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Ing forms and the progressive puzzle: a construction-based approach to English progressives[1]

SEUNG-AH LEE

Ewha Womans University

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This paper argues for a constructional approach to English progressives. On this view, progressivity is a construction-level property, rather than a lexical property of the *ing* forms that progressive verb phrases contain or of the auxiliary. The incompatibility of *ing* forms with state verbs in progressive constructions provides crucial evidence in support of the construction-based perspective, given that stative *ing* forms are fully acceptable in gerundive and other *ing* constructions. Of course, underlying this approach is the proposal that gerund is neutralizable with present participle (Huddleston 1984, 2002b, c; Pullum 1991; Blevins 1994). A lexicalist and construction-based analysis of gerundive nominals, as in Pullum (1991) and Blevins (1994), offers a means of claiming that progressivity is a property of the combination of an auxiliary and *ing* participle, just as the perfect aspect is expressed by the combination of *have* and a past participle, as proposed in Ackerman & Webelhuth (1998) and Spencer (2001b), and implicitly in Curme (1935) and other traditional grammars.

1. Introduction

1.1 *Two approaches to the treatment of periphrasis*

Morphosyntactic properties such as tense, aspect, and voice can be realized by a single form or by multiple free forms. The former pattern is referred to as 'synthesis' while the term 'periphrasis' is reserved for the latter. In English, future tense, passive voice, and perfect and progressive aspect are all expressed periphrastically by a modal or auxiliary and a participle or infinitive, as summarized in table 1. These periphrastic expressions are commonly referred to as 'compound tenses' by traditional grammarians such as Curme (1935).

[1] This paper considerably expands on the proposals in chapters 2 and 5 of Lee (2004). I would like to express my deepest gratitude to Jim Blevins for helpful comments and discussions on earlier drafts of this paper. I am also grateful to Keith Brown, Luna Filipovic, Keith Mitchell, and Peter Sells for feedback on previous versions, and to the editor Nigel Fabb and two anonymous *JL* reviewers for constructive comments and suggestions that have led to improvements in the present version.

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PROPERTY	AUXILIARY	MAIN VERB FORM
Progressive	be	Present Participle
Passive	be	Past Participle
Perfect	have	Past Participle
Future	will	Infinitive

Table 1
Verbal periphrasis in English

From the earliest work in traditional grammar to contemporary formal or descriptive treatments, verbal periphrasis in English has given rise to a variety of issues including, among other things, general problems such as those formulated in (1)–(2).

(1) *The grammatical locus of periphrasis*
What is the grammatical locus of periphrasis? That is, is periphrasis regarded as a morphological or a syntactic phenomenon?

(2) *The morphosyntactic and/or semantic compositionality of periphrasis*
What contribution do the individual parts of a periphrastic expression make to the properties of the whole, and how is the meaning of the periphrastic expression assembled? That is, are properties such as passive, perfect, and progressive regarded as compositional or constructional (i.e. non-compositional)?

One can distinguish two types of perspective on these issues: top-down and bottom-up. In regard to question (1), top-down approaches predominantly treat periphrastic expressions as morphological, on a par with synthetic forms, highlighting the fact that periphrastic constructions express a single morphosyntactic property. On these accounts, just as *ate* is a form of the lexeme EAT, so are 'forms' such as *will eat*, *have eaten*, and so on (*ate* is a past form, *will eat* a future form, *have eaten* a perfect form, and so forth). In other words, both synthetic and analytic forms are parts of the paradigm of a single lexeme. Traditional accounts like Curme (1935) and current analyses such as Ackerman & Stump (2004) fall into this category.

Unlike top-down perspectives, bottom-up approaches usually treat periphrastic expressions in the syntax and regard periphrastic formations as syntactic combinations, on the grounds that these expressions are composed of syntactically independent elements. This latter alternative is characteristic of the post-Bloomfieldian tradition, as Blevins (2006: 519) remarks:

> Within the post-Bloomfieldian tradition that originates with Harris (1951) and Chomsky (1957, 1975), these patterns [compound tenses] have usually been treated as syntactic. The main disagreement within this literature concerns whether auxiliaries should be regarded as verbs in their own right

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(Ross 1969), as 'specifiers' of main verbs (Chomsky 1970), or as a type of 'functional' category (Chomsky 1995).

Since the two competing alternatives focus on different aspects of periphrasis, compound tenses in English appear to straddle the boundary between morphology and syntax. Yet, answering question (2) will help us make a choice between top-down and bottom-up approaches.

In order to answer question (2), let us take as an illustration the interpretation of the present perfect. Although in English not only the simple past but also the present perfect can be used to refer to past events, the English present perfect is grammatically a present construction, as Klein (1992), among others, confirms.[2] According to the seminal work by Reichenbach (1947), the perfect requires that the event time (E) precede the reference time (R), which in the case of the present perfect must be the speech time (S).[3] Reichenbach (1947) analyses the meanings of the perfect, the present perfect, the past tense, and the present tense as in (3) (where the symbol '$<$' represents temporal precedence and the comma represents temporal overlapping).

(3) (a) Perfect $E < R$
(b) Present perfect $E < R, S$
(c) Past $E, R < S$
(d) Present E, R, S

In an example such as *have eaten*, the present auxiliary *have* contributes the present tense meaning and the participle *eaten* contributes the lexical meaning of *eat*, indicating that the meanings of auxiliaries and participles are preserved in a compound tense. Now the question is whether the meaning of the compound tense (in this case, the semantics of the perfect) can be deduced from the meanings of its individual parts. The answer to this question is negative: as proposed in Ackerman & Webelhuth (1998) and Spencer (2001b), the perfect aspect is not uniquely associated with the

[2] As observed by Jespersen (1924: 269) and Reichenbach (1947: 290), the English present perfect is compatible with time adverbials that identify the present moment (e.g. *now*), whereas the simple past is not.

(i) (a) Now I have eaten enough.
(Jespersen 1924: 269, Reichenbach 1947: 290)
(b) *Now I ate enough.

On the other hand, the English present perfect is incompatible with most past time adverbials (e.g. *yesterday*), as discussed by Klein (1992), among others.

(ii) (a) *Mary has arrived yesterday.
(b) Mary arrived yesterday. (Portner 2003: 468)

The fact that certain past time adverbials are prohibited with the present perfect in English (though not some other languages) while acceptable with non-present perfects is called the present perfect puzzle (Klein 1992).

[3] Portner (2003: 478) points out that 'the term "event time" is actually a bit inaccurate, because it will be applied to stative sentences as well'.

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auxiliary *have* or with the past participle, but is expressed by the distinctive COMBINATION of *have* and a past participle.

If we generalize the conclusion reached by Ackerman & Webelhuth (1998) and Spencer (2001b) to other compound tenses, there are good grounds for adopting a top-down approach to periphrasis. Since the meaning of the compound tense is more than just the sum of the meanings of its parts, it is not assembled in a bottom-up fashion from the meanings assigned to the individual parts. Instead, it is assembled using a top-down method, in which the whole construction itself serves as the locus of interpretation and adds to the compositional meaning of the parts. In a nutshell, the interpretation of periphrastic expressions is constructional rather than compositional. It is precisely this construction-based perspective that is implicit in the traditional conception of compound tenses, which are 'formed by the use of a present or a past tense of an auxiliary in connection with a participle or an infinitive' (Curme 1935: 319).

Of course, an in-depth investigation is needed to confirm that a construction-based treatment of periphrasis is really generalizable to compound tenses other than the perfect aspect. The present paper explores this issue, particularly addressing the following question:

(4) How is the meaning of the progressive assembled?

By offering an essentially traditional solution to this problem, this paper aims to lend support to a construction-based approach, broadly construed, which includes the tradition represented by Fillmore (1988), Goldberg (1995), Kay & Fillmore (1999), and Croft (2001).[4]

On a constructional view, forms that constitute parts of a periphrastic expression are 'selected' in a top-down manner rather than combined in a bottom-up manner, and accordingly, the whole construction itself makes a substantive contribution that cannot be attributed to any individual part. Interpreted in this way, a construction is more than just the sum of its parts, and forms that recur as parts of different periphrastic constructions are regarded as the formal 'spell-out' of the properties of the whole rather than as having their own morphosyntactic and/or semantic properties. Thus, *ing* itself is not an aspectual meaning-bearing element, and the same is true of the auxiliary.

1.2 *Constructions and heads*

As stated in the previous section, this paper is about the question of how the meaning of the progressive is assembled. This is an interesting and important topic to delve into not only because it helps to settle a debate between

[4] The present study is agnostic about the precise technical elaboration of Construction Grammar. Consequently, the goal of this paper is less to refine current versions of Construction Grammar than to exploit the broad notion of a constructional approach.

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constructional (top-down) and compositional (bottom-up) approaches but also answering the question may be the key to a proper understanding of the various constructions that select *ing* forms.

A notable property of Modern English is the multiplicity of uses of forms in *ing*. This parochial feature of English makes it necessary to consider the relationship between smaller units like *ing* forms and larger units such as *ing* constructions. Before discussing the part-whole relations in detail, it is worth clarifying at the outset the relation between the names of the relevant constructions and the names of their heads. Table 2 provides a summary of representative *ing* CONSTRUCTIONS: gerundive nominals, *ing* verbal phrases, and derived nominals. These are all terms that apply to the phrasal rather than the lexical level. Labels that apply to lexical heads (i.e. instances of *ing* FORMS such as gerunds, present participles, deverbal nouns in *ing*, and deverbal adjectives in *ing*) are given in table 3. In each table, the nomenclature adopted by the author is provided in the first column. Cases in which multiple labels are given just indicate that these names are used interchangeably to refer to the same thing. The last column of each table presents terms used by other scholars but occasionally mentioned in this paper. For example, although the present paper takes the position that in English, gerund is neutralizable with present participle (Huddleston 1984, 2002b, c; Pullum 1991; Blevins 1994) and refers to this neutralized *ing* form as 'present participle', sometimes the traditional term 'gerund' is used in the paper. That is, it is inevitable to use the long-established label 'gerund' when developing arguments for unifying gerunds and present participles and presenting further evidence against the distinction between the two.

With respect to table 2 and table 3, three points are particularly worth mentioning here. First, following Blevins (1994: 8), I reserve the traditional term 'gerund' for the lexical head of gerundive nominals and use the term 'gerundive' to refer to the phrasal constituents headed by gerunds. Secondly, gerundive nominals are analysed here as an exocentric construction, whose head has a different categorial status from its maximal projection, as proposed in Pullum (1991) and Blevins (1994). The categorial mismatch in gerundive nominal constructions is discussed in sections 3.2 and 4.2. The third notable point is that the term 'present participle' is employed to refer to what is traditionally called 'gerund' in addition to being used in its traditional sense. This leads to a discussion of the *ing* form syncretism.[5]

[5] In linguistics, the term 'syncretism' is usually employed to cover cases where forms are systematically identical to one another. Others such as Huddleston (1984: 77) and Carstairs-McCarthy (1994) use the term in a narrower sense. According to Carstairs-McCarthy (1994: 4453), 'syncretism is homonymy within INFLECTIONAL paradigms' [emphasis added]. Carstairs-McCarthy's (1994) usage is historically correct, but there are really no clear grounds for excluding derivation or patterns that cut across the inflection/derivation divide, as in the case of *ing* (cf. Spencer 1991: 194f.). Therefore, in this paper, I will use syncretism in the broad sense.

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AUTHOR'S USAGE	DESCRIPTION	EXAMPLE	ALTERNATIVE TERM
• gerundive nominal • gerundive construction • gerundive	the nominal phrasal constituent headed by a verbal *ing* form	(a) *Paul's telling the story* (b) *Paul telling the story* (c) *telling the story*	
• *ing* verbal phrase • participial phrase • present participial verb phrase • VP-*ing* construction • VP-*ing*	the verbal phrasal constituent headed by a verbal *ing* form	*telling the story* in (d)–(e) (d) *Paul is telling the story* (e) *Paul acted as a narrator while telling the story*	
• derived nominal • derived *ing* nominal	the nominal phrasal constituent headed by a nominal *ing* form	(f) *Paul's telling of the story* (g) *the last telling of the story*	action nominal

Table 2
Ing constructions

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AUTHOR'S USAGE	DESCRIPTION	EXAMPLE	ALTERNATIVE STERM
• present participle • participial form • *ing* participial form • participial *ing* form	the verbal *ing* form that heads a participial phrase	*telling* in (a)–(b) (a) *Paul is telling the story* (b) *Paul acted as a narrator while telling the story*	
	the verbal *ing* form that heads a gerundive nominal	*telling* in (c)–(e) (c) *Paul's telling the story* (d) *Paul telling the story* (e) *telling the story*	gerund
deverbal noun in *ing*	the nominal *ing* form that heads a derived nominal	*telling* in (f)–(g) (f) *Paul's telling of the story* (g) *the last telling of the story*	
deverbal adjective in *ing*		*surprising* in (h)–(i) (h) *his surprising views* (i) *His views were surprising*	

Table 3
Ing forms

The highly syncretic character of *ing* has given rise to the conundrum of how many different *ing* entries there are.[6] When one handles syncretism between two formally identical forms, it is important to determine whether they are two different lexical entries that should be defined independently or whether there is perhaps just a single lexical entry with no opposition between the two forms. The former pattern is referred to as accidental 'homophony' (or 'homonymy') while the term 'neutralization' is reserved for the latter. With regard to *ing*, the homophony/neutralization debate has especially centred on the three productive *ing* forms in Modern English: the *ing* forms in derived nominals, gerundive nominals, and verb phrases.

One can distinguish two basic sorts of stances on this issue. The first is to treat the *ing* forms in gerundive nominals and verb phrases as a neutralized single *ing* entry, which is homophonous with a separate *ing* entry that occurs in derived nominals. In short, on this approach, gerund and present participle have not just identical forms but also identical entries in English. Pedagogically-oriented grammars that collapse gerund and present participle (e.g. Huddleston 1984, 2002b, c) fall into this category.

A second sort of stance is taken by a variety of generative approaches that unify the *ing* suffixes of derived and gerundive nominals (e.g. Jackendoff 1977, Reuland 1983, Baker 1985, Abney 1987). On these accounts, there is no neutralization of gerund and present participle: they are simply independent entries. This type of treatment, however, does not successfully capture the behaviour of the relevant constructions.

The present account in large part adopts the stance espoused by Huddleston (1984, 2002b, c) in upholding the view that there is neutralization of gerund and present participle. Yet, when it comes to the phrasal level (or construction-level) – as opposed to the lexical level – the present paper takes a different view. That is, unlike Huddleston (2002b: 1220, 2002c: 83), who brings together all constructions involving this neutralized *ing* entry, it maintains a three-way contrast between derived *ing* nominals, gerundive nominals, and the broad class of non-nominal constructions that contain present participles. This tripartite distinction is attained by adopting Pullum's (1991) and Blevins's (1994) claim that gerundive nominals are noun phrases headed by present participles. That is, rather than recognize gerund as a separate *ing* entry, Pullum (1991) and Blevins (1994) identify gerundive nominals as constructions, and thereby propose a construction-based analysis.

Yet, Pullum (1991) and Blevins (1994) do not address the question of how to explain the differences between gerunds and present participles. To be

[6] I will use the term 'entry (or lexical entry)' in roughly the same sense as Matthews (1991) uses 'lexeme' or Anderson (1992) uses 'lexical item'. For discussion of some of the issues involved, see Matthews (1991) and Anderson (1992).

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precise, if gerund is neutralizable with present participle, why do they differ in the distribution of stative *ing* forms? As illustrated in (5), the *ing* forms of state verbs are much less acceptable in the progressive while they may readily occur in the corresponding gerundive nominal (as well as other *ing* constructions).

(5) (a) *They are knowing the answer.
(b) Their knowing the answer came as a surprise.
(c) Not knowing the answer, they called Dr Jones.

The present paper calls this long-standing problem the PROGRESSIVE PUZZLE, and resolves this conflict by arguing that progressivity is a construction-based property, not a form-based property.

The progressive puzzle is in a way an artefact of the bottom-up perspective, on the grounds that it associates properties with individual parts. That is, on the compositional view, the same *ing* entry is expected to exhibit similar distributional characteristics. On the other hand, taking a construction-based view provides a principled resolution to this puzzle. Assuming that anti-stativity is a restriction that applies to the progressive construction as a whole (i.e. the combination of *be* and a present participle), nothing prevents stative *ing* forms from occurring in gerundive and other *ing* constructions. In short, a major advantage of the perspective that regards progressivity as a constructional rather than a compositional property is that it allows us to reconcile two apparently opposing observations about the distribution of stative *ing* forms. A constructional approach to progressives is also compatible with a construction-based analysis of gerundive nominals, strongly indicating that in the case of English *ing* constructions, part-whole analysis proceeds in a top-down manner.

In brief, the main aim of this paper is to contribute to the ongoing debate as to whether a grammatical analysis (especially, part-whole analysis) proceeds in a top-down or bottom-up fashion. An additional goal is to resolve the perennial problem of why state verbs like *know* are much less acceptable in the progressive though they are fully acceptable in gerundive and other *ing* constructions.

The following sections elaborate and support the claims outlined in the introductory section. Section 2 reviews the status of forms in *ing*. Section 3 discusses how the present approach divides up the class of *ing* constructions. Section 4 provides a principled resolution to the progressive puzzle by proposing a construction-based analysis of English progressives, and presents a formal solution that shows how the constructional theory works in detail. Section 5 elucidates the construction-based approach by comparing this account with an alternative, bottom-up perspective and highlighting descriptive benefits of shifting the locus of interpretation from a word-level to a construction-level. The final section briefly summarizes previous arguments and examines some remaining issues for future research.

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2. THE STATUS OF *ING* FORMS

It is useful at the outset to review the status of forms in *ing*. In enumerating different uses of *ing*, individual positions vary from those who multiply the list by postulating lots of *ing*s to those who reduce its functions to almost one. Nonetheless, the general consensus of opinions gathered from Curme (1931), Jespersen (1940), Lees (1960), and Chomsky (1970), among others, is that there are three productive uses of *ing* in Modern English, which are stated in (6).

(6) (a) A suffix that occurs on the noun head of derived nominals
(b) A suffix that occurs on the 'gerund' head of gerundive nominals
(c) A suffix that forms present participles

Taking the list in (6) as a starting point, let us assume for the moment that these three *ing* desinences are distinct suffixes in English and then consider the possibility of unification in section 3. Sections 2.1 and 2.2 discuss each of the three types in turn. Deverbal adjectives in *ing* are discussed in section 2.3.[7]

2.1 *Derived* versus *gerundive nominals*

This section aims to provide a justification for the distinction between derived and gerundive nominals, which is also discussed in Lees (1960), Chomsky (1970), Wasow & Roeper (1972), and Blevins (1994), among others. The nomenclature of 'derived nominal' and 'gerundive nominal' is taken from Chomsky (1970) and Blevins (1994).

In Modern English deverbal nominals formed with *ing* divide into two types that maintain a similar noun phrase (NP)-like distribution: derived and gerundive. Gerundive nominals are further subdivided with respect to the nature of their subjects, as in (8).[8]

(7) *Derived nominal*
Paul's telling of the story
(8) *Subtypes of gerundive nominals*
(a) Paul's telling the story (POSS-*ing* gerundive nominal)
(b) Paul telling the story (ACC-*ing* gerundive nominal)
(c) telling the story (subjectless gerundive nominal)

Derived *ing* nominals, like other derived nominals such as *refusal*, *destruction*, *enjoyment*, and so on, are consistently nominal in character,

[7] Other uses of *ing* that do not fall into any of the categories described above include lexicalized prepositions and conjunctions in *ing*, proper nouns ending in *ing*, and denonimal nouns in *ing*, which are discussed in Lee (2004).

[8] '[S]pecifier-less gerundives' (Blevins 1994: 21) as in (8c) are called PRO-*ing* constructions in the generative literature.

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being compatible with prepositional phrase complements (see (7)), plural morphology (see (9a)), articles (see (9b–d)), adjectival modifiers (see (9c)), and restrictive relative clauses (see (9d)).[9] The negation of derived nominals, in the cases where this is possible, also follows a nominal pattern, as evinced by the attachment of the nominal prefix *non* (see (9b)). Relevant examples are illustrated below.

(9) (a) many tellings of the story
(b) the non-telling of the story
(c) a brief telling of the story
(d) the telling of the story that lasted all afternoon

On the other hand, gerundive nominals are true categorial hybrids, exhibiting a mismatch between external distribution and internal properties. That is, although their distribution is characteristically nominal, internally, they manifest canonical verbal patterns. For example, they may contain perfect and progressive auxiliaries (see (10a, b)), accusative complements (see (8)), adverbial modifiers (see (10c)), and the verbal negative particle *not* (see (10d)).

(10) (a) Paul('s) having told the story
(b) Paul('s) having been telling the story
(c) Paul('s) telling the story repeatedly
(d) Paul('s) not telling the story

The distinguishing characteristics between the two constructions are mutually exclusive. As shown in (11), derived *ing* nominals are inconsistent with the verbal traits of gerundive nominals.[10]

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[9] An anonymous *JL* referee points out that being compatible with prepositional phrase complements is not a distinctive feature of nominals vis-à-vis verbal predicates (cf. *to consist of NP*). However, the key contrast here is not between a nominal and an arbitrary verbal predicate. Rather, it concerns the alternation between nouns and verbs. Whereas verbal predicates such as *refuse*, *destroy*, and *enjoy* take the direct object immediately following the verb, their corresponding derived nominals express the grammatical relation of direct-object-of in a prepositional phrase. This is illustrated in (i)–(iii).

(i) (a) refuse a job offer
(b) his refusal of a job offer
(ii) (a) destroy the ozone layer
(b) the destruction of the ozone layer
(iii) (a) enjoy the movie
(b) your enjoyment of the movie

It might also be relevant that Jespersen (1940: 89), Lees (1960), Chomsky (1970), Wasow & Roeper (1972), and Blevins (1994), among others, consider this property as a distinguishing characteristic between derived *ing* nominals and gerundive nominals.

[10] Regarding (11c), Blevins (1994: 11) remarks in a footnote that some classes of adverbial modifiers can occur in derived nominals.

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(11) (a) *Paul's having told of the story
(b) *his having been telling of the story
(c) *the tellings of the story repeatedly
(d) *a not telling of the story

Conversely, the examples in (12) indicate the incompatibility between gerundive nominals and nominal elements.[11]

(12) (a) *Paul('s) tellings the story
(b) *Paul('s) non-telling the story
(c) *Paul('s) repeated telling the story
(d) *Paul('s) telling the story that lasted all afternoon
(e) *the telling the story

In summary, there are sufficient reasons to distinguish the unambiguously nominal derived *ing* constructions from the 'Janus-like' (Spencer 2001a: 234) gerundive nominals.

2.2 *The range of constructions containing present participles*

It goes without saying that present participle is a nonfinite verb. The verbal nature of the *ing* participial form is easily recognizable by the fact that it may take accusative complements, adverbial modifiers, and the verbal negative

[11] With reference to (12e), notice that there is somewhat less of a consensus concerning other determiners such as *this*, *that*, or *no*, as the examples in (i) illustrate.

(i) (a) ?There's no enjoying this world without thee.
(b) %This telling tales out of school has got to stop.
(c) no riding bikes (Blevins 1994: 13)

As Blevins (1994: 12) indicates, (ia) is taken from Jespersen (1940: 118), whereas (ib) is taken from Schachter (1976: 211). For more details on the sources and judgements of the examples in (i), see Blevins (1994: 12). Lee (1997: 51f.) provides a list of sentences of the type (ib) including the examples in (ii) from Quirk et al. (1985: 1064).

(ii) (a) I'm tired of all **that** feeding the animals every day.
(b) **This** smoking your pipe on every possible occasion will ruin your health.
(Quirk et al. 1985: 1064)

Presenting the examples in (iii)–(iv) under the heading 'hybrid constructions', however, Huddleston (2002b: 1189) notes that constructions of this sort are 'very peripheral to the present language-system by virtue of the questionable acceptability of [(iii)] and the semi-formulaic nature of [(iv)]'.

(iii) (a) **This** constant telling tales has got to stop.
(b) Let's have no more of **this** bringing food into the computer room.
(Huddleston 2002b: 1189)

(iv) (a) There was **no** telling what he might do next.
(b) There'll be **no** stopping her. (Huddleston 2002b: 1189)

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particle *not* (see (13a–c)). It is also compatible with perfect, progressive, and passive auxiliaries, as shown in (13d–f).[12]

(13) (a) telling the story
(b) telling the story repeatedly
(c) not telling the story
(d) having told the story
(e) having been telling the story
(f) being told

The present section examines the distribution of verb phrases headed by present participles (conveniently dubbed 'VP-*ing* constructions' or 'VP-*ing*s' in this paper). As we will see below, the essential characteristic of the distribution of VP-*ing* constructions is that they do not appear in argument positions, the positions that noun phrases typically occupy. It is precisely this external property that distinguishes them from gerundive nominals, which may occur in such canonical noun phrase positions as subject, object, indirect object, and prepositional object.[13]

First and foremost, present-participial verb phrases may occur as complements of various classes of verbs. The aspectual auxiliary *be* is one such example. In the progressive construction like *is telling the story*, the *ing* form functions as a main verb. The second class consists of several subclasses, which include (i) aspectual verbs (e.g. *begin*, *cease*, *continue*, *keep*, *start*, *stop*) and (ii) verbs of posture or motion (e.g. *sit*, *stand*, *come*, *go*). The third class differs from the second one in the obligatory presence of an accusative NP between the verb and the *ing* form.[14] To this group belong (i) perception verbs (e.g. *feel*, *hear*, *see*, *watch*); (ii) causative *verbs* like *have* and *get*; and (iii) *catch*, *find*, *leave*, and so on.

Secondly, present participles occur in existential constructions such as (14), which can be paraphrased as progressive constructions like (15).

(14) (a) There were a few supporters helping them.
(b) They had a few supporters helping them.
[assuming *had* as existential and not causative]
(Quirk et al. 1985: 1411)

(15) A few supporters were helping them. (Quirk et al. 1985: 1411)

In the third place, verb phrases headed by present participles may occur as postnominal modifiers.

[12] Sequences like *being telling the story* are ruled out by Ross (1972) and Milsark (1972) on the grounds that they violate the so-called double-*ing* constraint.

[13] More diagnostics distinguishing gerundive constructions from VP-*ing* constructions are discussed in Bresnan (2001) and Lee (2004, 2006), among others.

[14] Some aspectual verbs such as *keep*, *start*, and *stop* optionally allow an accusative NP before the *ing* form.

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(16) A student **hoping to finish college in three years** must work very hard.
(Frank 1993: 308)

Restrictive participial phrases like the emphasized part in (16) can be seen as reduced relative clauses.

Fourth, present-participial verb phrases function as nonrestrictive postmodification. Compare (16) with the following:

(17) Robert, **hoping to finish college in three years,** worked very hard.
(Frank 1993: 308)

There are also cases of nonrestrictive postmodifying phrases where the implied subject of the present participle is the whole of the matrix clause, as in (18a).

(18) (a) The siren sounded, **indicating that the air raid was over**.
(b) The siren sounded, which indicated that the air raid was over.
(Quirk et al. 1985: 1122)

Participial phrases of the kind shown in (17) may be found in initial or final position as well.

(19) (a) **Hoping to finish college in three years,** Robert worked very hard.
(b) Robert worked very hard, **hoping to finish college in three years**.
(Frank 1993: 308)

Such participial phrases as (19) and (17) are referred to as free adjuncts in the literature.[15] Free adjuncts are frequently introduced by subordinators like *when*, *while*, and so on.

(20) (a) Be careful **when** crossing the streets. (Quirk et al. 1985: 1078)
(b) He wrote his greatest novel **while** working on a freighter.
(Quirk et al. 1985: 1078)
(c) **Though** understanding no Spanish, she was able to communicate with the other students. (Quirk et al. 1985: 1005)
(d) **Although** claiming to have a Ph.D., he didn't in fact have any degree at all. (Huddleston 2002b: 1262)
(e) **Once** having made a promise, you should keep it.
(Quirk et al. 1985: 1078)
(f) **If** coming by car, take the A10 and turn off at the A414.
(Quirk et al. 1985: 1005)
(g) **Even if/Unless** receiving visitors, patients must observe normal hospital rules. (Quirk et al. 1985: 1005)
(h) Sarah is always intense, **whether** working or playing.
(Quirk et al. 1985: 1100)

[15] Kortmann (1991: 18f.) provides a survey of alternatively suggested terms for free adjuncts. In general, free adjuncts are interpreted as sharing the subject of the matrix clause. Possible meanings of free adjuncts include time, cause, manner, means, purpose, and result. The free adjunct of result may be preceded by *thus* or *thereby*.

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As mentioned in footnote 15, the identity between the understood subject of the free adjunct and the subject of its matrix clause represents the default case. There are, however, free adjuncts that do not conform to the subject-identity rule, as in (21)–(22).

(21) (a) **Being Christmas**, the government offices were closed.
(b) **When dining in the restaurant,** a jacket and tie are required.
(c) **Putting it mildly**, you have caused us some inconvenience.
(Quirk et al. 1985: 1122)

(22) **Having said that**, it must be admitted that the new plan also has advantages. (Pullum & Huddleston 2002: 611)

These are traditionally called 'unattached', 'unrelated', 'pendant', or 'dangling' participle (Quirk et al. 1985: 1123).[16]

Fifth, present participles occur in absolute constructions, which are similar to but need to be kept distinct from free adjuncts.[17] A distinguishing property of absolutes is the presence of an overt subject NP before the present participle, as illustrated by (23).[18]

(23) (a) **The coach being crowded**, Fred had to stand. (Kortmann 1991: 1)
(b) **No further discussion arising**, the meeting was brought to a close.
(Quirk et al. 1985: 1120)
(c) We appointed Max, **he/him/*his being much the best qualified of the candidates.** (Huddleston 2002b: 1220)

Absolute constructions may be introduced by subordinators such as *with*, *without*, and, marginally, *what with*.

(24) (a) **With** the exams **coming** next week, I have no time for a social life.
(Quirk et al. 1985: 1105)
(b) **With** him **being** so bad-tempered, I was reluctant to tell him of the car accident. (Quirk et al. 1985: 705)
(c) **Without** the headmaster **noticing**, they removed all the tables from the classroom. (Kortmann 1991: 11)
(d) **What with** the prices **being** so high, and (**with**) my wife **being** out of work, I can't afford a new refrigerator. (Quirk et al. 1985: 1106)

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[16] (18a) is also an instance of an unrelated free adjunct.

[17] See Kortmann (1991) for arguments in support of the bifurcation of free adjuncts and absolutes.

[18] The subject in this case is usually nominative in Standard English, as (i) illustrates.

(i) Elaine's winking at Roddy was fruitless, **he** being a confirmed bachelor.
(Reuland 1983: 101)

However, as Reuland (1983: 126) and Kortmann (1991: 12) freely concede, there is variation among speakers of English. Citing (23c), Huddleston (2002b: 1220) notes that the accusative subject is restricted to informal style.

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There are also stereotyped absolutes like *time permitting* or *weather permitting*.

Sixth, adjectives such as *busy*, *fortunate*, *lucky* take present-participial verb phrases as complements.

(25) (a) Margaret is busy writing a letter.
(b) We're fortunate having Aunt Mary as a baby-sitter.
(Quirk et al. 1985: 1230)

Seventh, verb phrases headed by present participles also occur after nouns like *point*, *use*, and *difficulty*.

(26) (a) There's no point/use telling him anything. (Quirk et al. 1985: 1231)
(b) We had no difficulty finding the house.

Eighth, the present participle may occur in photographic captions such as (27), for which the so-called historic present is an alternative form.[19]

(27) The Queen arriving/arrives for the State Opening of Parliament.
(Quirk et al. 1985: 182)

A further minor use of the present participle is in exclamatory constructions, as illustrated below.

(28) (a) Just think: me **singing** a madrigal!
(b) Them **having** died!
(Pullum & Zwicky 1991: 256)
(29) Little Kim **running** a business! (Pullum & Zwicky 1999: 254)
(30) What a nuisance **having** to do them all again! (Huddleston 2002a: 921)

To summarize, there is indeed a wide range of constructions that select the verbal *ing* form. The major point revealed by the nine different constructions enumerated so far is the fact that verb phrases headed by present participles do not appear in such characteristic noun phrase positions as subject, object, indirect object, and prepositional object. This is in sharp contrast to gerundive nominals, which do occur in such positions and fail to occur in adjunct positions.

2.3 *Adjectival* ing

The preceding discussion highlights the verbal characteristics of participles. However, participles also have adjectival characteristics. As Huddleston (1984: 318) and Quirk et al. (1985: 75) note, the name participle originates from the word *participate* and the idea behind it is that participles straddle the boundary between verbs and adjectives. Indeed, participles are said to be

[19] The historic present is the simple present referring to the past. It 'describes the past as if it is happening now: it conveys something of the dramatic immediacy of an eye-witness account' (Quirk et al. 1985: 181).

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'verbal adjectives' (Huddleston 1984: 318, 2002c: 78). The adjectival characteristics of participles are clearly manifest in the fact that participial *ing* forms have the full distribution of adjectives. Deverbal adjectives in *ing* can be attributive, predicative and postpositive like a normal adjective, as illustrated below.

(31) (a) his **surprising** views (Quirk et al. 1985: 413)
(b) the **preceding** years (Quirk et al. 1985: 419)
(32) (a) His views were very **surprising**. (Quirk et al. 1985: 413)
(b) She seems very **calculating**. (Quirk et al. 1985: 414)
(33) (a) the best car **going** (Quirk et al. 1985: 418)
(b) the years **preceding** (Quirk et al. 1985: 419)

The present section now attends to the hybrid character of participles and defends the view that there is just a single *ing* suffix that forms present participles, though we must recognize two distinct *ing* entries – one verbal and the other adjectival – in cases such as (34).

(34) (a) The car was **approaching** us.
(b) the **approaching** car (Quirk et al. 1985: 75)

Let us begin by reviewing an argument that verbal participles and adjectival participles are two discrete categories. In English, the negative prefix *un* attaches to adjectives but not to verbs. As the examples in (35)–(36) show, the same is true of both present and passive participles, a fact that can be accounted for if adjectival participles are adjectives, not verbs.

(35) (a) an undemanding job
(b) *a job undemanding patience
(c) a job demanding patience
(36) (a) an uninterrupted speech
(b) *His speech was uninterrupted by cheers and applause.
(c) His speech was interrupted by cheers and applause.

The fact that *undemanding* in (35a) is an adjective and *demanding* in (35c) is a verb does not necessarily imply that there are two participle-forming suffixes: adjectival and verbal. Rather, this paper adopts a very conservative approach, which assumes a rule that derives adjectival *ing* from verbal *ing*. A similar rule is often assumed for past participles as well. Lieber (1980), Bresnan (1982), and Levin & Rappaport (1986) are a few such representative works dealing with past participles (in this case, passive participles). In discussing the formal identity of verbal and adjectival passive participles as in (37), Lieber (1980: 147) correctly points out that if the adjectival participles and the verbal participles are derived from 'independent adjectival and verbal suffixes, there is no explanation in this system for the fact that the verbal and adjectival forms are always identical' and advances the proposal that adjectival passive participles are derived from verbal passive participles.

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(37) (a) The elections were **determined** by the Catholic voters.
(b) John is a very **determined** man. (Scalise 1984: 128)

There are sufficient grounds to propose a parallel analysis of present participles by adopting Lieber's (1980) insights into passive participles. As stated earlier, present and passive participles behave similarly with regard to the negative prefix *un*. The second parallelism between present and passive participles is that there is a general relation between intransitive participles and adjectives.[20] Thus, *the eaten fish* means 'the fish that was eaten' and not 'the fish that has eaten plankton', for example. Likewise, we have *an eating man* but not **an eating goat* (in the sense of 'people eat goat' rather than 'the goat eats garbage', as in *the garbage-eating goat*). Given these characteristics shared by present and passive participles, they may receive a parallel analysis.

Let us now consider why it suffices to recognize just one verbal suffix that forms participles. One advantage of this approach is that the recognition of a single participle achieves a sort of parsimony: once there are participles in the system, one can get adjectives for free either through the use of zero morphs or by way of conversion, though it does not much matter which formalism one adopts.

Additional support for this position comes from the fact that the problem of categorial indeterminacy can be resolved. If we reserve the term 'participle' for verbs only and derive the adjectival form from the verbal form, participles no longer occupy a borderline status and are unambiguously verbs (to be precise, nonfinite verbs).

To summarize, in both examples of (34), the source of *ing* is identical: a verbal suffix that forms present participles. In other words, the *ing* form selected in (34b) is verbal, not adjectival. With the aid of a rule that derives adjectival *ing* from verbal *ing*, the adjective *approaching* in (34b) serves a prenominal function, like any basic adjective. In conclusion, it is superfluous to postulate a separate adjectival *ing* suffix.[21]

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[20] As Blevins (2006: 524) notes, '[n]early any intransitive present participle may function as an attributive modifier'. The contrast between *a sleeping man* and **a hitting man* indicates that deverbal adjectives in *ing* usually have to be intransitive. However, such *ing* forms may be transitive if preceded by a direct object, as in noun-incorporation patterns (e.g. *a donkey-beating man*).

[21] In closing the discussion on the *ing* system, it may be useful to consider some differences between English and other Germanic languages such as German. Like its English equivalent, the present participle in German, which ends in *-end*, has adjectival and adverbial functions. However, German present participles are never used to form compound tenses. As Hawkins (1986: 219) remarks, '[t]he progressive/non-progressive distinction carried by the English pair *he says/he is saying* is not made in German, in which *er sagt* does service for both'. Relevant examples are provided in (i)–(ii). (ic) illustrates the use of the present participle in free adjuncts, discussed in section 2.2. That is, *crying* in (ic) is a verb used as an adverbial function.

(i) (a) I'm **crying**.
(b) a **crying** child

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3. The treatment of syncretism

Having looked at the inventory of constructions that include *ing* forms, let us now turn to the question of how many different *ing* entries there are.

3.1 *A brief review of previous accounts*

One approach to dealing with this longstanding problem is to postulate almost as many *ing*s as there are different functions related to *ing*. For instance, Pinker (1999: 31) argues that there are 'at least' four separate types of *ing*, as in (38).[22]

(38) (a) Progressive participle: He is **opening** it.
(b) Present participle: He tried **opening** the door.
(c) Verbal noun (gerund): His incessant **opening** of the boxes
(d) Verbal adjective: A quietly-**opening** door (Pinker 1999: 31)

At the other extreme is the position that there is only one *ing* in English. According to Milsark (1988: 614), '*-ing* is lexically unitary' in the sense that 'it suffixes to verbs, and the resulting complex lexical item may be of any category'. Put differently, on this account, *ing* is a 'category-neutral affix' (Milsark 1988: 631).[23] Beard (1995: 383) is also an advocate of unitary *ing*, as he remarks that 'there is no phonological, historical, or other empirical evidence that English has more than one suffix, *-ing*'. More recently, adapting the Lexicalist Hypothesis of Chomsky (1970), Blevins (2005) treats *ing* forms as single items with multiple uses.[24]

Leaving aside these two extremes, previous efforts to sort out the syncretism in the *ing* system divide into two distinct camps: the one that unifies

(c) The child came home **crying**.
(ii) (a) *Ich bin **weinend**.
I am crying
'I'm crying.'
(a') Ich weine.
I cry
'I cry/I'm crying.'
(b) ein **weinend-es** Kind
a crying-NEUTER NOM/ACC child
'a crying child'
(c) Das Kind kam **weinend** nach Hause.
the child came crying to house
'The child came home crying.'

[22] Notice that what Pinker (1999) calls 'gerund' is the *ing* form of derived nominals.

[23] For a critical review of Milsark (1988), see Pullum (1991).

[24] Specifically, Blevins (2005: 26) adapts the following proposal of Chomsky (1970: 190):

> [A] great many items appear in the lexicon with fixed selectional and strict subcategorization features, but with a choice as to the features associated with the lexical categories noun, verb, adjective. (Chomsky 1970: 190)

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the *ing* in derived nominals and that in gerundive nominals (i.e. the pairs of (6a) and (6b)), and the other that merges gerund and present participle (i.e. the pairs of (6b) and (6c)). Pedagogically-oriented grammars of English such as Huddleston (1984, 2002b, c) and Quirk et al. (1985) belong to the latter group. They take the position that the exceptionless identity of present participles and gerunds in Modern English can only be captured by positing a single 'participle' (Quirk et al. 1985: 1292) or 'gerund-participle' (Huddleston 2002c: 82) and 'reject an analysis that has gerund and present participle as different forms syncreti[z]ed throughout the class of verbs' (Huddleston 2002c: 82).[25] Such *ing* form should be distinguished from the *ing* form in derived nominals (Huddleston 2002b: 1220).

At first glance, this analysis seems promising, as it is very much in the spirit of Lieber's (1980) approach on adjectival and verbal passive participles discussed in section 2.3 (see the quote cited therein). That is, if gerunds and present participles are derived from independent suffixes, there is no explanation in this system for the fact that the two forms are always identical. Indeed, in Modern English no verb shows any formal difference between gerunds and present participles. Moreover, if a verb such as *beware*, *must*, and so on lacks the gerund form, it lacks the present-participial form as well and vice versa. Gerunds and present participles also share the verbal complementation pattern, as observed in sections 2.1 and 2.2.

A closer look at this approach, however, reveals that it faces a serious problem. Notice that Huddleston (2002b: 1220) includes all constructions headed by 'gerund-participle' verbs under a single category 'gerund-participial clauses'.[26] This lumping together of two different constructions obscures the all-important point that one, but not the other resembles noun phrases.

Contrary to pedagogical grammarians, generative syntacticians disregard the formal identity between present participles and gerunds. Instead, they have tended to favour unifying derived and gerundive nominals. As previously remarked, the suffix *ing* of derived nominals functions as a deverbal nominalizing affix. In brief, it is a nominalizer. A variety of generative accounts treat the suffix *ing* of gerundive nominals as a nominalizer (e.g. Jackendoff 1977: 223, Abney 1987: 222) and assign it nominal features, thereby collapsing the *ing* suffixes of derived and gerundive nominals. Baker (1985: 3), for example, notes that '*-ing* has the (lexical) category features of N' in both derived and gerundive nominals. On Abney's (1987: 224)

[25] Huddleston (2002c: 82f.) labels the *ing* form under consideration with the compound term 'gerund-participle', as 'there is no reason to give priority to one or other of the traditional terms'. In Huddleston (1984: 83), the same form is referred to as simply '*-ing* form'.

[26] As the term 'gerund-participial clause' suggests, Huddleston (2002b) treats the gerundive construction as a clause. This is also evident from the tree diagram provided in Huddleston (2002b: 1190).

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approach, '*-ing* has the features [+N, −V]' in ACC-*ing* and POSS-*ing* constructions as well as in derived nominals. Reuland (1983: 116) also treats the *ing* of gerundive nominals (especially, ACC-*ing* and PRO-*ing* constructions) as nominal.[27]

Yet there is nothing to be gained by merging derived and gerundive nominals, as there is a clear demarcation between the two, the former being consistently nominal and the latter being nominal at one level and verbal at the other level. Further disparities between the two constructions involve morphological productivity and semantic interpretation, as discussed at some length in Blevins (1994).

To conclude, none of the analyses examined in this section provides a satisfactory solution to the syncretism in the *ing* system. In the next section, I will present an alternative, preserving the advantages of the approach espoused by Huddleston (2002b, c) and others and eliminating its defects.

3.2 *An alternative analysis à la Pullum (1991) and Blevins (1994)*

The new analysis follows essentially the tradition of pedagogically-oriented grammars, notably Huddleston (2002b, c), in unifying gerund and present participle. However, it departs from Huddleston (2002b, c) in maintaining a tripartite distinction between derived *ing* nominals, gerundive nominals, and participial phrases (i.e. verb phrases headed by present participles). This is made possible by adopting the claim that gerundive nominals are noun phrases headed by present participles, which is proposed by Pullum (1991) and Blevins (1994).[28] Thus, the three constructions under consideration are assigned the structures in (39)–(41) (Blevins 1994: 10, 16).

(39) *Derived nominal*
[$_{N''}$ Emma's [$_{N'}$ [$_{N}$ reading] of the poem]]

(40) *Gerundive nominals*
(a) [$_{N''}$ Emma's [$_{V'}$ [$_{V}$ reading] the poem]] (POSS-*ing*)
(b) [$_{N''}$ Emma [$_{V'}$ [$_{V}$ reading] the poem]] (ACC-*ing*)
(c) [$_{N''}$ [$_{V'}$ [$_{V}$ reading] the poem]] (subjectless)

(41) *Participial phrase*
[$_{V''}$ [$_{V'}$ [$_{V}$ reading] the poem]]

[27] Notwithstanding the nominal properties of gerundive constructions, Reuland (1983) assigns them clausal categories. On Baker's (1985) and Abney's (1987) analyses, the difference between gerundive and derived nominals lies in the level of the attachment of the *ing* suffix to a verb. That is, in the former case, the attachment takes place in the syntax, whereas in the latter case, it takes place in the morphology (or lexicon). A critical review of some of these alternatives is provided by Pullum (1991) and Lee (1997), among others.

[28] Pullum (1991) provides a Generalized Phrase Structure Grammar (GPSG, Gazdar et al. 1985) analysis of POSS-*ing* gerundive nominals. Blevins (1994) extends Pullum's (1991) analysis to ACC-*ing* gerundive nominals by using GPSG and Head-driven Phrase Structure Grammar (HPSG, Pollard & Sag 1994) formalisms.

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A key aspect of Pullum's (1991) and Blevins's (1994) approaches is that they propose a lexicalist analysis of gerundive nominals.[29] That is, contrary to the generative accounts examined in the previous section, which crucially rely on the use of a transformational rule such as affix hopping (e.g. Reuland 1983, Baker 1985) or verb raising (e.g. Abney 1987) in order to attach the suffix *ing* to the verb, in Pullum (1991) and Blevins (1994), the relevant verb form is drawn from the lexicon with the suffix *ing* already attached.[30] Another core thesis of their analyses is that in the case of gerundive nominals they reject the idea that the head of the construction projects and eventually determines the categorial property of the construction. In other words, gerundive nominals are exceptional cases where the default condition of headedness can be overridden.

The chief motivation for the claim that gerundive nominals are noun phrases is based on distributional grounds: as previously remarked, gerundive nominals may occur in such canonical noun phrase positions as subject, object, indirect object, and prepositional object. Meanwhile, there are supporting arguments for unifying gerund and present participle, including those mentioned in section 3.1. In short, the proposal that gerundive nominals are noun phrases headed by present participles is defensible. With the elimination of gerunds (the traditional term used to refer to the lexical head of gerundive nominals) in English, Pullum (1991) and Blevins (1994)

[29] Considering the fact that the Minimalist Program (Chomsky 1995) adopts the strong lexicalist hypothesis, one might wonder about the differences between constraint-based lexicalist accounts and minimalist accounts. In providing a minimalist account of English gerundive constructions in terms of a DP (determiner phrase) structure, Lee (1997) argues that the *ing* form of derived nominals has the categorial feature [nominal], while that of gerundive nominals and progressive constructions has the categorial feature [verbal]. In this respect, Lee's (1997) approach differs from the earlier generative treatments mentioned in section 3.1, as it differentiates the *ing* in gerundive nominals from that in derived nominals. Yet it also contrasts with Pullum (1991) and Blevins (1994) in assuming that gerund should be distinguished from present participle. In short, on Lee's (1997) account, there is no neutralization at all between present participle, gerund, and the *ing* form in derived nominals.

A somewhat similar approach is provided by Malouf (2000), who presents an HPSG analysis of English gerundive constructions. That is, like Lee (1997), Malouf (1998, 2000) regards gerund as a distinctive part of speech, which occurs only in gerundive constructions. The difference between the two approaches is that on Malouf's (1998, 2000) account, gerund is a mixed category that cannot be classified as either a verb or a noun, as in Lapointe (1993).

However, there is really no principled reason to view gerundive nominals as mixed category constructions, because their nominal and verbal properties are discrete. Moreover, the present study takes the position that the recognition of gerund as a separate entry is undesirable, as it violates Occam's razor, which says that entities should not be multiplied unnecessarily. Indeed, it is much simpler and parsimonious to allow neutralization in the system.

[30] To be precise, on Abney's (1987) account, the overt morphological suffix *ing* is attached to the verb stem throughout the D-structure and the S-structure representations. However, Abney (1987: 241) posits an abstract element 'ING', to which the *ing* form raises at LF. For details, see Lee (1997).

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identify gerundive nominals as constructions. To reiterate the point, there is no such thing as gerund. Rather, there is just GERUNDIVE or gerundive construction, the phrasal constituent (in this case, noun phrase) headed by the verbal *ing* form. In a nutshell, the notion of a construction plays a crucial role in this approach.

I will close this section by presenting some evidence in favour of unifying gerunds and present participles and thereby lend further support to the analyses of Pullum (1991) and Blevins (1994). Pullum & Zwicky (1991: 256) provide a phonological argument against the distinction between gerund and present participle forms. Their argument concerns the alternation in shape between a velar and an alveolar nasal, *ing* versus *in*'.

> This [alternation] affects the verbal suffix *-ing*, not just anything that rhymes with it, as we can see from the fact that many speakers have a style of moderate informality in which verb forms like *singin*' occur but the noun *building* would not be pronounced **buildin*'. These speakers would say *puttin*' *up some siding*, *nailin*' *down some planking*, or *singin*' *outside a building*, but not **puttin*' *up some sidin*', **nailin*' *down some plankin*', or **singin*' *outside a buildin*'. This generalization about English phonology treats all the types of [verbal *ing* forms] as a class and distinguishes them from other words ending in an unstressed suffix *-ing*.[31] (Pullum & Zwicky 1991: 256)

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[31] As an anonymous *JL* referee points out, one might wonder whether the sentence final position has something to do with the phenomenon under consideration. However, the following examples show that the alternation between *ing* and *in*' is not phonologically conditioned:

(i) (a) As long as you are by my side I'm **singin**'.
(b) I'm **singin'** in the rain.
(c) The birds are **singin'** for me.
(d) *the beautiful **singin'** of birds
(ii) (a) That's what **I'm sayin'**.
(b) You don't listen to what I'm **sayin'**.
(c) I'm just **sayin'** that money can't buy happiness.
(d) *There is an old **sayin'** that money can't buy happiness.
(e) *His favourite **sayin'** is: 'Money can't buy happiness'.

The native speakers consulted agree that there is a great ease in saying the unstarred examples in (i)–(ii) and that it is an effort to say the starred examples in (i)–(ii). For some speakers, it may be possible to say (id) and (iid–e), as we find the noun *fishin*' in (iii).

(iii) 'You may be doing a run-in later on.' Grant scratches his head, holding the silence naturally. 'A storm huh? Maybe I should see myself back for midday then?' 'Reckon. How's the boat?' 'Good. Good. Definitely worth selling the wife and kids for.' 'And the **fishin**'?' 'One tarpon today. Swordfish broke the line, took it with him. One small barracuda. Not so good. Gotta do better than that. Got some friends up for the ride. Gotta impress 'em. Promise 'em something, give 'em nothing. Pretty embarrassing actually. You fish?'

(British National Corpus, henceforth BNC: HHo 3874)

There are studies that analyse the alternation between a velar and an alveolar nasal in words with *ing* endings from a sociolinguistic perspective. For example, Trudgill (1972,

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The second argument put forward by Pullum & Zwicky (1991: 257) is a morphological one: 'all and only the *-ing* forms in the [verb] paradigm participate in the compounding process that incorporates non-subject nouns into their verbs'. As we see from the examples below, not only the participial forms in (42) but also the gerund forms in (43) are compatible with noun incorporation.

(42) (a) They are **bicycle-touring** across France.
(b) Let's go **bicycle-touring** across France!
(c) Anyone **bicycle-touring** across France must be crazy.
(d) **Bicycle-touring** across France, Dana found peace.
(e) With Dana **bicycle-touring** across France, we were sad.
(f) Them **bicycle-touring** across France!
(g) **Bicycle-touring** maniacs invaded the square.
(Pullum & Zwicky 1991: 257)

(43) (a) **Bicycle-touring** across France is great.
(b) Their **bicycle-touring** across France took a week.[32]
(Pullum & Zwicky 1991: 257)

Noun incorporation is, however, impossible with all other verb forms.

(44) (a) *They **bicycle-tour** across France every summer.
(b) *She **bicycle-tours** across France every summer.
(c) *They **bicycle-toured** across France every summer.
(d) *They **have bicycle-toured** across France every summer for years.
(e) *We made them **bicycle-tour** across France.
(f) *Please **bicycle-tour** across France this summer!
(g) *I expect you to **bicycle-tour** across France this summer.
(Pullum & Zwicky 1991: 257)

Based on these two arguments and others, Pullum & Zwicky (1991) and Pullum (1991) claim that gerund and present participle are not two different forms in the verb paradigm but only one and they call it the present

1974) found that the lower a person's social status, the more likely he/she is to use a higher percentage of alveolar rather than velar nasal endings. Trudgill (1972, 1974) also found that working-class males favoured the alveolar variant much more than did working-class females. Considerations like these lie beyond the scope of the present study.

[32] Pullum & Zwicky (1991: 257) actually classified (43b) under the heading 'action-nominal' on a par with examples like (i).

(i) *Action-nominal* -ing, *limited to verbs denoting actions*:
(a) My singing of the madrigal took four minutes.
(b) *their having of the appearance of death
(Pullum & Zwicky 1991: 256)

However, I have treated (43b) as a gerundive construction, because the point here is that gerunds and present participles can be grouped together. This reflects the fact that patterns of indeterminacy may arise in this domain as well.

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participle. To conclude, the discussion so far obviates the need to recognize a separate suffix (6b), as it is neutralizable with the verbal suffix (6c).

4. A CONSTRUCTION-BASED APPROACH TO ENGLISH PROGRESSIVES

Section 4.1 aims to consolidate the central insights of Pullum (1991) and Blevins (1994), thereby adding a new contribution to the original accounts, namely, providing a constructional approach to English progressives. Section 4.2 formally implements the informal claims made in section 4.1 and elsewhere in this paper.

4.1 *Consolidation of the account à la Pullum (1991) and Blevins (1994)*

Since this study is mainly interested in the productive *ing* forms in Modern English, I have confined my attention to the *ing* forms in derived nominals, gerundive nominals, and verb phrases, leaving aside other *ing* constructions that lie outside the mainstream of the *ing* system. Bearing this in mind, let us return to the question raised in section 1.2: how many different *ing* entries are there?

In Modern English, there are two homophonous *ing* suffixes: a deverbal *ing* suffix that yields a lexical noun and a verbal *ing* suffix that forms a participial verb form from a verb stem. This is illustrated below.

(45) (a) $[_{N}\ [_{Vstem}$ read] ing]
(b) $[_{V}\ [_{Vstem}$ read] ing]

Taking into account the adjective *reading* as in *a reading knowledge of German*, which is assumed to be derived from (45b), we must recognize three separate *ing* entries whose categorial statuses are nominal, verbal, and adjectival, respectively.[33]

(46) (a) $[_{N}$ reading]
(b) $[_{V}$ reading]
(c) $[_{A}$ reading]

As discussed earlier, the same *ing* entry (46b) can be realized in two different *ing* constructions, the basic difference of which is the category of their maximal projection.

(47) (a) *Gerundive nominal*
$[_{N''}\ [_{V'}\ [_{V}$ reading] the poem]]
(b) *Participial phrase*
$[_{V''}\ [_{V'}\ [_{V}$ reading] the poem]]

[33] On the present account, a lexical entry is not categorially unspecified. In his recent paper on gerunds, Blevins (2005) treats *ing* forms as categorially unspecified entries (see footnote 24 of this paper).

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Nominal constructions that select a verbal *ing* pose no problem at all in constraint-based frameworks adopted by Pullum (1991) and Blevins (1994).

Once we adopt Pullum's (1991) and Blevins's (1994) fundamental insights into gerundive nominals, however, an important problem immediately arises as to how to explain the differences between gerunds and present participles. More specifically, a big stumbling block to their accounts is that there are cases in which the participial *ing* form is lacking even though the corresponding gerund form exists. For example, state verbs like *know* are much less acceptable in progressive constructions as in (48), though they may readily occur in gerundive constructions like (49).

(48) (a) *I am **knowing** the answer.
(Celce-Murcia & Larsen Freeman 1999: 121)
(b) *Sandy is **knowing** classical Armenian. (Gazdar et al. 1982: 618)
(49) (a) John's **knowing** the answer surprised us. (Williams 1975: 267)
(b) Imagine not **knowing** the answer to such an easy question!
(Alexander 1988: 315)

Assuming that there is only one *ing* form in the verb paradigm, as in Pullum (1991) and Blevins (1994), how can we account for the fact that the *ing* forms of state verbs are sometimes disallowed? My answer to this question is that the restriction on progressives with state verbs does not imply a difference between gerunds and present participles, but rather reflects the fact that progressivity is a construction-level property, not a lexical property of the *ing* forms that progressive verb phrases contain nor of the auxiliary. Accordingly, it is not the *ing* form itself but the progressive construction (*be* + V-*ing*) that imposes an anti-stativity restriction.

In what follows, I will present one piece of evidence in support of the claim that the anti-stativity restriction is imposed by the progressive construction (i.e. a form of auxiliary *be* and the *ing* complement), not by the *ing* form itself. As the examples in (50)–(52) indicate, state verbs, which are generally incompatible with the progressive aspect, may occur in participial form as postnominal modifiers.[34]

(50) (a) The only one **knowing** the answer was John. (Williams 1975: 267)
(b) The first man **knowing** all the answers will get the prize.
(Williams 1975: 250)
(51) (a) Anyone **owning** more than $200,000 will have to pay wealth tax.
(Huddleston 1984: 318)
(52) (a) This is a liquid with a taste **resembling** that of soapy water.
['which resembles'; not: '*which is resembling']

[34] They also occur as adjectival participles (i.e. deverbal adjectives), as in (i).

(i) John gave us a **knowing** look. (Emonds 1973: 186)

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(b) It was a mixture **consisting** of oil and vinegar.
['that consisted of'; not: '*that was consisting of']
(Quirk et al. 1985: 1263)

As Quirk et al. (1985: 1263) correctly point out, such *ing* forms in post-modifying phrases should not be seen as 'abbreviated progressive forms in relative clauses'. In brief, there is no FORM that carries a progressive meaning in isolation.[35]

Given this, it is inappropriate to consider (53) as exactly equivalent to (54).

(53) The person [writing reports] is my colleague. (Quirk et al. 1985: 1263)
(54) The person who is writing reports is my colleague.

Rather, the restrictive participial phrase *writing reports* in (53) may be interpreted, according to the context, as equivalent to one of the more explicit versions in (55).

(55) The person [who will write / will be writing / writes / is writing / wrote / was writing reports] is my colleague. (Quirk et al. 1985: 1263)

To recapitulate, the correspondence between gerunds and present participles is always preserved and the apparent differences just reflect the fact that progressivity is a construction-based property, not a form-based property. Here again we see that the notion of a construction occupies an important status, as was the case with gerundive nominals.

4.2 *A formal account*

Within the semantics literature, a number of accounts introduce some formal mechanisms that account for the incompatibility of states with the progressive aspect. Explanations differ depending on the scholar's theory of the semantics of the English progressive. Space constraints preclude a detailed discussion on these theories.[36] Nevertheless, it is appropriate to mention that many of these formal approaches have some shortcomings. To illustrate, let us briefly consider two semantic analyses of the progressive: Dowty's (1977, 1979) modal account and Vlach's (1981) event-based account. Portner (1998)

[35] Discussing passive and perfect participles in English, Cann (1999: 29, 2000: 74) suggests in passing that similar intuitions about progressive CONSTRUCTION (as opposed to FORM) may be accommodated within the minimalist framework.

[36] Interested readers may consult Portner (1998: 762–769) and Filip (1999: 159–175) for a review of some of these accounts.

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succinctly reviews Dowty's (1977, 1979) theory commenting on **John is knowing French*:[37]

> Part of the progressive's function is to locate a particular time within a longer interval in which the corresponding nonprogressive sentence would be true. But since sentences like *John knows French* [...] would automatically be true both of a longer interval and the particular moment or subinterval described within that interval, this distinction is not useful for individual-level statives [e.g. *know*]. According to Dowty, a syntactic restriction has thus arisen preventing the occurrence of the progressive with such predicates. As he emphasizes, this restriction makes some sense, but is not required by anything; thus, one would not be surprised if other languages have a different behavior from English in this respect. (Portner 1998: 763)

Vlach's (1981) core thesis is expressed in the descriptions below:

> The function of the progressive operator is to make stative sentences, and, therefore, there is no reason for the progressive to apply to sentences that are already stative. (Vlach 1981: 274)

While the 'progressive-as-stativizer' account of Vlach (1981) has been adopted by a number of authors, including Moens (1987), Parsons (1990), and Kamp & Reyle (1993), others such as Bertinetto (1994: 398–404), Smith (1997: 85f.), and Glasbey (1998: 105f.) argue against identifying progressives with statives.

In what follows, I will provide a generic analysis of why states are incompatible with the progressive aspect, because this problem is not specific to semantics. Let us first consider Reichenbach's (1947) interpretation of the progressive and the present progressive in terms of the event time (E), the reference time (R), and the speech time (S). In (56) the symbol '$\sqsubset$' represents containment and the comma represents temporal overlapping.

(56) (a) Progressive $\quad R \sqsubset E$
(b) Present progressive $\quad R, S \sqsubset E$

As shown in (56b), the present progressive marks an event or situation as ongoing and contemporaneous with the speech time. That is, the primary function of the progressive is to indicate ongoingness. Yet, something that is

[37] Huddleston's (1984: 153) account of the contrast between (i) and (ii) may be useful in understanding the first sentence of the passage.

(i) It was raining.
(ii) It rained.

The verb *rain* denotes a dynamic situation. In (i) this situation is in progress at the time being referred to (cf. *I opened the curtains and saw that it was raining*), and the time being referred to will be a subinterval of the total interval of time during which it rained; (ii) on the other hand presents the situation as a whole, as an event.

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static does not move or change and therefore cannot be regarded as ongoing. As Brinton (1988: 40) puts it, 'though [states] are continuous, they involve no change and hence cannot be seen as developing or ongoing'.

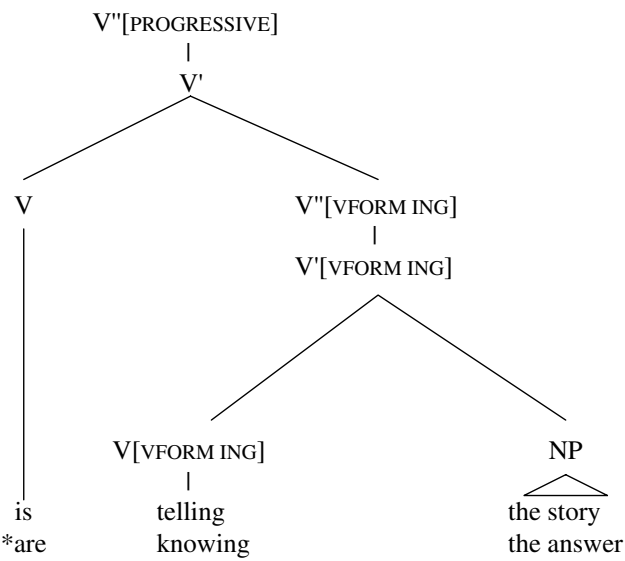
With this background, let us turn now to the technical elaboration of the construction-based approach to progressivity. As outlined in the preceding discussion, the progressive aspect is not uniquely associated with the auxiliary *be* nor with the present participle, but is expressed by the combination of *be* and a present participle. This analysis is schematized by the construction-specific verb phrase rule in (57). Like the special head-daughter rule proposed by Pullum (1991) for gerundive nominals (see (59a)), this rule sanctions phrases that deviate in a specific respect from the default patterns of the language.

(57) VP[PROGRESSIVE]→BE VP[VFORM ING]

As represented in (57), the property [PROGRESSIVE] is associated with the mother VP, but not with the daughter VP. Other properties such as tense are shared with the daughter node. Lexical information such as valency is likewise associated with the mother node. However, progressive aspect is not shared between a periphrastic construction and its main verb, and is only associated with the mother. In short, the progressive constructions exhibit a typically constructional pattern in which the whole adds to the compositional meaning of the parts.

The rule in (57) yields a structure along the lines of (58).

(58)



In an example such as *is telling the story*, the present auxiliary *is* contributes the present tense meaning and the participle *telling* contributes the lexical meaning of *tell* including valency information. Now the question is what

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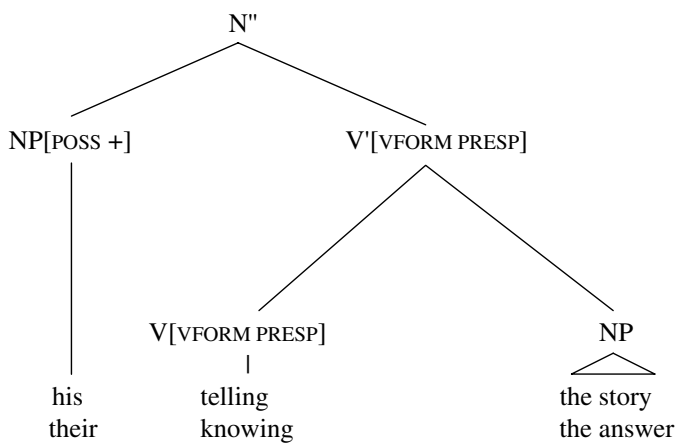
things contribute progressivity in this structure? Is the meaning of the progressive construction just the sum of the meanings of its component parts? The main thrust of this paper is that the whole construction itself adds to the compositional meaning of the parts and therefore it is the construction as a whole that makes a contribution to the progressive aspect meaning. In other words, in (57)–(58) the mother VP (i.e. V"[PROGRESSIVE]) is a constructional template having a distinct morphosyntactic property. To summarize, the semantics of the progressive aspect operates top-down, though the meaning of the progressive construction involves bottom-up information such as tense and lexical entries.

Now a natural question arises as to why the construction-based approach is useful. To answer this question, let us first consider how Pullum (1991) and Blevins (1994) define gerundive nominals as noun phrases headed by present participles using GPSG formalisms (cf. footnote 28). As stated earlier, the present study follows Pullum (1991) and Blevins (1994) in analysing gerundive nominals as noun phrases headed by a verbal *ing* form. The conflict between the categorial status of the gerundive nominal and that of its head is sanctioned by the special head-daughter rule (59a) proposed by Pullum (1991). The rule that Pullum (1991: 779) proposes is repeated in (59a). Blevins (1994: 7, 2005: 31) restates this schematic rule somewhat more concisely as in (59b).

(59) *Exocentric X-bar rules* (*Pullum 1991*)
(a) N[BAR 2]→(N[BAR 2, POSS +]) H[VFORM PRESP]
(b) N"→(NP[POSS +]) H'[VFORM PRESP]
(where H = head, PRESP = present participle)

The rules in (59) give the tree diagram in (60). The substitution of V' and V for H' and H will be briefly explained below.

(60) *Categorially exocentric gerundive nominals* (Pullum 1991, Blevins 1994)



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As Blevins (2005: 31) remarks, 'Pullum's analysis exploits the fact that the feature matching between a phrase and its head daughter is regulated by a default constraint in GPSG'. Therefore, the head term 'H' may remain unspecified for category features in a phrase structure rule. However, the rules in (59) introduce the specification [VFORM PRESP]. Since the feature [VFORM] is only compatible with verbal categories, in the tree diagram (60) H' and H are replaced by V' and V, respectively. In short, the fact that the rules in (59) expressly select a present participial head overrides the default category matching between a mother and its head daughter. For reasons of space, I will not go into the technical details of the GPSG formalisms.[38] Suffice it to say that the categorial mismatch between the N" mother and its V' head daughter in (60) poses no problem for the GPSG framework.

Given that the anti-stativity restriction is imposed by the mother VP (i.e. V"[PROGRESSIVE]) in (57)–(58), there are no principled grounds for preventing stative *ing* forms from occurring at the node V[VFORM PRESP] in (60). To conclude, among many other benefits, the construction-based perspective on progressivity provides a straightforward solution to the progressive puzzle.

5. THE ROLE OF CONSTRUCTIONS

Assuming a constructional approach to progressives and other *ing* constructions, *ing* itself is not an aspectual meaning-bearing element. This section considers in detail the role of constructions as the locus of interpretation.

There are two basic sorts of answers to the question of whether the parts of a periphrastic construction make any contribution to the interpretation of the whole. The first is provided by a construction-based approach, which treats the whole construction as the locus of interpretation. On this view, individual parts make a restricted semantic contribution. A second sort of answer is offered by a more compositional approach, in which the parts of a periphrasis are themselves meaning-bearing elements. With regard to the interpretation of *ing*, the benefits of the former perspective outweigh those of the latter. These issues are taken up in the following subsections.

5.1 *A construction-based approach*

A construction-based approach adopts a top-down perspective in which elements that occur in different periphrastic constructions within a language are 'selected' by these constructions. That is, rather than being 'deduced' from the properties of their individual parts, constructions actively guide

[38] For a concise review of Pullum's (1991) analysis, see Blevins (1994, 2005).

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the combination of elements and serve as the locus of interpretation. From this standpoint, a construction is more than just the sum of its parts, and elements that underlie a heterogeneous class of constructions are merely exponents that are not united with a particular meaning.

Perhaps the strongest argument in support of this approach comes from the fact that there is no single semantic property common to all *ing* forms that participate in morphosyntactically distinct constructions. Put differently, these *ing* forms do not make a uniform morphosyntactic contribution to the constructions that they underlie.

Another virtue of this perspective is that it can explain why in some cases, one and the same form is compatible with one type of construction involving it, but not with others. For instance, state verbs may readily occur in gerundive constructions but are much less acceptable in progressive constructions. As discussed previously, assigning progressivity to a phrasal level rather than a lexical level provides a simple solution to this puzzle. If progressivity is viewed as a construction-level property and an anti-stativity restriction is imposed on progressive constructions as opposed to *ing* forms, nothing prevents the *ing* forms of state verbs from occurring in gerundive constructions. On the other hand, if progressivity is a lexical property of *ing* forms, the fact that the *ing* forms of state verbs behave differently in gerundive and progressive constructions remains unexplained unless gerunds and present participles are two separate lexical entries, which is difficult to justify.

To conclude this section, forms that recur as parts of separate periphrastic constructions are not themselves meaning-bearing elements but should be regarded as the formal 'spell-out' of the properties of the whole.

5.2 *A compositional alternative*

Contrary to the constructional approach examined above, a compositional approach adopts a bottom-up perspective in which the characteristics associated with forms in isolation determine the properties of combinations of such forms. On this view, recurrent forms of a language make a substantial semantic contribution to the constructions involving them in the sense that these forms themselves are meaning-bearing elements and the meaning that they express directly influences the interpretation of the whole construction.

The strongest argument for the claim that *ing* forms in isolation bear a meaning like progressivity comes from perception verb constructions. Perception verbs (or verbs of perception), also known as 'physical perception verbs' (Rogers 1971, Jørgensen 1990) or 'sensory verbs' (Kirsner & Thompson 1976), are 'verbs referring to sensations' (Palmer 1988: 73).

For the purposes of the present discussion, the criterion for determining whether a verb referring to one of the five physical senses belongs to a class of perception verbs will be the ability to occur with both *ing* complements and

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bare infinitival complements.[39] Verbs like *feel*, *hear*, *see*, and *watch* qualify under this strict criterion. As a corollary of the membership criterion of perception verbs, in this paper, the label 'perception verb constructions' refers to a set of two subconstructions: (i) perception verb (sub)constructions with *ing* complements and (ii) perception verb (sub)constructions with bare infinitival complements.

What is particularly noteworthy about these constructions is that perception verb (sub)constructions with *ing* complements, but not perception verb (sub)constructions with bare infinitival complements, have a progressive interpretation. Let us consider the following minimal pairs:[40]

(61) (a) I watched a pavement-artist drawing a portrait in crayons.
(b) I watched a pavement-artist draw a portrait in crayons.
(Alexander 1988: 302)

(62) (a) I saw them running across the street.
(b) I saw them run across the street. (Frank 1993: 305f.)

(63) (a) We heard the children crying.
(b) We heard the children cry. (Frank 1993: 305f.)

Alexander (1988: 302) notes that the *ing* form in (61a) refers to 'an action in progress'. Thus, (61a) means that the action was probably in progress when I arrived. On the other hand, the bare infinitive *draw* in (61b) refers to 'the complete action' (Alexander 1988: 302). Therefore, (61b) can mean that I watched from start to finish. Similarly, Frank (1993: 306) remarks that the *ing* form in (62)–(63) 'stresses the duration of an action, often its lack of completion'. The corresponding bare infinitive, by contrast, 'stresses an action as a whole' (Frank 1993: 306). In sum, these minimal pairs suggest that isolated *ing* forms qualify as an example of progressivity.

A second argument in favour of the claim that *ing* forms in isolation are meaning-bearing elements concerns the choice between *ing* complements and *to* complements. Quirk et al. (1985: 1191) account for these two types of complements in terms of a contrast between 'performance' and 'potentiality'. That is, 'the participle gives a sense of the actual "performance" of the action itself', as in (64a), while 'the infinitive gives a sense of mere "potentiality" for action', as in (64b) (Quirk et al. 1985: 1191).

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[39] This position is also taken by Kirsner & Thompson (1976: 233).

[40] Note that the verbs in the (b) examples of (61)–(63) (i.e. *draw*, *run*, and *cry*) are bare infinitives, i.e. nonfinite forms. That is, they should be distinguished from zero-marked verb forms such as *be* in (ia) that occur in subordinate clauses and can alternate with finite patterns (e.g. *should be* in (ib)).

(i) (a) She requested that no one **be** told of her decision until the next meeting.
(b) She requested that no one **should be** told of her decision until the next meeting.

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(64) (a) She enjoyed learning French.
(b) She hoped to learn French. (Quirk et al. 1985: 1191)

This sort of contrast is perhaps most clearly manifest in the case of *try*:

(65) (a) Sheila tried bribing the jailor.
(b) Sheila tried to bribe the jailor. (Quirk et al. 1985: 1191)

(65a) implies that 'she actually did bribe the jailor, but without (necessarily) achieving what she wanted', whereas (65b) implies that 'Sheila attempted an act of bribery, but did not manage it' (Quirk et al. 1985: 1191). A contrast between 'performance' and 'potentiality' may also influence the choice between 'aspectual verb (sub)constructions with *ing* complements' and 'aspectual verb (sub)constructions with infinitival complements'. For example, the choice between *speaking* versus *to speak* in (66) is empirically proved by Kempson & Quirk (1971: 553).

(66) (a) He started speaking, and kept on for more than an hour.
(b) He started to speak, but stopped because she objected.
(Quirk et al. 1985: 1192)

Quirk et al. (1985: 1192) also note that 'the association of the *-ing* participle with the progressive aspect' favours (67a) over (67b) in the following minimal pair, where 'multiple activities are involved'.

(67) (a) He began opening all the cupboards.
(b) He began to open all the cupboards. (Quirk et al. 1985: 1192)

To sum up the discussion in this section, on a bottom-up perspective, *ing* forms in isolation carry meanings like progressivity or performance.

5.3 *A comparison*

Since these alternatives focus on different – and complementary – traits of *ing* constructions, at first blush, the benefits of one approach seem unavailable to the other. One possible objection to the construction-based approach is that it fails to explain the consistent meaning difference between perception verb (sub)constructions with *ing* complements and perception verb (sub)-constructions with bare infinitival complements. The compositional approach, on the other hand, nicely captures this fact, but only at the cost of a reduction in empirical coverage, because in some cases, the *ing* form does not appear to be intrinsically progressive. As we shall see below, a comparison of these alternatives suggests that adopting the meaning-driven approach loses more than it gains. By contrast, if we assume that more than one construction can be associated with progressivity in a language, the progressivity associated with perception verb (sub)constructions with *ing* complements may be explainable by the constructional approach, thereby lending further support to this perspective.

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Let us first reconsider perception verb constructions. The NP preceding the *ing* complement of perception verbs should be in the accusative, and not the possessive.

(68) (a) I can't hear John playing the piano.
(b) *I can't hear John's playing the piano. (Akmajian 1977: 429)
(69) (a) I saw him lying on the beach.
(b) *I saw his lying on the beach. (Quirk et al. 1985: 1206)

There are some verbs such as *picture* (in the sense of 'imagine') and *see* (in the sense of 'imagine'), which pattern after perception verbs in this respect:

(70) *picture*
(a) When he did not come home she **pictured him lying** dead on the roadside somewhere.
(*Oxford Advanced Learner's Dictionary*, 6th edn., 2000)
(b) *When he did not come home she **pictured his lying** dead on the roadside somewhere.

(71) *picture*
(a) He **pictured Claire sitting** out in the car, waiting for him.
(*Collins Cobuild English Dictionary for Advanced Learners*, 3rd edn., 2001)
(b) *He **pictured Claire's sitting** out in the car, waiting for him.
(72) *picture*
Try to **picture yourself lying** on a beach in the hot sun.
(*Cambridge Advanced Learner's Dictionary*, new edn., 2003)
(73) *see*
(a) A good idea, but can you see **Taylor trying it?**
(*Collins Cobuild English Dictionary for Advanced Learners*, 3rd edn., 2001)
(b) *A good idea, but can you see **Taylor's trying** it?

Semantically, perception verbs and verbs like *picture* ('imagine') and *see* ('imagine') do not form a homogenous group. The former refers to 'sensations', while the latter refers to 'mental activities' (Palmer 1988: 73). Yet considering the inadmissibility of a possessive subject, these two types of verbs all take a VP-*ing* complement.[41]

On the compositional approach examined in section 5.2, *ing* forms that appear as complements to perception verbs carry progressivity. From the same standpoint, one might also assign progressivity to the *ing* forms that occur as complements to verbs like *picture* and *see*, since both types of *ing* forms are verbs that head a VP (rather than an NP) and there are no

[41] *Ing* complements (i.e. complements with initial verbs in *ing* form) in English are not of a single homogenous type. A number of distributional diagnostics distinguish gerundive complements (or NP-*ing* complements), which are noun phrases headed by a verbal *ing* form, from participial complements (or VP-*ing* complements), which are verb phrases headed by a verbal *ing* form. For more details see Lee (2004, 2006).

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grounds for assuming two separate lexical entries for them. At this point, an immediate question arises: if *ing* forms themselves are associated with progressivity, why can the *ing* forms in (74)–(75) be based on state verbs?[42]

(74) I just can't picture John **owning** a mansion.
knowing the answer.
weighing 300 lbs.
(Akmajian 1977: 446)

(75) (a) I just can't see John **owning** a mansion. (Declerck 1981: 90)
(b) I really can't see myself **owning** any other kind of car, but a Saturn.
(http://www.carsurvey.org/review_24483.html)

In short, examples such as (74)–(75) suggest that *ing* forms in isolation do not qualify as bearing progressivity.

Let us now recast this problem in terms of a constructional approach. A crucial difference between perception verb constructions and '*picture/see* + *ing* complement' constructions lies in the fact that the latter does not allow bare infinitival complements. Capitalizing on this fact, it is plausible to argue that progressivity is a construction-based property in all cases. That is, progressivity is assigned to (i) progressive constructions (auxiliary *be* + *ing* complement) and (ii) 'main verb + *ing* complement' (sub)constructions, which together with 'main verb + bare infinitival complement' (sub)constructions compose 'constructions'.[43] Interpreted in this way, '*picture/see* + *ing* complement' constructions do not qualify as relevant 'constructions', as there are no '*picture/see* + bare infinitival complement' (sub)constructions. Therefore, one cannot associate progressivity with

[42] A similar question has already been raised in section 4.1 with respect to gerundive constructions, as in (i).

(i) (a) **Imagine** not **knowing** the answer to such an easy question!
[=(49b) of section 4.1] (Alexander 1988: 315)
(b) I can't **imagine** him **knowing** all that. (Palmer 1988: 200)

However, while the examples in (i) are gerundive constructions, as evinced by a possessive subject in (ii), '*picture/see* + *ing* complement' constructions cannot be treated as gerundive constructions, as discussed earlier.

(ii) (a) **Imagine my being** in a position to tell Michel something that he ought to know – that may be vital for him to know.' (BNC: F9R 3182)
(b) He **imagines their having** a child together; he imagines Louise's death and his own subsequent tenderness in caring for the motherless infant (we do not, alas, have Louise's response to this particular flight). (BNC: G1A 1590)

[43] This latter point can be accommodated by postulating another construction-specific verb phrase rule (ii) in addition to (57), repeated here as (i) for convenience.

(i) VP[PROGRESSIVE] → BE VP[VFORM ING]

(ii) $\text{VP} \rightarrow \text{V NP} \left\{ \begin{array}{l} [\text{V}[\text{VFORM ING}] \ \ldots\ ]\text{VP}[\text{PROGRESSIVE}] \\ [\text{V}[\text{VFORM BARE}] \ \ldots\ ]\text{VP} \end{array} \right\}$

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'*picture/see* + *ing* complement' constructions, and nothing prevents state verbs from occurring in (74)–(75).

One benefit of this perspective is that it can also account for the aspect distinction between some causative subconstructions. As observed by Akmajian (1977: 440), among others, there are parallels between perception verb constructions and causative *have* constructions:

(76) (a) We watched the prisoners dying. [incompleted]
(b) We watched the prisoners die. [completed]
(Akmajian 1977: 440)

(77) (a) We had them marching into the mess hall. [incompleted]
(b) We had them march into the mess hall. [completed]
(Akmajian 1977: 440)

Since (77a) is an instance of 'main verb + *ing* complement' (sub)constructions, which together with 'main verb + bare infinitival complement' (sub)constructions compose 'constructions', progressivity is assigned to (77a).

Examples such as (76)–(77) as well as those in (61)–(63) can be treated compositionally. These sorts of patterns may thus be taken as potential counterevidence to the constructional treatment of progressivity. However, as argued in the preceding paragraphs, the construction-based analysis pursued in this paper also nicely captures the semantic contrast between the minimal pairs of these examples. To reiterate the point, there is a trade-off between a compositional and a constructional approach, but the overall advantage lies in the latter, which will be reinforced in the next paragraph.

Now let us turn to the issue of *ing* complements versus *to* complements. The attempt to explain the contrast between *ing* and *to* in these complements in terms of 'performance' and 'potentiality' loses its force, because in the case of verbs like *intend* or *bother*, there is no obvious difference between the *ing* complement and the infinitival complement (Palmer 1988: 176, Huddleston 2002b: 1241).

(78) (a) I intend going tomorrow.
(b) I intend to go tomorrow. (Palmer 1988: 176)

(79) (a) He didn't bother telling us.
(b) He didn't bother to tell us. (Huddleston 2002b: 1241)

To conclude, given the descriptive limitations of the compositional approach, it is not at all obvious what would be achieved by this perspective. On the other hand, a putative drawback of the constructional approach turns out to be not a problem at all, as the problem can be accommodated within the construction-based framework. Taken together, empirically, it is far more advantageous to adopt a top-down perspective, which treats the whole construction as the locus of interpretation.

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6. Summary and conclusion

The main conclusions of this paper, which have been stressed in the preceding discussion, are twofold. First, the meaning of the progressive is assembled in a top-down fashion, in which the whole construction serves as the locus of interpretation. Second, the construction-based approach to English progressives is useful because it provides a principled resolution to the progressive puzzle, among many other things.

Sorting out the syncretism in the *ing* system is an important problem not only because of the null hypothesis that the fewer the distinctions, the simpler the system but also it may shed light on tackling the thorny issues related to the various constructions that select *ing* forms. Foremost among these is the well-known progressive puzzle – the fact that state verbs like *know* are much less acceptable in the progressive while they may readily occur in the corresponding gerundive construction (as well as other *ing* constructions). This paper argues that this restriction does not imply a difference between gerunds and present participles, but rather reflects a contrast between gerundive nominals and progressive constructions. That is, progressivity is a property of auxiliary and *ing* participle combinations, not a lexical property of the *ing* forms that progressive verb phrases contain nor of the auxiliary. A constructional approach to progressives in English lends insight not only into these constructions but also into other *ing* constructions, including gerundive nominals and perception verb constructions.

To return to the question of how many different *ing* entries there are (the question raised in section 1.2), in Modern English, there are three different *ing* entries whose categorial statuses are nominal, verbal, and adjectival, respectively. More precisely, there is homophony between a deverbal *ing* suffix that yields a lexical noun and a verbal *ing* suffix that forms a participial verb form from a verb stem. In addition, there is neutralization of this verbal *ing* suffix and the suffix that occurs on the 'gerund' head of gerundive nominals. Gerundive constructions, however, differ from verb phrases headed by present participles in that they are noun phrases. The existence of a construction whose head has a different categorial status from its maximal projection is made possible by adopting the constraint-based lexicalist analysis of gerundive nominals proposed in Pullum (1991) and Blevins (1994). As for the adjectival *ing*, it is derived from verbal *ing* and there is no independent adjectival *ing* suffix. A major novelty of the present study is that it provides a simple solution to the apparent differences between gerunds and present participles, the problem which remains unaccounted for in Pullum (1991) and Blevins (1994), by arguing that progressivity is a constructional property.

The constructional approach pursued in this paper, which goes back at least to the notion of 'compound tenses' (Curme 1935), accords with other constructional treatments of periphrasis such as the analyses of the perfect

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aspect proposed in Ackerman & Webelhuth (1998) and Spencer (2001b). It is also in line with the Construction Grammar tradition, as the two share the basic intuition that the whole determines the part, not vice versa. On a constructional perspective, a construction is more than just the sum of its parts and forms that recur as parts of different periphrastic constructions are regarded as the formal 'spell-out' of the properties of the whole. Interpreted in this way, *ing* forms that underlie progressive constructions are not themselves aspectual meaning-bearing elements. The basic idea can be extended to cover other *ing* constructions such as perception verb (sub)constructions with *ing* complements. These constructions have a progressive interpretation, because progressivity, being a constructional property, may be assigned to 'main verb + *ing* complement' (sub)constructions, which together with 'main verb + bare infinitival complement' (sub)constructions compose 'constructions'. This line of analysis enjoys advantages over a compositional approach, which assigns *ing* forms in isolation a meaning like progressivity. The first reason for this is that in some cases, *ing* forms do not appear to be intrinsically progressive. Second, there is no single semantic property common to all *ing* forms that participate in morphosyntactically distinct constructions.

Let us close now by suggesting some directions for further investigations. The present study leads to an investigation into the distributional constraints on English progressives (more specifically, aspectual progressives), which raise a number of intriguing problems including the question of how to reconcile Vendler's (1957) Aktionsart-based approach and Biber et al.'s (1999) frequency-based perspective.[44] A second area of inquiry suggested by this paper is an investigation into the differences, if any, between the present progressive and other progressive constructions such as the past progressive. The past progressive seems to be compatible with state verbs like *know*, as illustrated by examples drawn from literary works.[45] Despite limitations and possible shortcomings, it is hoped that the present study will act as a catalyst for further research adopting a constructional approach to language.

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[44] Lee (2004) provides a solution to this problem by appealing to the notion of 'underspecification'.

[45] For concrete examples, see Lee (2004: 225f.).

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Author's address: *Department of English Language and Literature,*
Ewha Womans University, 11-1 Daehyun-dong, Seodaemun-gu,
Seoul 120–750, Korea.
E-mail: seungahlee@cantab.net, seungahlee@ewha.ac.kr

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