone* reconstructs to its thematic, Spec *v*P position, a position which is below Negation. Such a view would run counter the more general principle that A-positions do not reconstruct, and that DPs are interpreted in their Case position or higher. Fortunately, there is a more convenient analysis: the LF adjunction of *not* to the IP, a postion which c-commands the quantifier subject: [$_{IP}$ Not [$_{IP}$Everyone came]]. The adjunction of *not* is an instance of Quantifier/Operator raising, a process which is clause-bound (May (1985)). This analysis of the finite clause predicts that the *Poss-ing* clause will not be ambiguous, disallowing the wide scope negation reading, 'Not everyone came'. If negation raises at LF, it will adjoin to the AgrS projection in (82b, 73), *below* the subject, which continues to have wide scope. It follows that the only reading is the one where *everyone* has wider scope.

Conclusions

1. The Poss-ing DP may be categorially described as [+N,+V], which explains its mixed nominal verbal properties.

2. The functional structure of the gerund is mixed, made up of a sequence of verbal projections followed by the nominal projections, needed to license the subject:

DP > AgrSP > NegP > TP > Asp P > (vP > FP > VP)

3. The analysis adopted is a variant of the D^0 + IP analysis.

6. The Acc-ing construction

The Acc-ing construction is the most recent of the *ing* forms. Its development was favoured by the homonymy (homophony) of the plural Genitive with the plural Acc, which allowed a reanalysis of the former as the latter (cf. Wik (1973)) A second factor which contributed to the spreading of the Acc+ing was the fact that certain types of DPs do not have a Poss Gen. Examples have already been given above.

6.1 *Acc-ing vs. Acc+ Part(icple)*. At first sight the Acc+ing is not distinct from the participial clauses that have already been examined in a previous chapter.

(83)   I found him sleeping. (Acc + Part)
         I regret him leaving. (Acc-ing, gerund)

There are however clear empirical differences between them. This suggests that the lexical categorization of the *ing* form is distinct in the two constructions. As with the Poss-*ing* construction, the *ing*-form in the Acc+*ing* has mixed verbal-nominal properties, even though the nominal   properties   are   less   apparent   than   with   the Poss-*ing* construction.

A clear difference between the Acc+Part and the Acc-*ing* structure is that only the latter can regularly be replaced by the Poss-*ing* construction, without significantly changing the interpretation. Consider the following examples:

(84)   I found him sleeping.
          *I found his sleeping.
(85)   I regret him leaving.
          I regret his leaving.
(86)   They saw him waiting.
          *They saw his waiting.
(87)   I deplore him losing his fortune.
          I deplore his losing his fortune.

Secondly, only the Acc+Part, but not the Acc+Ing correlates with an Acc+Inf.

(88)   I saw him coming.
          I saw him come.
(89)   I kept him waiting.
          *I kept him to wait.

The Acc+Part construction involves SOR, the Acc may become a main clause constituent and can be "passivized on the main clause cycle", more precisely the Acc+ Part correlates with a Nom + Part construction, based on SSR. In contrast, the Acc of the Acc+*ing construction does not passivize*. It cannot become a main clause subject, by SSR, if the main verb is passive. These data suggest that the manner of Acc case assignment is different in the two constructions, in the sense that the subject of the Acc-ing construction is assigned case clause-internally (see below).

(90)   a. He was found [t sleeping].
          b. *He was regretted [t leaving].
          c. He was kept [t waiting].
          d. *He was deplored [t losing his fortune].

What is presumably different about the two apparently identical Acc- + ing structures is the lexical specification of the Ving. It is purely verbal [+V, –N] in the case of the participle, and has mixed features [+V, +N] in the case of the gerund. This leads to a different manner of case assignment in the two clauses. In the Acc+Part construction, the *ing* verb is not involved in assigning case to the subject. The subject undergoes SOR and checks the Acc case feature of the main verb. A limited number of verbs may c-select the Acc +Part construction. The raised subject may undergo passive on the main clause cycle:

(91)   a. I saw him$_i$ [t$_i$ running away].
          b. He was seen t$_i$ [t$_i$ running away].
(92)   a. I deplored [him leaving].
          b.*He was deplored [t leaving].

As will be shown in detail below, in all the analyses of the Acc-*ing* construction (Reuland (1983), Johnson (1988), Pires (2000)), the *ing* morpheme is somehow involved in assigning case to the subject. The Acc-ing thus counts as having, if not an 'internal' source for the subject's case, at least an internal mechanism of case-transmission, in contrast with the Acc+Part.

       The several properties that differentiate the Poss-*ing* from the Acc-*ing* have been interpreted as showing that the Acc+ing is more clausal. Several important studies on the Acc-*ing* construction point out that the Acc-ing should be viewed like a clause, therefore an IP (cf. Reuland

(1983)), Pires (2000) or even a CP (cf. Johnson (1988)), in contrast with the Poss-*ing* which is unquestionably a DP. It is stressed that the Acc+*ing* does not show any clear nominal marks, simply having a nominal distribution. A desirable analysis would have to account for the DP distribution of the Acc-*ing*, obvious in its ability to appear after prepositions, or in positions of structural case, while at the same time, producing appropriate explanations for the syntactic and interpretative differences between the full gerund and the half gerund. In the next section we propose a DP+ Agree analysis of the Acc-*ing*, commenting then on the manner in which the analysis accounts for the properties of this construction.

6.2. ***The analysis***. The account that we propose is based on several important empirical facts.

a) The Acc + ing is particularly frequent after prepositions and after transitive verbs, while being less felicitous in subject position:

(93)   a. ? Would him leaving her surprise you?
        b. I was surprised at him leaving her.
        c. I deplored him leaving her.

This distribution has to be correlated with the property that verbs and prepositions share: they are Acc-case assigners, capable to check the case feature of their complement. In this, they contrast with Inflection / Tense which regularly checks Nom case only by SHA. The intuition we want to capture is that the source of the Acc-Case in the Acc-*ing* is *external* to the Acc-*ing*; it is the $[\alpha$ Case] feature of some head in the main clause (V^0, P^0, I^0), which acts as a probe, ultimately checking the case feature of the Acc-*ing* subject through a chain of Agree relations.

b) The second important fact is that the constituent that is assigned Acc remains in the subordinate clause, as demonstrated by the impossibility of SSR when the main verb is passive:

(94)   a. I saw him leaving her.
        b. He was seen leaving her.
(95)   a. I deplored him leaving her.
        b. *He was deplored leaving her.

This clearly shows that no gerund subject movement is at stake in the Acc-ing construction. Case is somehow transmitted from the main clause head to the gerund subject. The most natural solution appears to be checking the case feature of the subject by Agree.

c) The third fact that should be accepted is that Acc-ing constructions have a DP layer. This is natural given their distribution. At the same time, as with Poss-*ing*, the temporal interpretation of these constructions is best understood by claiming that they have a Tense *Op* in SpecD.

The proposal that we want to make is that, like Poss-ings, Acc + ings are DPs that embed clauses IPs, headed by T / AgrS^0, in a configuration of the type shown in (96):

(96)   V'
                   3
              V^0 DP
               | 3
            deplore   D'
               | 3
               |

```
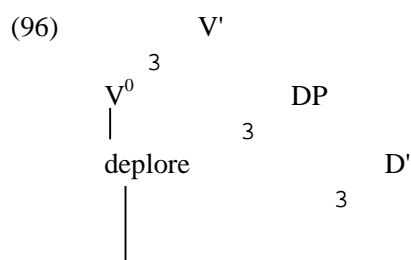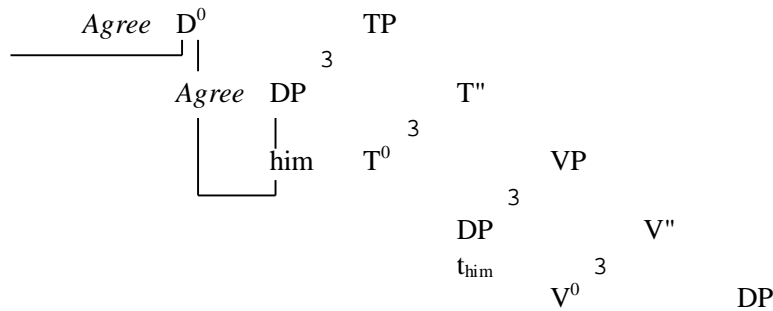    Agree   D⁰                TP
    _____|        3
            Agree   DP              T"
                 |        3
                 him    T⁰              VP
                            3
                        DP              V"
                        t_him       3
                                V⁰          DP
```

Essentially, D^0 is in some sense an *anaphoric case assigner*, endowed with a Case feature. This makes it a Probe, in search of an appropriate Goal in suitably local search space, which is the *sister node TP*. The subject in SpecTP is an accessible Goal. The difference between this Acc assigning silent D and the Gen-assigning overt *'s*, is that D^0 must itself be "activated" by an overt case head, V^0 in (96). In that sense, D^0 is an anaphoric assigner. The Case of the subject is thus checked by means of two Agree relations. V^0 Agrees with D^0, D^0 Agrees with the subject DP, whose case feature is thus checked *in situ*.

The *-ing* in the Acc-ing, like the *-ing* of the Poss-ing construction is both nominal and verbal, It is its [+ N] specification that makes it compatible with the D^0 head, which is thus licensed, and which is instrumental in "transmitting" case to the subject.

6.2.1. *Another implementation*:

Pires (2000) proposes a different, perhaps simpler, implementation of the same basic insight, namely the fact that the subject of the Acc-ing gets case from an external source, remaining inside the gerund clause. At the same time, case is transmitted to the subject by means of some mediating nominal element, sufficiently close both to the external case assigner and to the subject of the Acc-ing. In the analysis we have proposed this element is D^0, the element responsible for the nominal distribution of the gerund.

In the analysis proposed by Pires, the clausal gerund is a TP rather than a DP, and it is the head T^0 which acquires nominal properties in the derivation, nominal properties which enable the TP constituent to have DP distribution and to transmit case to its subject. "The head of clausal gerund carries a special feature that is instrumental in the assignment of case to the subject." (Pires, 2000:7) Specifically, Pires makes the following proposals

i) Acc-ing clauses have an uninterpretable Case feature on T^0 that needs to be checked.

ii) T^0 of an Acc-ing has an EPP feature that needs to be checked. This property will force the subject of the gerund to move out of thematic SpecvP position to the SpecT position (see (97b))

iii) T^0 of an Acc-ing enters the numeration as φ-defective. As the subject D/NP merges in the SpectT of the Acc-ing to check its EPP feature, the D/NP transfers its φ features by Agree to T^0.

iv) The uninterpretable case feature on T^0 is checked by the external case assigner, the main clause verb in (97b) through Agree. The external case assigner (matrix V^0, T^0, P^0) checks the case feature of the embedded T^0, and it is T^0 which transmits it to the subject of the clausal gerund. (Agree). T^0 can be case checked only when it has become φ-complete as a result of the Agree relation established with the subject D/NP in its Spec.

(96b)   V'
           /   \
        V⁰   TP
         |

```
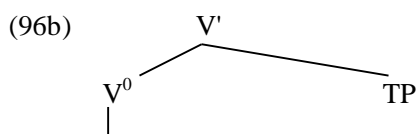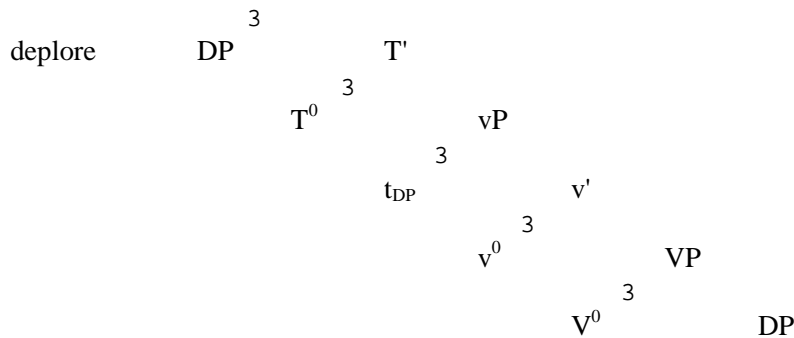                          3
deplore          DP              T'
                          3
                    T⁰              vP
                              3
                      t_DP              v'
                                  3
                          v⁰              VP
                                    3
                              V⁰              DP
```

As will be seen both analyses have the same empirical coverage. We have chosen the first analysis basically to give a more unitary account of gerunds, making use of the D layer as a category shifter and merging the D^0 as a result of the nominal properties of the *ing* morpheme in the gerund construction.

6.3. ***Evidence for the proposed analysis***. In what follows we will present empirical evidence that may be taken to support these analyses. The evidence supports the claim that the subject of the Acc-ing clause gets case from a case assigner in the matrix.

1) A first kind of evidence is provided by Johnson (1988). Johnson offers an intricate, but compelling argument leading to the conclusion that the overt subjects of the clausal gerund can only "be case-marked by a term outside the gerund (Johnson 1988, 590)", essentially the view defended here:

Johnson (1988) starts from an analysis of time clauses in Geis (1970), further discussed by Larson (1987). Discussing temporal prepositions, Larson notices the following ambiguity in the interpretation of the time phrase:

(97)   a. Liz left before you said she left.
          b. Sam fell after you said he would.
          c. Betsy has used eye shadow (ever) since John said she has.
          d. Mittie drove until Daniel said she should stop.

Sentence (97a) has a meaning corresponding to 'Liz left before the time of your saying that she left'. It also has a meaning corresponding to 'Liz left before the time which you said she had left at'. A similar ambiguity arises in each of the other examples. Larson suggests that the ambiguity arises because such sentences contain a hidden temporal operator that has been moved into the C^0 of the clausal complement of the" temporal prepositions (conjunctions)." For example, depending on the scope of this operator, sentence (97a) might have the following two representations:

(98)   a. Liz left [$_{PP}$ before [$_{CP}$ OP$_i$ [$_{IP}$ you said [$_{CP}$ she had] t$_i$]]].
          b. Liz left [$_{PP}$ before [$_{CP}$ OP$_i$ [$_{IP}$ you said [$_{CP}$ she had t$_i$]]]].

Op stands for a phonologically null *when*. In (98a) *Op* binds a time variable in the *said-*clause; this representation corresponds to the first reading discussed above. The second reading is given a representation like that in (98b), where *Op* binds a time variable in the embedded clause. The ambiguity thus arises because the *Op* may start out in either clause. Larson further notices that some of the temporal subordinators may also subcategorize gerunds, in addition to finite clauses (IP), as in (99).

(99)   Liz left before telling the story.
         Gary fell after telling the story.
         Sam has left since telling the story.
         John fell while telling the story.

There are also temporal prepositions that take a gerund complement but not a finite-clause complement. All prepositions naturally also take DP complement and therefore *can* in principle assign Case.

(100)   a. Liz left without telling a story.
         b. Sam left despite saying he wouldn't.
         c. Sam has left since telling the story.
         d. John pestered her by telling that story.
         e. Gary was bothered about telling that story.
         f. Besides stealing that money, he also killed a guard.

Prepositions show an *interesting asymmetry* in their behaviour towards gerunds. Some may be followed by the Acc-*ing* construction (101d-g), others accept only a phonetically null subject, i.e., a PRO-ing construction (101a-c). For ease of reference, let us call those prepositions that allow an overt subject in their Acc-ing complement the " gerund class" (101d-g).

(101)   a. *Liz left before him telling a story.
         b. *Gary fell after him telling a story.
         c. *Sam has left since him telling a story.
         d. Liz left without John telling a story.
         e. Sam left despite John saying that he wouldn't.
         f. Gary was bothered about him telling that story.
         g. Besides him stealing all that money, we also knew Bon had killed a guard.

Examining the list of prepositions that cannot take the Acc-ing construction (101 a-c), we notice that it is *precisely those prepositions which allow ambiguities that cannot take an Acc-ing construction*. Johnson (1991) suggests that because these prepositions select CPs, the subject of the gerund cannot be governed by the preposition and can only be PRO, a *caseless* nominal in GB theory. Consider, for instance, the structure this account would give to an example with a temporal preposition and a clausal gerund that contains an overt subject:

(102)   a. *Liz left after him saying that she wouldn't.
         b. Liz left [after [$_{CP}$ Op$_i$ [$_{IP}$ him saying [that she wouldn't] t$_i$]]]

The overt subjects of the Acc-ing is Case-marked by the Preposition outside the gerund. The ungrammaticality of (102a) is understandable. For this sentence to be grammatical, *him* should receive case from *after*, but *after* cannot govern *him*, the CP is a barrier for government.

The situation is different with prepositions of the gerund class. These prepositions do not require that their clausal complement contain a CP layer with an operator in it, since these are the prepositions that do not give rise to ambiguities in their temporal clause. Thus, Johnson assumes that Acc-ings are simply IPs, while PRO-ings are CPs, allowing an Op to move to their SpecCP.

As already stated above, we have retained from Johnson's account the essential idea that the Acc in the Acc-*ing* is related to an external case assigner, though the exact mechanism of assignment is different in the present analysis.

Johnson's analysis of the difference between prepositions that allow Acc-*ing* complements and prepositions that allow only PRO-ing complements can be carried over to our analysis. Prepositions which allow the ambiguity rely on an operator that may originate in different positions, either in the main clause or in the gerund complement. In our analysis, the ungrammatical sentence (103) will have the following description:

(103)   *Liz left after him saying that she wouldn't.

Liz left [after [$_{BP}$ Op$_i$ [$_{TP}$ him saying [that she wouldn't] t$_i$]]]

(104)

```
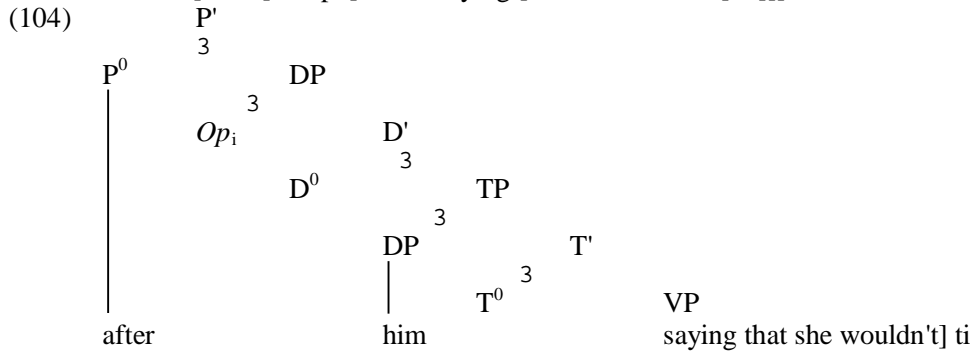                    P'
                    3
        P⁰                  DP
        |                   3
              Op_i                D'
                                  3
                         D⁰             TP
                                        3
                                DP            T'
                                |             3
                                      T⁰           VP
        after               him                saying that she wouldn't] ti
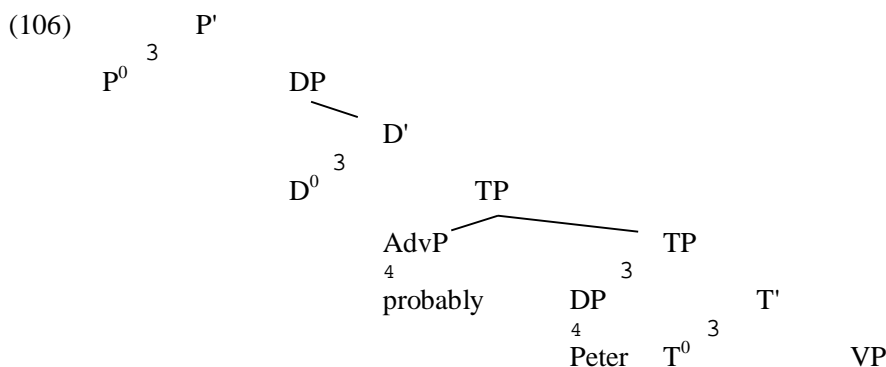```

This configuration violates the locality requirement on *Agree*. The subject is a lower, more distant specifier than the Op$_i$ in SpecD, so case-checking is blocked. On the contrary, if no *Op* moves to SpecD, there cannot arise any ambiguity, but case can be checked. So the Acc-ing appears in contexts where the time phrase is not ambiguous.

Johnson's facts support the present analysis as well. The intuition is the same: The Op in Spec CP or in SpecD prevents the subject from having Case. Moreover, categorizing the Acc-ing as a DP is likely to be a better alternative than considering it a CP. Thus, if gerunds were CPs, we might expect interrogative gerunds to be possible but they are not, even when they are complements to verbs that select indirect questions, such *as remember* in (105).

(105)   a. Mittie remembered whether / why you told story.
        b. Mittie remembered whether /why PRO/ you telling the story.
        c. Mittie remembered you telling the story).

2) A similar argument can be constructed regarding sentence adverbs. Sentence adverbs, which have been shown to be adjoined to IP, cannot precede the subject of the gerund in the Acc-*ing* construction: Again, the adverb counts as an intervening phrase closer to D⁰ than the subject, so that the latter cannot check its case feature,

(106)

```
                    P'
                    3
        P⁰                  DP
                            
                                 D'
                                 3
                    D⁰                  TP
                                        
                    AdvP                    TP
                    4                       3
                    probably        DP            T'
                                    4             3
                                    Peter    T⁰        VP
```

(107)   a.*Probably Peter coming later worried his wife.
        b. Peter probably coming later worried his wife.

3) We turn to those properties that differentiate Poss-*ing* from Acc-*ing,* attempting to integrate them in our analysis.

a) *Extraction* Of these, the most detrimental to the D-IP analysis above is the fact that Poss-ings are extraction islands, while Acc-ings are transparent for extraction. This may be an indication that Poss-ing is a DP, since DPs block extraction, while Acc-*ing* complements are clauses, and therefore they allow extraction. Happily, there is another interpretation of the facts, compatible with the assumption that all gerunds (Poss-*ing* and Acc-*ing*) are DPs.

We have noticed that there is a systematic interpretative contrast between Acc-*ing* and Poss-*ing* complements in non-factive contexts: Poss-ings are definite and presuppositional; they designate events which are real or at least familiar to the speakers. In contrast Acc-*ing* complements are indefinite, lacking any presupposition of familiarity. Here is an example:

(108) a. It's unlikely that Mary discussed John's coming to visit her.
       b. It's unlikely that Mary discussed John coming to visit her.

What is important is that, as known, one cannot question or relativize a constituent out of a DP which has a definite determiner or a Genitive subject, but extraction is possible out of an indefinite DP. Extraction out of DPs are ruled by a "specificity" constraint. DPs whose determiner is definite or specific are islands to extraction.

(109) a. *Who$_i$ did you see John's picture of t$_i$?
       b. Who$_i$ did you see a picture of t$_i$?

If this is true, we expect that extraction out of Poss-ing complements is blocked, because Poss-ing complements are definite DPs headed by Genitives. In contrast Acc-ing complements are indefinite and allow extraction. Thus, only Poss-ing constructions show specificity effects, because they are definite DPs, headed by a Genitive. Here are examples:

(110) a. We remember him describing Rome.
       b. What city do you remember him describing?
(111) a. We remember his describing Rome.
       b.*What city do you remember his describing t?
(112) a. the city which we remembered him describing t
       b*the city which we remember his describing t

The same account explains the difference in the extraction possibilities of the subject. It is possible to move the Acc subject of the half- gerund, but not the Genitive subject of the Poss-ing.

(113) I approve of him studying linguistics
       I approve of his studying linguistics.
(114) Who do you approve of [t studying linguistics]?
       *Whose do you approve of [t studying linguistics]?
       b) *Quantifier Scope* An important difference between Acc-*ings* and Poss-*ings* has to do with the interpretation of quantifiers: quantifier subjects of the Poss-ing construction may have wide scope with respect to the main verb, while quantifier subjects of the Acc-ing clause take narrow scope with respect to the main clause verb. The difference is apparent in examples of the following type, already discussed in (37) above:

(115) a. John disapproves of everyone taking a day off. [*wide scope]
       b. John disapproves of everyone′s taking a day off. [OK wide scope]
(116) Cindy hated everyone eating his fish.
       Cindy hated no one coming to her party.

This difference is expected under the present analysis, if it is accepted, as is standard, that Quantifier Raising is clause bound, so QPs take scope by adjunction to the clause where they belong. The Poss+ing construction is a DP of the main clause. A quantifier subject of a Poss+ing construction, which is placed in SpecD, may take scope by raising and adjoining to the main clause. This is why *everyone* may have wide scope in (115b). In contrast, a quantifier subject of an Acc+ing, placed in SpecT, takes scope by adjoining to the SpecT below D^0 in (96). Even after adjunction, the QP has narrow scope with respect to the main verb. This is in line with the meaning of (115).

c) *Agreement*. The Agreement pattern under coordination has been said to be different for Poss-*ing* and Acc-*ing* complements (Ross (1973), Horn (1975)), as noticed below:

(117)   a. John coming and Mary leaving bothers me.
        b. John's coming and Mary's leaving bother me.

These facts seem to be based on a tendency to interpret conjoined Acc-ings as describing a single event but to consider conjoined Poss-ings as describing different events. Such a tendency, as noticed by Portner (1994: 112), could perhaps be explained on the basis of the definiteness difference between Poss-ings and Acc-ings in the following way: Since Poss-ing gerunds must pick out familiar events, when (117) is encountered, there are already two familiar discourse referents, it seems superfluous to produce a complex event, so pluralization is required. In contrast, when the conjoined Acc-*ings* are interpreted, because they are indefinite, a new complex discourse referent must be produced, and it appears to be easier to create one event rather than two. So if we assume that conjoined gerunds in general may have two interpretations, one describing a pair of events and one describing a single complex event, the presuppositional difference between Acc-*ing* and Poss-*ing* will result in a tendency to choose one strategy with one type of gerund and the other with the other type. Evidence for this way of looking at the facts comes from the observation that, if we explicitly undermine this tendency, the opposite agreement pattern is clearly fine (examples due to Portner (1994). Thus in (118a) two conjoined half-gerunds take a plural verb, while in (118b) two conjoined full-gerunds take accept a singular verb.

(118)   a. John eating apples and Mary sailing around the world (both) *bother* me.
        b. John's coming and Mary's consequently leaving *bothers* me.

Hence it seems that agreement with gerunds is based on semantic factors. A similar conclusion is arrived at in McCloskey (1999) for *that* clauses.

Conclusions

1. The Acc-ing has distinct properties from the Acc + Part. This is the result of the different mechanism of case-checking the subject.

2. The Acc-ing is categorially a DP, like the Poss-*Ing*. The silent D^0 which heads the Acc-*ing* is a case-transmitter and category shifter. Case is passed on (through Agree relations) from the regular case assigners V^0, P^0, I^0 to the subject of the Acc-ing construction. Alternatively, the Acc-ing may be viewed as a TP with a sufficiently nominal head to allow for the nominal distribution of the Acc-*ing*.

3. The Poss-ing is a definite DP, while the Acc-*ing* is indefinite at least in some contexts. This explains certain differences between the two forms (extraction, agreement). The extraction and agreement facts are equally well explained under the clausal analysis.

7. The PRO-ing construction

7.1 Since the gerund embeds a TP, it always projects a subject, which is either lexical or null. In principle, PRO is subject to Control Theory, just as with infinitives. The assumption will be just as with infinitives, that the T^0 position may have anaphoric agreement features, and when it does, it licenses PRO.

Moreover, it may be assumed that when PRO-*ing* appears in case-marked positions, the *ing* in T^0 is *ing* [+V, +N], so the nominal-verbal *ing* can license D^0 with a silent *the,* just as for the forms that have overt subject. The definite null D^0 is required for semantic reasons, and also to ensure that PRO-Ing may surface in positions of case, particularly after prepositions, a context where non-nominal forms are excluded.

(119)   Before leaving, Mary closed the door.

A few remarks are in order here regarding the interpretation of gerunds that lack overt subjects. First, gerunds differ sharply from verbal nouns which do not require subjects; this is apparent in their freely allowing uncontrolled readings in contexts of obligatory control.

A well-known contrast is that given below:

(120)   I enjoy [PRO diving gracefully].
         I enjoy graceful diving.

The gerund allows only the controlled reading, in which the subject of the gerund is identical with that of the main clause. In contrast, no particular subject is presupposed in the verbal noun clause, I may enjoy graceful diving without ever having dived myself. As with the infinitive, the controller may have any function in the main clause.

         Subject
(121)   a. I am glad of having met you.
         b. She was incapable of enjoying herself at that party.
         Direct Object
(122)   a. I congratulated you on PRO being promoted.
         b. I do not blame you for PRO going on.
         Indirect Object / Prepositional Object
(123)   a. *She* was grateful to her uncle for PRO saying it.
         b. I hope you are not angry with *me* for PRO coming.
         Possessive
(124)   Knowing myself had been all along *my* constant study.

As with infinitives, there are verbs that exhibit obligatory control in object clauses, i.e., when the gerund and the controller are co-arguments of the main clause predicate, but they are far less numerous than in the case of the infinitive.

(125)   a. I began *my/ *his/PRO writing the dissertation.
         b. I avoided *my /*his /PRO bumping into her.

For most verbs, the PRO-*ing* complement alternates with complements that have overt subject. Moreover, the lexical subject of the gerund often co-occurs with a coreferential DP in the main clause. This alternation is systematically possible for emotive factive verbs (*regret,*

deplore, resent, etc.). Other verbs (e.g., *hate*) disallow an overt gerund subject, most likely for semantic reasons.

(126)   I regret his leaving.
         I regret leaving.
         I regret PRO leaving.
(127)   I resent my leaving.
         I resent his leaving.
         I resent PRO leaving.
(128)   I hate his being left alone.
         I hate *my washing pots.
         I hate PRO washing pots.

The more permissive nature of the gerund in contrast with the infinitive regarding the presence of an overt subject is also apparent in gerundial constructions that function as subjects, prepositional objects or adjuncts. The gerund subject can freely corefer with a (coreferential) main clause constituent (argument).

(129)   a. (My) drinking the waters was a small portion of the torture I experienced. (Pt).
         b. (My) seeing how fresh and simple and happy your life is out here makes me more out of heart than ever with my own home.

There are also cases of multiple control, more frequent than with infinitive complements:

(130)   I argued with John about PRO leaving / my leaving / his leaving / our leaving.
         PRO getting themselves out of Marocco worried John more than Mary.

The subject of the gerund my be controlled by a DP which is not a main clause constituent, but is in a clause higher than the main clause, in configurations of long-distance control:

(131)   a. Harold knew that forgetting his umbrella would make it rain.
         b. Tricia claimed that holding her breath until she turned blue would cause Ed to have a heart attack.

When no controller is available, the gerund subject is given an arbitrary reading, often identical with the pronoun ONE, as suggested by pronominal agreement phenomena. Sentences whose implicit Su is *one* have generic meaning.

(132)   Voting for oneself would be a big mistake.
         Hating one's neighbours is forbidden by the Gospel.
         There is nothing so bad as parting with one's friends.

The difference between gerunds and infinitives in the way they handle the subject is at least in part syntactic. The gerund is uniformly a DP and might, in principle, always be provided with a lexical subject, given its internal possibilities of checking the subject's case. This is not the case for infinitives, where the *for-to* construction, which lexicalizes the subject, is possible only with a limited number of verbs. Hence, it is to be expected that semantic, rather than syntactic, factors are decisive as regards the presence or absence of a lexical subject in gerunds.

In an early study on the semantics of complementation, Menzel (1975) notes that subjectless gerunds express activities, acts, processes, or states, therefore in a word, they are *predicates* rather than propositions, and cannot express events. These predicates are attributed to the controller. In contrast gerunds that have a lexical subject may express events, and also

propositions. Below are some of Menzel's examples. Nouns like *activity*, *event, act*, etc. name the ontological categories associated with the *ing*-complement.

(133) a. his action of hanging the prisoners.
       b. *the action of his hanging the prisoners.
       c. *his event of hanging the prisoners.
       d. the event of his hanging the prisoners
(134) a. Hanging the prisoners was a cruel act / action.
       b. Teaching English is an important activity.
       c. Being ignorant is a blessed state.
(135) Ken regretted [THE ACT OF] leaving the town.
       Ken regretted [THE EVENT OF] his leaving the town.
(136) a. "We call [THE ACT OF] killing someone murder, when we think it's a means to a bad end", said Cathol.
       b. I hate all this [ACTIVITY OF] playing at soldiers and marching in green uniforms.
       c. As soon as Andrew was ready to fall in love, he fell in love with Frances, as if this were an inevitable and natural consequence of [THE PROCESS OF] growing up.

7.2. While subjectless infinitives exhibit either control or arbitrary readings, for subjectless gerunds, there is one more interpretative possibility. Consider the following examples, where one reading of the sentence is controlled, but the other one is neither controlled, nor arbitrary. It is "non-specified", the subject is simply a variable whose content is supplied by the context. Thus in (137a), the controller of PRO is *mother*, but there is no controller in (137b), and yet the reading is not arbitrary generic. The subject is simply unspecified, but retrievable in context. This phenomenon was noticed and systematically discussed in Thomson (1973). Here are a few examples:

(137) a. Not getting home until 3 a.m. worried mother, since she knew we were expecting her home by midnight.
       b. Not getting home until 3 a.m. worried mother, she was sure you had had an accident.
(138) a. Playing the drums might disturb the neighbours, they might get overexcited while doing so.
       b. Playing the drums might disturb the neighbours, so I'll play my saxophone instead.
(139) Putting up new curtains in the kitchen was Harry's idea.
       a.... you'll see he got them crooked.
       b. ... he's always thinking of projects for me.
(140) Father talked about getting a wig.
       ... but he'd never wear it.
       ....but Mother said she would never wear it.
(141) a. The psychiatrist recommended getting away for a week. (no controlled reading)
       b. Harry disapproves of opening trade relations with this country. (no controlled reading)
       c. Pulling the little girl's hair made her mad. (no controlled reading)
       d. Planting lettuce seeds too close together can kill them. (no controlled reading)

These sentences have the following properties: a) No DP in the matrix can serve as controller (at least on one reading). b) The complement clause need not be a generic sentence; the understood subject is not the indefinite generic *one*; instead, the subject is recoverable at context / discourse level, even though there is no controller. Thus, the psychiatrist in sentence (141) recommended to whoever were the patients to get away for a week. Interestingly, generic gerunds are excluded by some of these verbs:

(142) *Shaving oneself was suggested / considered / condemned.

Thomson (1973) labels the gerunds having such featureless, contextually retrievable subjects, *gerunds with unspecified subjects*, a name that will be retained in our description. Thomson (1973) shows that only certain verbs, which she labels 'public verbs' allow non-controlled non arbitrary readings. Thomson identifies two groups of verbs as 'public predicates' :a) verbs of communication, which are public by definition, already illustrated above: *recommend,   condemn,   consider,   suggest*,   etc. b) causative verbs: *make, kill*, causative psychological verbs *bother, alarm, worry*, etc.); examples have already been given above. These verbs are public because they involve objectively perceivable cause-effect relations. The unspecified subject of these clauses could be represented as a DP having only a categorial feature, and checking a θ-role of the gerund. In contrast, PRO_{arb} (one) is indefinite and generic.

Public predicates contrast with the class of *private* predicates which allow *only* controlled readings. Public verbs involve an individual and his private thoughts, feelings and personal welfare: e.g., *dread, bear, stand, prefer, remember, relish, take pride in, avoid,* etc.:

(143)   Marjorie dreads singing a solo.
         Sir Herbert prefers hunting elephants.
         Max can't bear watching the tide come in.

We have so far considered PRO-ing constructions in situations in which it exhibits nominal, as well as verbal properties. In the following sections, it will be seen that PRO-ing also appears in contexts where it exhibits only verbal properties.

Conclusions

1. The "subjectless" gerund is also a DP, at least when it appears in case-marked positions.
2. The "subjectless" gerund has a PRO subject, interpreted by Control Theory.
3. PRO may be not only controlled or arbitrary, as with infinitives; it may also be a free pronominal variable, acquiring an index in a particular context (gerunds with unspecified subjects).

8. The participle

8.1.The (present) participle is a purely verbal *ing*-form. As known, it is used in forming the progressive aspect. The present participle can regularly be used as an adjective, a form which is [+N, +V]. The brief remarks that follow regard participial constructions in English, two of which, the Accusative + Participle and the Nominative + Participle have already been discussed. Both have been described as incomplete clauses: They are Aspect Phrases and lack the functional projections necessary to assign case to the subject. The subject is assigned case from an external source: the main clause Tense / Inflection in the Nom + Part structure and the main verb in the Acc+Part construction.

(144)   a. He was found sleeping in the armchair.
         b. They found him sleeping in the armchair.

The participial constructions mentioned so far are arguments, and have corresponding syntactic functions: Direct Object (Acc + Part) or subject (the Nom + Part).

The participle unlike the gerund does not subcategorize predicates, it normally functions as a modifier, a verb modifier, in other words an adverbial or, a noun modifier, in other words an attribute.

(145)   Having forgotten my notebook at home, I felt embarrassed.
         The book lying on the desk is Mary's.

         Participial constructions have the following properties.
         a) Often they are subjectless, placed in sentence initial or sentence final position, their subject is understood as coreferential with the main clause subject:

(146)   a. Living in seclusion on an island, the Englishmen became introspective.
         b. For a moment the girl sat on the edge of the desk, looking less at him than out of the window.
         c. Being argued ultimately on a basis of doctrine, these disputes tend to become more rigid and more bitter.

         b) Participial constructions may be introduced by the following subordinating conjunctions or adverbs (constituents of category P): *if, unless, as if, as though, though, although.*

(147)   a. Morgan was rocking it backwards and forwards, as if persuading a child to sleep.
         b. While visiting a native school, the inspector noticed the children learning to write.
         Participles cannot be preceded by case-assigning prepositions, i.e., prepositions that subcategorize DPs. This means that the inflection *ing* in this case is not [+V, +N], as it was with the gerund, but [+V, −N], so that the participle is purely verbal. This is consistent with the fact that the participle does *not* show up in case-marked positions. Also the participle is selected by subordinators (prepositions) that always subcategorize clauses not DPs, since it is a clause, not a DP.
         As a practical aside, note that when gerunds function as verbal or nominal modifiers, they must be preceded by prepositions, while participles are either independent, or introduced by conjunctions (non-case- assigning subordinators.) Compare:

(148)   a. Arriving there, I found him gone. (participle)
         b. On arriving there I found him gone.(gerund)
         c. The idea obsessing him was the loss of his fortune. (participle)
         d. The idea of losing his fortune obsessed him. (gerund)

         c) The adverbial participial clause has a complete functional structure, with auxiliaries and Negation:

(149)   a. Having known him for many years, she was sorry to hurt his feelings.
         b. Not knowing the truth, she didn't know what to decide.

         This indicates the presence of a syntactic Tense position, and of a NegP, which means that adverbial participial clauses are TPs.
         d) There is also the so-called Absolute Participial Construction, a construction where the participle has its own lexical subject, in the Nom case. The construction always functions as an adverbial. Here are a few examples.

(150)   a. God willing, we shall succeed.

b. Weather permitting, we will go on the picnic.

c. The child having gone to bed, we could talk undisturbed.

While whenever there is comma intonation, the participle may be viewed as a sentence modifier (i.e. the participle is adjoined to a projection of Inflection), there are also instances where the participle must be analyzed as a VP modifier. Such is the case of the examples below, where the post-verbal position seems to be obligatory, at least in the intended meaning:

(152)   a. She sat talking (*Talking she sat)

   b. He stood addressing crowds of men and women on the slopes of the Mound.

   c. Too often he gulped his tea standing up.

8.2 ***Towards an analysis***. The key to a plausible analysis of the participle lies in noticing that whenever it is introduced by a conjunction or a *wh*-adverb, the participle is subjectless, moreover the only possible connectors that introduce participles are non-case assigning ones: conjunctions and *wh*-adverbs. In other words, the adjunct participle is always PRO-*ing*, except for the Absolute Participial construction, where it is Nom-*ing*.

(153)   a. PRO running, he fell.

   b. While PRO running, he fell.

   c. When PRO arriving, they found the house deserted

   d. The thief running away, the police were after him.

It is well-known that adverbs like *when* or *while*, occupy the Spec CP position, having an operator role. This is a sure indication of the fact that the participial clause is not merely a TP, but a *CP*. If that description is accepted, the complementarity between situations when the lexical subject is possible, and those when it is not possible becomes comprehensible:

   a) A lexical subject is impossible if there is a *wh*-operator in Spec CP, so that C^0 has a *wh* feature.

   b) A lexical subject is impossible if the clause is introduced by a conjunction, i.e. a CP-selecting preposition in the class: *if, although*, *though, as if*, etc. Let us assume that these prepositions select an empty C^0, which they incorporate by head to head movement at LF. The C^0 may be said to check some strong feature of the conjunction, possibly a [+V] feature. This would express the intuition that conjunctions require verbal projections. What counts is that, under these assumptions, the Spec C will not be licensed. The participle may not have a lexical subject in this configuration either.

   c) The lexical subject is possible only when there is no conjunctive adverb (*when, while*) and no conjunction. We will assume, with Gueron & Hoeckstra (1995) that, under these circumstances, the Spec C position of the clause is held by an abstract T-operator which "activates" the Agr features on Tense, the latter licensing a "default" Nom case. Such a suggestion becomes plausible by analogy with constructions in other languages, where it appears that a lexical T-operator in Spec CP licenses the case of the subject: R: *Odata copiii plecati, ne-am culcat* / **Copiii plecati, ne-am culcat*; F *Une fois les enfants venus, nous partirons*.

   Here are two representations, respectively that of (153b) and of (153d) above.

(154)   CP
          3
    AdvP   C'
     /\   3
    / \ C^0 TP___
   while [+wh]   T'

```
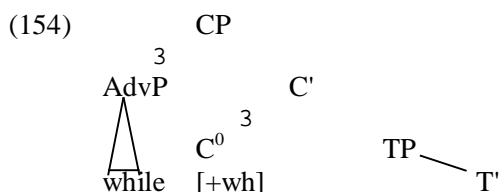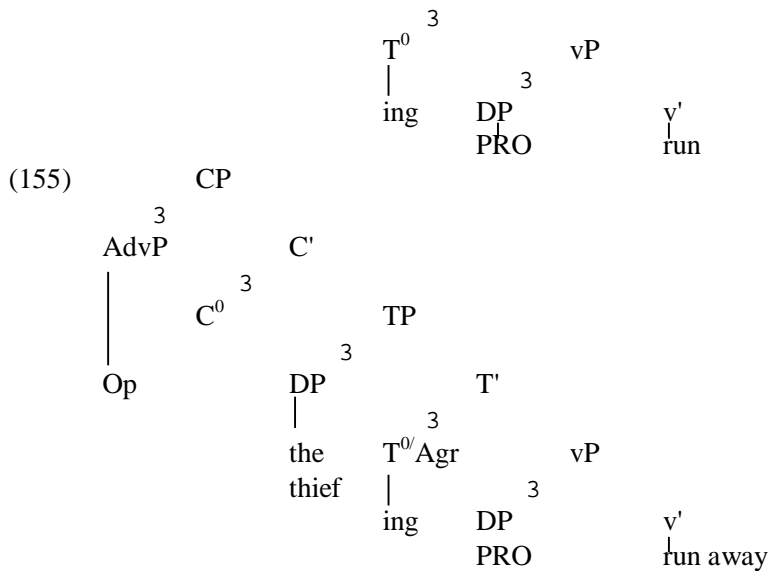                        T⁰ ─3─              vP
                        |         ─3─
                        ing    DP          v'
                               PRO         run
```

(155)   CP
            ─3─
        AdvP   C'
        | ─3─
        | C⁰   TP
        | ─3─
        Op   DP   T'
                  | ─3─
                 the   T⁰⁄Agr   vP
                 thief | ─3─
                        ing   DP   v'
                               PRO   run away

8.3. *More instances of verbal Ving*.

Extraposition. We have said above that gerunds do not extrapose, behaving like DPs from this point of view. There is however a class of idiomatic exceptions. Many evaluative adjectives (*it is easy / hard, / useless / fine / worth / awkward / ill / jolly / awful*, etc.) and nouns (*it is (not / not any / use / fun / good / avail / worth while / an awful job*, etc.) allow extraposed gerunds. Poutsma (op. cit. 959), quotes the following Poss-ing extraposed gerunds:

(155)   a. It was of no use my saying anything to you.
         b. It is exceedingly unwise his going to stay at Court.

Milsark (1988: 626) gives the following examples and grammaticality judgments of extraposed *ing*-complements, accompanied by the following comment. "It has been noted only rarely that there is a striking difference in acceptability in this position between gerundives that contain overt subjects, whether genitive or accusative, and those that do not. To my own ear at least, the latter are *fully grammatical*, whereas the former can be given some semblance of felicity only by means of the sort of heavy comma intonation that is typical of rightward topic structures in examples such as *He walked right in the door and stuck a tract in my face, the arrogant swine*. Consider the contrast between (156) and (157), where all examples should be read without the exaggerated comma intonation exemplified above:"

(156)   a.*It's amusing John('s) walking around the city in Dublin.
         b.*It was a joy Susan('s) encountering that book in such an out of the way shop.
         c.*It confused the chief the cops(') finding the house empty.
         d.*Mary finds it a delight Fred('s)swimming for hours in mountain ponds.
(157)   a. It's pleasant walking around the city in Dublin.
         b. It was a joy encountering that book in such an out of the way shop.
         c. It confused me finding the house empty.
         d. Mary finds it a delight swimming for hours in mountain ponds.

On the present analysis this contrast of grammaticality can easily be explained. The Poss-ing and the Acc-ing constructions are [+V, +N], i.e. they are partly nominal and need to appear in case-marked positions. The [+N] feature licenses the D⁰ which is fully responsible for the

mechanism of case-checking the *lexical* subject. PRO is case checked through a different mechanism. If we assume that the PRO-ing can also be [+V, −N], then nothing forces the projection of a D-layer, at least from a syntactic perspectives. *So when they are not nominal, PRO-ings are in fact expected to occur in caseless positions, such as the position of extraposition.*

As Milsark calls attention, Extraposition should not be mixed up with the rule of Right Dislocation, which moves an NP to the right end of the sentence leaving behind a pronominal copy. The moved constituent is separated from the clause by comma intonation. Right Dislocation may operat on gerunds.

(158)   a. John's big cigar bother me.
        b. It bothers me, John's big cigar.
(159)   a. It's not very important to you, seeing Brenda, is it?
        b. It will be a sad thing, parting with her.

Doubling violations. It has sometimes been asserted that gerunds do not have the progressive aspect:

(160)   He is running.
        *His being running.

Yet, this description is not accurate, since there are perfectly good perfect progressive gerunds, as well:

(161)   He has been running.
        His having been running.

To explain the difference in grammaticality between (160) and (161), the first idea that presents itself is to say that sequences of *ing* verbs are disallowed, i.e., *VingVing. This looks like a phonological constraint. However, this 'doubling' constraint is again inaccurate, since there are fully acceptable examples of *ing* sequences:

(162)   a. Bill was enjoying reading the poem aloud.
        b. Disliking drinking vodka with only her cats for company, Griselda reached for the telephone.
        c. Ed's resenting getting photographed drunk is just too funny.

Ross (1972) convincingly proves that doubling violations occur only in structures where no nominal constituent could have intervened between the two Vings, i.e., only where there is no alternative structure where the two are kept separate. Doubling violations occur, for instance, with raising verbs and with verbs of obligatory control:

(163)   a. It is beginning [t to rain] (SSR)
        b. *It is beginning [t raining].
(164)   a. John was just starting to prepare his lessons. (obligatory control)
        b.*John was just starting preparing his lessons.

What these two cases have in common is that the *ing* complement cannot assign case to its subject, i.e., we may assume that the gerund (PRO-ing or t-ing) is a verbal constituent. The correct generalization probably says that a participle form, that is a [+V, -N] head cannot take as complement another [+V, -N] constituent. Heads and complements should be categorially

distinct. In contrast, the participle [+V, -N] head may take a gerund complement, if the latter can be interpreted as having the categorial specification [+V, +N], that is, if the complement has a nominal feature. In all the acceptable examples of doubling, the PRO-ing is nominal, [V, +N] and may be replaced by a Poss-ing complement.

(165)   a. Disliking my drinking vodka with only her cats for company, Griselda reached for the telephone.
       b. Ed's resenting (Ann's) getting photographed drunk is just too funny.

Further evidence of the difference between the *ing* forms that give rise to doubling violations and those that do not do so is that the former cannot passivize while the latter can. This is in keeping with our assumption that the *ing*-forms which do not produce violation are nominal:

(166)   a. Bill enjoyed (John('s)) playing the Sixth Suite.
       b. Bill was enjoying playing the Sixth Suite.
       c. John's playing the Sixth Suite was enjoyed by the entire audience.
(167)   a. *Bill began his playing the Sixth Suite.
       b. *Bill was beginning playing the Sixth Suite.
       c. *(Bill's) playing the Sixth Suite was begun twice.

Conclusions

1. The participle is categorially distinct from the gerund being fully verbal [+V, −N].
2. The adverbial participial clause is a CP, introduced by conjunctions or adverbs. If the latter occupy the CP layer, the participle may only have anaphoric agreement features and can only license PRO.
3. Participial clauses may have a Nom subject licensed by an abstract tense operator in SpecC (The Absolute Participial Constructions).
4. Extraposed gerunds are PRO-ing constructions; their ability to remain caseless correlates with the possibility of analyzing the PRO-ing construction as a purely verbal one [+V, -N], a structure which is not a DP.

9. On the Semantics of *Ing* Complements

9.1 The semantic interpretation of the gerunds raises interesting problems. The prevailing intuition that one might want to express is that *ing*-complements are correlated with less abstract entities, according to Asher's classification of saturated (propositional) abstract entities. However, *ing*-complements do not form a strictly homogeneous class from a semantic point of view.

(168)   Saturated abstract entities
                   3
        Eventualities   Purely Abstract
          3   3
     events   states   fact-like   proposition-like
                        3 |
                possibilities   situations   facts

Indeed verbal nouns are associated with events, being the most typical vehicles for expressing events. The fact that events have spatio-temporal properties is attested by the range of predicates that select verbal nouns, but cannot appear with *that* complements, as well as by the range of space-time and manner modifiers that verbal nouns allow.

(169) a. The army's sacking of the city was bloody.
   b. The mayor's throwing of the pizza into the guest of honour's face coincided with the clock's striking ten.
   c. The building of the cathedral took three centuries.

Gerunds are more problematic. In many contexts, they apparently denote events, and occur with space time predicates which exclude *that* clauses, and conversely, typical propositional containers reject them: "Pure" propositional verbs, like the verbs of propositional attitude (*believe*, *know*, etc.), the verbs of saying (*assert*, etc.) reject the gerund:

(170) a. Fred's hitting Bill occurred at ten o'clock.
   b. John's accidentally shooting his wife occurred yesterday.
   c. Mary's mowing the lawn took an hour / lasted for three days / began an hour ago.
   a' *That Fred hit Bill occurred at ten o'clock.
   b'. *That John accidentally shot his wife occurred yesterday.
   c. *That Mary hit Fred took place in the park / was bloody / made him angry.
(171) a. * Mary('s) hitting Sue is true.
   b. That Mary hit Sue is true.
(172) Mary's having hit the dog is a fact (a possibility I hadn't thought of).
   *Susan asserted Fred's hitting Bob.
   *Fred believed Sam's hitting Bob.

Closer scrutiny reveals, however, that there are differences of acceptability between verbal nouns and gerunds, which suggest that only the former basically express events. Many gerund phrases do not combine felicitously with eventuality predicates (cf. Asher (1993)), as shown by the examples in (173). This will be expected under the analysis we adopt, since, the claim will be that events are *derived denotations* of gerunds. Therefore, *event denotations* are expected to be more constrained.

(173) ?? Fred's hitting Bill started after their argument.
   ?? Fred's shooting Bill was bloody.
   *Fred shooting Bill took place behind the bar.
   ?Fred hitting Bill happened yesterday.

Asher (1993) contends that the PRO-*ing* gerund is more apt to express events, combining with a large number of event - taking predicates.

(174) a. Building the Panama Canal took longer than expected.
   b. Gathering pecans in central Texas starts in September.

Attempting to differentiate the denotations of gerunds from those of verbal nouns, Asher (1993) proposes that the typical denotations of gerunds are *facts*. Facts are proposition-like intensional entities, but are more concrete, in that they have causal efficacy. Support for the claim that gerunds denote facts is the observation that gerunds go well with causative verbs, a paradigm context for facts. Gerunds also denote *possibilities* (i.e., facts of possible worlds).

(175)   a. John's hitting Mary made her mad.
        b. Pulling the little girl's hair infuriated her.
        c. His having lost his driver's license once made John an especially careful driver when
        the cops were around.

The view that gerunds denote facts and possibilities is insufficient, since there are clear contexts where the only interpretation is propositional: *deny*. The complement of *deny* cannot be an event or a fact since it does not designate any real occurrence. The complement of *deny* must be a proposition.

(176)   He denied seeing her at the opera.

However, if gerunds may denote propositions, it is not clear why they are rejected by so many verbs of propositional attitude.
    9.2. Confronted with these problems, analysts like Zucchi (1993:335) propose that the basic denotation of the gerund cannot be a proposition as generally understood, but a smaller, more concrete entity out of which in certain contexts a propositional reading may be derived. "Suppose that derived nouns and gerunds are entered in the lexicon as denoting *sets of events*, and that the grammar provides a way of *creating nominals denoting propositions out of nominals denoting events*."
    Portner (1994) follows the same line of thought. He exploits the difference between situations and possible worlds. A *situation* is a group of individuals and a relation, along with a specification of whether the individuals stand in that relation or not. Intuitively situations are *parts* of possible worlds (= PWs). *Situations are minimal, while PWs are maximal*. A possible world is a situations which is a constituent of no other (larger) situation.
    A *proposition* is now definable as either *a set of situations*, those situations in which the proposition is true, or as *a set of possible worlds*, those worlds where the proposition is true. According to their s-selectional properties, certain verbs like *believe, know* designate sets of worlds (maximal situations), while others, *deny, imagine, remember*, etc. may refer to both sets of worlds and sets of situations. The former are compatible with *that* complements, but not with gerunds, the latter are compatible with both.
    The first important conclusion is that gerunds may denote propositions by designating sets of situations.
    Secondly, since gerunds are DPs (definite or indefinite) they may refer to *one of these situations, which plays the role of an event*. Thus if the notion of proposition is reconstructed in situational terms, gerunds can be propositional expressions, in agreement with their IP syntax and may have event-like entities in their denotations, in agreement with their DP syntax. Their DP syntax is also in line with the fact that since gerunds designate individual events, they may be quantified or counted.

(177)   a. *Always eating cabbage when I had dinner* was never fun.
        b. *Eating cabbage whenever I ate corned beef* made me very unhappy.

Thus gerunds designate, propositions, facts and events. Subjectless gerunds may also designate predicates, i.e., unsaturated entities (activities, processes, state, as already hinted above)

(178)   Swimming is fun.
        Building cathedrals may last for centuries.

9.3. *Propositions, facts, events.* Let us examine in more detail the relation between the different interpretations of the gerund, starting with the propositional reading. The propositional reading is the basic one, in line with the sentential nature of the gerund. Gerunds may denote propositions, for all verbs which allow both gerunds and *that*-clauses (examples in (179)).

When the gerund is embedded after a factive verb its complement is a true proposition, i.e., a *fact*, examples in (180). The factive reading is proposition-like and presuppositional.

(179) a. John's eating an apple bothered me.
       b. That John ate the apple bothered me.
       c. I imagined John eating the apple quickly.
       d. I imagined that John ate the apple quickly.
       e. Mary denied having eaten the apple.
       f. Mary denied that she had eaten the apple.
(180) a. His refusing the offer surprised us /angered us.
       b. It surprised us /angered us that he refused the offer.
       c. Charles' having been promoted to colonel was a shock.
       d. It was a shock that Charles was promoted to colonel.

Consider now the following paradigm and lets us examine it more closely:

(181) a. Mary denied climbing Savoy Mountain.
       b. Mary regretted climbing Savoy Mountain.
       c. Mary always enjoyed climbing Savoy Mountain.

In all of the three sentences, the gerund denotes a *proposition* which might be represented as in (182) which says that climbing the Savoy Mountain designates the sets of minimal situations of Mary climbing the Savoy Mountain.

(182) climbing Savoy Mountain = {s : s is a minimal situation of Mary climbing Savoy Mountain}

In (181a) this proposition is directly the argument of the matrix verb, since *deny* denotes a propositional attitude. One question that we have already touched upon is why it is that not all verbs that allow *that* clauses also allow gerunds (cf. examples in (170-172) above). Portner's suggestion is that gerunds denote *minimal situations*, while *that* complements denote maximal situations (possible worlds).

Where the same verb allows both gerunds and *that* complements, as is the case in the example below, the intuition is that the maximal situations which are the denotations of the verb *deny-+that* are accessed through the mediation of the smaller situations which are the denotation of *deny+ing*. In contrast, verbs like *believe,* which only select *that* complements never set up any an accessibility relation that makes minimal situations accessible.

(183) Mary denied climbing Savoy Mountain.
(184) Mary denied that she climbed Savoy Mountain.

In (183), Mary must stand in the *deny* relation to a set of situations all of which are minimal situations of her climbing the Savoy Mountain., while with (184), she is asserted to stand in the *deny*-relation to a set of situation (worlds) which *contain a situation* of her climbing Savoy Mountain.

In (181b), in contrast, the (factive) verb *regret* denotes a relation not toward a proposition, but rather towards a single situation, an entity denotation. In such cases the silent

definite determiner assumed to be in the gerund structure plays an important part. This actual situation which is denoted is a *fact* and also an *event*. Events and facts are similar in that they refer to real occurrences; but events are extensional identities, while facts are intensional identities. Thus *the death of Caesar* is the same event as *the passing away of the conqueror of Gaul*. But the facts are different; facts are true *propositions*, so it is important how the event is described. The meaning (intension) is thus relevant for facts; thus, the two verbal nouns denote the same event, but are different facts. Therefore, when embedded under a factive verb, the gerund may designate a fact, i.e. a true proposition and the construction is presuppositional.

The gerund in (181c) is a quantified DP, since *always* is a quantifier on the gerund DP. The LF of this sentence involves QR, the gerund DP adjoins to the main sentence creating an operator-variable structure. The gerund is a restriction on this variable. The adverb *always* quantifies over the situations / events of climbing Savoy Mountain. Mary is said to stand in the regret relation to every situation of that kind.

Consider once more the following examples, where the verbs are not factive. The gerund complement denotes an *event:*

(185)   a. Mary's mowing the lawn took an hour.
        b. Mary started climbing Savoy Mountain.
        c. Mary always avoided climbing Savoy Mountain.

Though gerunds uniformly denote propositions, i.e., sets of possible situations, such meanings can also function to pick out individual situations, therefore, events. The situations in a gerund's proposition are all *minimal* situations of the relevant sort, and because they are minimal they are able to play the role of events.

Thus (185) asserts not that the set of situations of Mary mowing the lawn took an hour, but rather that the one situation / event of the kind did. Being capable to refer to one situation / event, the gerund has an individual denotation behaving like an ordinary definite or indefinite DP.

9.4 ***Poss-ing vs. Acc-ing readings***. Portner (1994) notices a difference in the interpretation of the *ing* complements Poss-ing and PRO-ing complements are presuppostional: they act as presupposed information with respect to the main clause, resembling definite DPs which are also presuppositional. In contrast Acc-*ing* complement are not presuppositional. The difference between them comes out when *ing*-complements are compared in the context of factive vs. non-factive predicates. With factive predicates , all the gerunds allow factive, presuppositional readings; factivity is induced by the main verbs, just as with *that* complements. In contrast, when the main predicate is not factive, Poss-*ings* continue to be presuppostional differing from Acc-ings in this respect.

(186)   *Gerunds which are complements of a factive predicate*:
        a. Mary didn't enjoy John's coming to visit her.
        b. Mary didn't enjoy John coming to visit her.
        c. If Mary regretted John's coming to visit her, she didn't tell me.
        d. If Mary regretted John coming to visit her, she didn't tell me.
        e. It's unlikely that Mary enjoyed John's coming to visit her.
        f. It's unlikely that Mary enjoyed John coming to visit her.
(187)   *Gerunds which are complement of a non-factive predicate*.
        a. Mary didn't discuss John's coming to visit her.
        b. Mary didn't discuss John coming to visit her.
        c. If Mary contemplated John's coming to visit her, she didn't tell me.
        d. If Mary contemplated John coming to visit her, she didn't tell me.

e. It's unlikely that Mary discussed John's coming to visit her.

f. It's unlikely that Mary discussed John coming to visit her.

In (186) all the gerunds are presupposed material - some event of John coming to visit her must have been mentioned in the conversation. Indeed, in these examples, there is the even stronger presupposition of factivity. It is presupposed that some *actual* situation of John coming to visit her is familiar.

In (187), in contrast, only the Poss-ing constructions have a familiarity presupposition at all, and it is not necessary that this familiar situation of John coming to visit Mary should be actual. The presupposition of the Poss-ing construction is that there is an entity, perhaps only hypothetical, under discussion. The gerund is also always presuppositional in subject position; this must be related to the fact that subject clauses are topics and topics are presupposed to exist.

(188)　a. John's coming to visit her didn't bother him.

　　　　b. John coming to visit her didn't bother him.

　　　　c. If John's coming to visit her made him cry, I wouldn't tell you.

　　　　d. If John coming to visit her made him cry, I wouldn't tell you.

Consider now the following pair of examples, which show a clear semantic contrast:

(189)　a. Joyce usually dreams about Mary shouting at her

　　　　b. Joyce usually dreams about Mary's shouting at her.

The second sentence may, but the first may not, have the reading given below:

(190)　Most of the time, when Mary shouts at her, Joyce dreams about it at night.

The Poss-ing construction behaves like a definite nominal. Consider now:

(191)　a. Joyce usually dreams the next night about Mary shouting at her.

　　　　b. Joyce usually dreams the next night about Mary's shouting at her.

It is intuitively felt that only the Poss-ing construction presupposes that there are events of Mary shouting at Joyce. Thus in the second Poss-ing example (191b), *the next night* quite naturally anchors the events of Mary shouting at Joyce; the sentence means for most events *e* of Mary shouting at her, Joyce dreams on the night after *e* about *e*. In contrast, in the Acc-ing case, *the next night* must be interpreted with respect to some events previously mentioned in the context; for example, (191a) could mean: for most events *e* of Mary getting mad at her, Joyce dreams the night after *e* about Mary shouting at her. In each case, *usually* quantifies over the events anchored by *the next night*; it appears that only the Poss-ing, nominal structure can be quantified over.

More contrasts of this sort have been noticed by Poutsma (1929:440]. His view is that the full gerund stresses the *manner* in which the event takes place. The intuition is in fact the same: the full gerund refers to a definite event, known to have materialized, and then one may stress the manner in which it occurred, while the Acc-*ing* leaves open the possibility that the event is not actual:

(192)　a. What do you think of my sister's singing?

　　　　b. What do you think of my sister singing?

　　　　c. Paul was quite alarmed at Mr. Feeder's yawning.

　　　　d. Paul was quite alarmed at Mr. Feeder's yawning.

Conclusions

1. The semantic interpretation of the gerund is interesting, since gerunds may refer to propositions, facts (as well as possibilities), and events.

2. These meanings can all be derived from the propositional meaning of the gerund. In this case the gerund denotes a set of possible situations, rather than a set o possible words. This conception about the propositional reading explains the difference between *that* complements and gerunds, and allows one to derive the individual denotations of the gerund: facts and events.