TITLE: Participle clauses between adverbial and complement

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ABSTRACT: The present paper offers a synchronic and diachronic analysis of integrated participle clauses or IPCs in English, as found in constructions such as the mayor is busy washing his car or many students had trouble finding the correct answer. Typically, IPCs have developed from adverbial participle clauses into complement clauses. Given their adverbial origins, they can occur as complements to predicates that do not normally take nominal direct objects. Synchronically, criteria are discussed for distinguishing IPCs from adverbial clauses, and it is shown that the distinction between IPCs and adverbial participle clauses is non-discrete. Diachronically, the origins of IPCs are traced, showing that IPCs emerged gradually in the course of the Modern English period. It is argued that initially the primary mechanism of change was (analogically-induced) reanalysis, yet at a later stage IPCs began to assert themselves as a category in its own right, spreading to new contexts through analogical extension. Thus, the discussion illustrates how adverbial clauses can turn into complements, and at the same time shows how a new syntactic (if fuzzy) pattern takes shape.

KEYWORDS: adverbial; analogy; complementation; English; fuzziness; gerund; gradience; participle; syntax; reanalysis
Integrated participle clauses
From adverbial to complement

In the course of the Modern and Present-Day English period, participle clauses have in a variety of constructions come to be more closely integrated in the syntax of the matrix clauses they combine with, thus developing into a special type of complement-like slot fillers. Such participial complement clauses will be referred to here as Integrated Participle Clauses or IPCs. The following discussion first provides a synchronic characterisation of the constructions in question, highlighting the syntactic and semantic differences between IPCs and other clause types (section 1). The synchronic discussion is followed by a diachronic analysis that looks into the possible sources of IPCs (section 2). To complete the picture, the detailed description provided in the first two sections is put to use in addressing the categorial status of IPCs. While, diachronically, IPCs can be seen as a natural diachronic development from adverbial to complement, synchronically, they remain problematic in that they can alternatively be seen as an independent category, a loose set of unrelated constructions, or marginal members of the category of -ing-complements in English (section 3). As such, the discussion reveals the various ways in which IPCs exemplify gradience in language, as well as the way in which this gradience emerges historically (section 4).

1. Synchronic characterisation

1.1. The italicised -ing-forms in (1) and the clauses of which they are the head illustrate the kinds of construction that will be considered here as IPCs:

(1)  
   a. The receptionist is busy filling a fifth box. (CB)  
   b. I am tired hearing of the Duchess of Chiselhurst’s ball (1899, CEN)  
   c. Mr Jones said because he was not being properly paid he had trouble getting a housing loan and feared he might lose his new home. (CB)

IPCs have received hardly any attention in the synchronic or diachronic literature. The type in (1a), headed by the adjective busy, has been recognised as an adjective complement construction by Quirk et al. (1985: 1230) and Huddleston & Pullum (2002: 1259). Visser (1963-73: 1127-8) recognises the busy-type in (1a), the tired-type in
and further spots instances with long and late, yet classes all of these together with various unrelated constructions. None of these sources provide any discussion of what distinguishes the construction from other construction types such as gerund clauses and adverbial participle clauses.

The -ing-clauses in (1) are obviously non-nominal, as appears from their inability to alternate with an NP (consider, for instance, *I am tired all this talk of the Duchess of Chiselhurst’s ball). From this it may be concluded that they are not gerunds, which are nominalizations, and thus differ from the clauses illustrated in (2).

(2) a. I think people are tired of hearing about it. (CB)
    b. Along with the rest of his partners, he will have to weigh up whether to go public now, or risk remaining private. (CB)

Not being nominalisations, the IPCs in (1) more closely resemble participle clauses, or PCs. At least, they share their non-nominal character with the adverbially used PCs in (3).

(3) a. See how many words of four or more letters you can find using the letters above (CB)
    b. Fishermen in Scotland have taken a tennis club to court, claiming that its floodlights are driving away the fish in an angling river. (CB)

At the same time, IPCs also differ from adverbially used PCs, because their relation to the matrix predicate is not one of adverbial modification but of complementation – in this respect IPCs are in fact more closely related to the gerund clauses in (2) than to the PCs in (3). The purpose of this section is to tease out the differences between gerund clauses, adverbial PCs and IPCs.

1.1.1. Looking at the contrast between IPCs and adverbial PCs, it should be pointed out from the outset that IPCs do not differ from all adverbial PCs to the same extent. For one thing, adverbial PCs can themselves be divided into adjuncts and disjuncts. This distinction, based originally on Greenbaum (1969: 15-25) and Quirk et al. (1985: 1070-3), is illustrated in (3) above, with (3a) exemplifying an adjunct, and (3b) pre-
senting a disjunct. Adjuncts, which, unlike disjuncts, form part of the propositional content of the matrix clause, share certain features with IPCs.

One set of characteristics distinguishes IPCs from disjuncts but not from adjuncts. Firstly, IPCs are not separated from the matrix clause by an intonational boundary or, in writing, a comma. In this they differ from disjunctively used PCs (cf. Kortmann 1991). Adding an intonational break changes the semantic relation between the PC and its matrix clause. Compare example (4) below to (1b) above: in (4) the PC gives the reason why (the speaker assumes) the subject of the matrix clause must be tired, while in (1b) the PC specifies what the matrix subject is tired of.

(4) You must be tired, wandering about on the hills as you do! (1887, CEN)

While the difference between IPCs and disjuncts is clear, the absence of an intonational boundary does not distinguish IPCs from adjunct PCs, which can similarly form a single intonation unit with the matrix clause, as in (5).

(5) Bold, 31, now in Glenochil jail, claimed he hurt his knee playing at Perth prison. (CB)

Secondly, IPCs, like adjuncts but unlike disjuncts, can be the focus of negation and polarity questions in the matrix clause. Compare the possible interpretations of the IPC in (6), the adjunct in (7) and the disjunct in (8):

(6) a. Yet, for most people, the impression gained of Mr Hanley is that he has trouble deciding which shoe to put on first in the morning. (CB)
   b. Mr Hanley doesn’t have trouble deciding… (‘Mr Hanley has trouble doing some things, but he does not have trouble deciding…’)
   c. Does Mr Hanley have trouble deciding… ? (‘Mr Hanley has trouble doing some things, but does he have trouble deciding…?’)

(7) a. Ian went to check the cars and found that they were missing their wipers and he went and told the hotel manager, who came out looking very worried. (CB)
   b. The manager did not come out looking very worried. (‘the manager came out but he didn’t look very worried’)

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c. Did the manager come out looking very worried? (‘the manager came out but did he look very worried?’)

(8) a. Yesterday the group issued its strongest warning yet, telling foreigners to leave the country. (CB)

b. The group didn’t issue its strongest warning yet, telling foreigners to leave the country (‘The group issued its strongest warning yet but did not tell foreigners to leave the country’)

c. Did the group issue its strongest warning yet, telling foreigners to leave the country? (‘The group issued its strongest warning yet, but did it tell foreigners to leave the country?’)

Thirdly, neither IPCs nor adjuncts can have explicit subjects – again in contrast to disjuncts, which can take their own subjects, as in (9a).

(9) a. It was only to be expected, he being thirty-five years older than me (CB)

b. *Mr Hanley has trouble his wife deciding which shoe to put on first in the morning.

c. *The manager came out his assistant looking very worried.

Moreover, when they do not have their own subjects, disjuncts can be controlled by the speaker/interlocutor, instead of a participant in the matrix clause, as in (10a), or the controller can be the matrix clause as a whole, as in (10b) (Kortmann 1991). Again, neither adjuncts nor IPCs have this possibility.3

(10) a. Speaking of which, why can’t veterans just forgive and forget Japan over its treatment of allied prisoners of war so long ago? (CB)

b. In North Antrim at the last election, about 33,600 people voted for Unionist parties and 8,400 for nationalists, indicating that Catholics form about 20 per cent of its population. (CB)

1.1.2. A second set of characteristics distinguishes IPCs from adverbial PCs in general – i.e. disjuncts as well as adjuncts. Firstly, omitting the IPC from the main clause will affect the meaning of the main clause predicate. The IPC maps onto a semantic role evoked by the predicate and thereby restricts the meaning of the main clause predi-
cate. As a result, omission of the PC broadens the semantic scope of the predicate, as in (11), or even affect the lexical semantics of the predicate as such, as in (12). In contrast, omission of a PC has no effect on the semantics of the matrix clause when the PC functions as an adjunct or disjunct, as can be tested by leaving out the PCs in (13) and (14) respectively.

(11) a. I was fed up sitting at the station doing nothing. (CB)
b. Thousands like us need help finding someone special. (CB)

(12) a. The day I say I’m tired playing for my country is the day I hang up my boots. (CB)
b. I wasn’t happy being described as cute, but seeing as I got the part I didn’t care. (CB)

(13) a. As ever he stormed away refusing to speak, along with his sulking team. (CB)
b. I shall make so much money exploring Africa I shan’t know what to do with it. (1902, CLMETEV3)

(14) a. In a classroom in Farmington […] about a dozen farmers are lined up in desks, looking at charts of farm prices projected on a screen. (CB)
b. Cyril glanced at Amy, who averted her head, putting spoons into three saucers. (1908, CLMETEV3)

Judging by the examples in (11) and especially (12), the semantics of IPC-constructions resemble those of complement constructions. The semantic relation between the complement and the matrix clause is typically determined by the semantics of the matrix clause predicate. More precisely, a relation is predicated between the matrix clause subject and the situation described by the complement. This relation – abstractly defined – consists in (real or potential) psychological or physical energy either exerted by the matrix clause subject on the situation of the complement or triggered by the situation of the complement in the subject.

Secondly, another indication of the higher degree of integration of IPCs in the matrix clause is the fact that IPCs allow wh-extraction (cf. Los 2005: 48-9, who, following Chomsky 1980, uses this argument to assert the argument status of to-infinitives in Old English). An example of wh-extraction is given in (15).
verbial PCs, both adjuncts and disjuncts resist this operation (albeit to different degrees; see 1.2.5 below). This is illustrated in (16) and (17).

(15) It’s difficult to get the actual legislatures to act, and therefore one has to activate the legislators to do something. And this is what we are busy trying to do, and we have been preparing for this for the last 18 months. (CB)

(16) a. Police late yesterday were still looking for the youth, who escaped on foot wearing a baseball cap and a false beard. (CB)
    b. *The false beard the young man escaped on foot wearing.

(17) a. The operation was successful for the commandos who managed to push the enemy (infantry and armoured units) onto the back foot and keep them at bay for three days, taking over the town of Wyndham, WA, in process. (CB)
    b. *The town that the commandos kept the enemy at bay for three days, taking over in process.

Thirdly, IPCs can never be introduced by subordinating conjunctions such as when, while, if or though. Adverbial PCs allow this option, provided that the semantics of the inserted conjunction do not disagree with the meaning of the sentence. Compare the effect of inserting a conjunction before the IPC in (18) and the adverbial PC in (19).

(18) a. The old man, 65-year-old Anatole Pierre, is busy digging up the roots of a felled mahogany. (CB)
    b. *The old man is busy while/when digging up the roots of a felled mahogany.

(19) a. Stan and his remaining survivor a Chinese man, had radio contact with the Allied forces who tried to send submarines in to rescue them but lost men doing that. (CB)
    b. The Allied forces lost men while/when doing that.

Fourthly, adjuncts – though not disjuncts – can often be questioned by a wh-question using adverbial interrogative pronouns such as how, when or why, as in (20). IPCs, by contrast, generally resist questioning – compare (21a-b). If IPCs are ques-
tioned, the most natural interrogative pronoun to use is what – as is illustrated in (21c) – but notice that questioning then typically requires the addition of a preposition to the matrix clause predicate, which suggests that what is questioned in such examples is not the IPC but a semantically similar gerundial construction with preposition (e.g. Jeff has had a lot of success in breeding Doves). 4

(20) a. We started the season aiming for the top four and a place in Europe. (CB)  
     b. How did we start the season?

(21) a. Jeff has had a lot of success breeding Doves, but for six years kept a par [sic] of Tambourines, without them making any attempt to nest. (CB)  
     b. *How/when has Jeff had a lot of success?  
     c. What has Jeff had a lot of success in?

1.1.3. To summarise the discussion so far, the various characteristics of IPCs, adjuncts and disjuncts are repeated here in Table 1.

[INSERT TABLE 1 ABOUT HERE]

At this point, it is clear that IPCs behave rather more like complements than adverbial PCs. That is, under the various tests listed in Table 1, IPCs and more commonly recognised types of complement clauses show roughly the same behaviour. This is shown in the following examples where the tests distinguishing IPCs from adjuncts (iv-vii in Table 1) are applied to constructions with a gerundial and infinitival complement ((22) and (23) respectively). As is clear from these examples, there is no difference between IPCs and gerundial or infinitival complements in terms of the relation that obtains between the matrix clause and the dependent clause.

(22) a. She’ll throw her toys around and will enjoy making a mess with her dinner. (CB)  
     b. *She’ll throw her toys around and will enjoy. [Omission]  
     c. The mess she will enjoy making. [Wh-extraction]  
     d. *She’ll throw her toys around and will enjoy while making a mess with her dinner. [Adverbial subordinator]  
     e. *How does she enjoy? [Adverbial interrogative]
(23) a. I guess I wanted to be a hero. (CB)
b. *I guess I wanted. [Omission]
c. The hero that I wanted to be. [Wh-extraction]
d. *I guess I wanted while/in order to be a hero. [Adverbial subordinator]
e. *How did I want? [Adverbial interrogative]

At the same time, IPCs differ from gerundial and infinitival complement constructions in at least some respects. Other complement constructions often more strongly resist omission of the complement clause than IPC constructions, as the main clause predicate not just changes meaning, but in fact becomes ungrammatical (as in (22b) and (23b) above). Further, IPCs seem less inhospitable to the insertion of adverbial material between the complement-taking predicate and the complement clause, an operation which at least gerundial complements tend to resist, as is illustrated in (24). Regular complement clauses standardly allow questioning by what, unlike IPCs, which sometimes simply cannot be questioned by a wh-pronoun or at best require the addition of a preposition – compare (21) above with (25). Other complement types can have their own subject, as shown in (26). And, finally, because IPCs are not nominals, they resist some additional operations that are allowed by the more regular complement types, such as (pseudo-)clefting or pronominalisation, as in (27) and (28).

(24) a. Police departments don’t change easily, and Williams had trouble early in his tenure identifying commanders who wanted to follow the community policing model. (CB)
b. In Bao Loc – a highlands hole-in-the-wall four hours north of Ho Chi Minh City, dozens of families were busy last month attempting to turn homes into mini-hotels. (CB)
c. *She enjoys every day making a mess with her dinner.
d. I wanted all my life to be a hero.

(25) a. What will she enjoy?
b. What did I want?

(26) a. Suzie’s parents find it hard to enjoy her making a mess with her dinner.
b. I guess everybody wanted him to be a hero.

(27) a. What she’ll enjoy is making a mess with her dinner.
b. What I wanted was to be a hero.
c. *What Williams had trouble was identifying commanders who wanted to follow the community policing model.

d. *What dozens of families were busy was attempting to turn homes into mini-hotels.

(28) a. She’ll enjoy it.
   b. (?) I guess I wanted it.
   c. *Williams had trouble it.
   d. *Dozens of families were busy it.

Constructions where a gerund is introduced by a preposition, as in (29a), resemble IPCs somewhat more closely than gerunds, because it is often the same predicates that take IPCs that also occur in the prepositional pattern, without much appreciable difference in meaning. At the same time, the characteristics relating to the nominal nature of the gerund also apply to the patterns with preposition, and serve to distinguish IPCs from their prepositional variants. Tests demonstrating the similarities between IPCs and prepositional variants are applied in (29b-e); tests highlighting the differences in (29f-i)

(29) a. I could never get tired of looking at a hog that big (CB)
   b. (?) I could never get tired. [Omission]
   c. The hog that I could never get tired of looking at. [Wh-extraction]
   d. *I could never get tired of while/when looking at a hog that big. [Adverbial subordinator]
   e. *Why/how/when could I never get tired of? [Adverbial interrogative]
   f. What could I never get tired of? [What-question]
   g. My parents got tired of me looking at that hog. [Explicit subject]
   h. What I could never get tired of was looking at that hog. [Pseudo-cleft]
   i. I could never get tired of it. [Pronominalisation]

It may be concluded that the differences between IPCs and adverbials are sufficiently convincing to treat IPCs as a distinct phenomenon, closely resembling other means of clausal complementation. Differences that exist between IPCs and other complement clauses mostly relate to the non-nominal status of IPCs. In other words, IPCs are essentially non-nominal complement clauses headed by a verb form in -ing.
1.2. While the characteristics listed in Table 1 can be used to set IPCs apart from both adjuncts and disjuncts, they do not exhaust the differences that exist between various constructions and say as yet nothing about the possibility of intermediate category membership. With a view to refining syntactic description, it is therefore crucial also to examine the various clusters of related constructions that may qualify – to various degrees – as IPCs. It will become clear from the discussion that not all of the tests used to distinguish IPCs from adverbial PCs yield clear-cut results in all cases. In light of this, it is tempting to view IPCs as a gradient category, with some prototypical IPC constructions possessing all defining features of the class, and other constructions somewhat more closely resembling constructions with an adverbial PC (see e.g. Taylor 1998 on prototype effects in syntax). Such a view, too, should be adopted cautiously, however (see section 3 on the categorial status of IPCs).

1.2.1. At least superficially, IPC-constructions can be classified by the syntactic structure of their main clause predicate. Thus, as a starting point, two major groups of (sometimes only seemingly) similar constructions can be distinguished. The first group consists of predicatively used adjectives combining with an IPC that functions as postmodifier or complement to the adjective. Amply illustrated above, the construction type under consideration is exemplified once more in (30).

(30) New Man, that sociological phenomenon said to treat women as his equal and who is happy *sharing* domestic chores, was pronounced dead yesterday. (CB)

Semantically, the adjectives used in constructions of this kind fall into a number of sub-categories. The first set of adjectives express an emotive relation between the subject of the matrix clause and the situation designated by the PC, specifying how the former is emotionally affected by the latter. These adjectives include bored, comfortable, fed up, happy (as in (30)), tired, uncomfortable and unhappy. A second group of adjectives does not denote a psychological state, but an external judgement predicated of the subject in respect of the situation denoted by the PC. Such adjectives include right, as in (31a), better off, brave, and lucky. A third group of adjectives express a relation of active occupation of the main clause subject in the situation denot-
ed by the PC. These include most notably the adjective *busy*, as in (18a) above, but also, more marginally, *employed, engaged* and *occupied*. Potential members of this group are also the expressions *be gone, be off* and *be out*, as illustrated in (31b). Semantically related to the adjectives of active occupation is a fourth group denoting the manner or degree to which the matrix clause subject is advancing or has advanced in realising the situation denoted by the PC. Adjectives of this kind are *late*, as illustrated in (31c), *long, quick* and *slow*; and the group might be further expanded with the expressions *be done* and *be finished*, as illustrated in (31d-e).

(31) a. The Supreme Court in a five to four decision declared that the officer was right in arresting her; he was right in putting her in handcuffs; he was right taking her into custody, taking her to jail; and it was right to force her to post a bail of more than $300. (Google)

b. [G]enerally I was out *shoveling* long before my ‘young lady’ had her nightcap off. (1869, CLMETEV3)

c. What happens if I’m late *paying* my VAT? (CB)

d. Karen came through the door, lugging the bulky file. “Schultz is done *burning* copies,” she said as she strode to Winters’s desk and plopped the bundle down in front of him. (CB)

e. They must be finished *painting* by now. (CB)

Some of the adjectival constructions under discussion respect all the defining characteristics of IPCs, but this is by no means always the case. The most straightforward members of the category of IPCs are the constructions with emotive adjectives: omission of the PC has a clear semantic effect on the matrix clause predicate, wh-extraction is invariably allowed, insertion of an adverbial subordinator is impossible, and so is questioning by means of an adverbial interrogative (while questioning by *what* works with relative ease, provided a preposition is added to the matrix clause predicate). Moreover, unlike most IPCs, these emotive adjectives resist the insertion of adverbial material between the adjective and the IPCs – when such material is inserted, as in (32), the PC automatically receives an adverbial interpretation (compare this to the examples in (24) above). In light of this, we can safely treat the IPCs with emotive adjectives as genuine adjectival complements.
(32) a. They were never tired *telling* me. (1913, CEN) (‘they were never tired of telling me’)
   b. They were tired yesterday *telling* me. (‘they were tired yesterday when / as a result of telling me’)

A number of the non-emotive adjectives, viz. busy, late, done and finished, also take IPCs approaching genuine complements, even if the semantic effect of omitting the PC is sometimes less dramatic (e.g. if a person is busy making their bed, it is fair to say they are busy, while it is not the case that a person who is happy sleeping on the couch is simply happy). Note further that in the expression *be done* the copula *be* can alternate with the perfect auxiliary *have* – a pattern not shared by any of the other adjectives.\(^6\)

More problematic are the adjectives of the *right*-type. With these adjectives the semantic effect of omitting the PC is again less pronounced. Further, the adjectives right, lucky and brave differ from the above adjectives in that they occur in an alternative though semantically similar structural configuration in which the situation otherwise expressed by the PC is now expressed in a *that*-clause or *to*-infinitive and takes the syntactic function of extraposed subject – compare the examples in (33) (see also (31a) above, where the two uses occur together in a single sentence).

(33) a. Listen, we were really lucky *getting* home at all. (BNC)
   b. Listen, it was really lucky we got home at all.

As to the adjectival expression *be better off*, this pattern resembles right, brave and lucky in being commentative in meaning, but *better off* does not occur in the construction illustrated in (33b). What is more, it is ill-behaved in allowing how-questions instead of what-questions and licensing the insertion of the subordinating conjunctions when or if, suggesting that although they license wh-extraction, the PCs following better off are really adverbial, as is further supported by the possibility of replacing the PC by a PP or adverb without a change in meaning (cp. I’d be better off living under the bridges of Paris and I’d be better off there).\(^7\)

Finally, the same possibility of replacing the PC by a functionally similar adverb is supported by be gone, be out, and be off (cp. He is out working and he is out in the garden), but unlike better off they resist questioning by an adverbial wh-pronoun. In
this light, these expressions might be more suitably analysed as being akin to catenative constructions with lie, sit or stand and a PC, as in (34). As the latter are characterised by the reduced semantic prominence of the main verb (cf. Quirk et al. 1985: 506), a shared analysis for the catenatives and be gone, be out and be off ties in with the intuition that with all of these constructions omission of the PC is not impossible but strongly increases the prominence of the matrix clause predicate.  

(34) He stood breathing gusts of vapor into the snowflakes that flitted about his face and clogged his eyelids. (CB)

1.2.2. The second major group of interrelated constructions involve an IPC attached to a light verb (typically have but sometimes also find or experience) and its semantically ‘heavy’ NP. The IPC can be interpreted as a complement to the whole light verb idiom or as a postmodifier or complement to only the NP. This construction type is illustrated in (35):

(35) a. I give advice to people who are having difficulties getting a job, […] (CB)

   b. […] to believe in the possibility of events that I have a hard time believing will come to pass. (My name is red, p.233)

Again, different semantic sub-classes can be recognised. The most prominent group is constituted by light verb constructions with the NPs (no) difficulty(ies), problem(s) and trouble. Some semantically related but less frequent expressions also take IPCs, such as have (no) success / hesitation, have a tough job or have a hard time. Of these, especially the constructions with difficulty(ies), problem(s), trouble and success conform to all characteristics of IPCs and can be easily interpreted as clausal complement constructions, as they establish a relation between the matrix clause subject and a PC, specifying to what degree the subject is successful in realising the situation denoted by the PC. It is to be noted, however, that the possibility of using the NP along with the IPC without a light verb, as in (36), supports an alternative analysis of the IPC as a postmodifier or complement to the NP.
(36) a. I know the point you made about the difficulties finding evidence but you know the trail doesn’t go cold just because forty fifty years have passed. (CB)

b. Bailey White is on summer vacation from her job teaching first grade in south Georgia. (CB)

Other light verb constructions are built on the NPs business and right, as exemplified in (37). Characteristic about these highly idiomatic constructions is that they always contain a negative element, typically no.

(37) a. The state has no right telling the people what they can and can’t do with their own body. (CB)

b. But they can only search the parts of the house that a person could be hiding in. They have no business looking in a one foot square box for a 6ft. 20stone man. (CB)

Besides the obligatory negative element, these constructions differ somewhat from those of the difficulty-type in that they strongly resist questioning by any question word. Also, it is impossible to use the sequence of NP and IPC without the light verb, so the IPC is unambiguously a complement to the light verb idiom rather than a complement or postmodifier to the NP. The meaning of the construction fits in comfortably with a complement reading, as a relation of (external) permission is predicated of a subject in relation to the activity denoted by the IPC. A final characteristic is that the idiomatic meaning of the construction is lost without the IPC, and that under omission of the IPC the expressions feel incomplete (unless its content is contextually given).

1.2.3. These two major sets of constructions – IPCs with predicative adjectives and IPCs with light verb idioms – do not cover all the constructions showing IPCs. Thus, (38) lists and illustrates a number of less clearly related constructions that appear nonetheless also to involve a complement-like PC, judging by the tests defining IPCs. These include mostly IPCs with other light verbs or verbal idioms – take one’s time (38a), take turns (38b), have one’s hands full (38c), need help (38d) – but also with a few verbs – hesitate (38e), assist (38f) and succeed (38g).
1.2.4. Further, there are a number of construction types whose status as IPC-constructions is doubtful even among its most central members. The PCs in these constructions can be said to approach the adverbial end of the cline from IPC to adjunct. By far the most important group of constructions of this kind is clustered around the prototype illustrated in (39a), which has the verb *spend* in combination with a noun designating a period of time, and a PC designating the activity that the matrix clause subject is taken up in during that period of time. The status of the PCs in these constructions is ambivalent because the construction allows questioning by *how* (39b), but also wh-extraction (39c) and, arguably, questioning by *what* (39d). Insertion of an adverbial subordinator is not allowed (39e), but this may be due to the fact that English lacks a subordinator of manner. The construction is also remarkable, however, because omission of the PC often makes the sentence sound oddly incomplete (39f).
(39) a. He in turn would spend his time boozing and nightclubbing with mates [...]. (CB)
b. How did he spend his time?
c. The mates he spent his time boozing and nightclubbing with.
d. (?) What did he spend his time in?
e. *He in turn would spend his time while/when boozing and nightclubbing with mates.
f. *He in turn would spend his time.

Variants of the construction arise when the time-NP is replaced by an NP denoting material goods, or when the verb spend alternates with the verbs employ (marginally), lose, pass and waste. Notice that with all of these variants omission of the PC is more acceptable. This indicates that the reason for the obligatoriness of the PC with spend TIME is pragmatic rather than syntactic: whereas all things existing spend time by definition and stating so is hardly informative, wasting time and spending goods are optional activities, alternative to using time and keeping goods, which suffices to make them of communicative interest by themselves. Support for this view comes from the fact that spend TIME too can be used without an additional PC if the TIME-NP receives extra modification, as with the NP a restless and weary evening in (40).

(40) After the long conversation between herself and Lord Lackington which followed on the momentous confession of her identity, Julie spent a restless and weary evening, which passed into a restless and weary night. (1903, CEN)

It is also noteworthy that if the PC in a spend-construction is absent and the TIME-NP receives no extra modification, the PC’s place will typically be taken by a PP or adverbial, as in (41). It is this paradigmatic relationship to clearly adverbial elements that suggests that the PCs in this constructions are (semi-)obligatory adverbials rather than IPCs proper.

(41) She arrived in Jamaica in April, intending to spend six months there. (CB)
That it is a thin line separating adverbials from IPCs, however, appears from the fact that some variants of the spend *TIME* construction do take genuine IPCs. Compare in this respect examples (42a-b): example (42a) can still be interpreted as the negated answer to the question ‘how did x waste time?’; in (42b), by contrast, the PC does not denote a manner of wasting time but an activity carried out by the subject without wasting time – that is, *waste no time* here functions as a verbal idiom specifying a relation of immediate (unhesitating) and intentional realisation between its subject and an action of which the subject is the agent. Accordingly, the PC in (42b) cannot be the focus of a how-question, and omission of the PC alters the meaning of the matrix predicate from ‘not hesitate’ to ‘immediately proceed to’.

(42) a. Manchester United wasted no time *mourning* the loss of their Premiership crown. (CB)
   b. Handball by a keeper outside his area in this competition warrants an instant dismissal and the referee wasted no time *waving* a red card. (CB)

1.2.5. Apart from the group of constructions clustered around the expression spend *TIME*, there are some other constructions whose PC allows wh-extraction but otherwise shows no signs of being a genuine IPC or whose IPC-status is at best questionable. Such constructions are therefore best classified as containing a participial adjunct. The underlying point here is that even participial adjuncts can become slightly complement-like in that they tend to hold weak collocational ties with various more or less abstractly specified main clause constructions, in combination with which they form vaguely idiomatic expressions. Characteristic of the main clauses in question is that they contain only one participant (the subject) and therefore carry a relatively low information load. Examples are *go to bed / wake up* (43a), *die / get killed* (43b), *get ADJ* (43c), *VERB of motion* (43d), *VERB of rest / motion + around* (43e) and so on.

(43) a. You can go to bed *thinking* about something and wake up *thinking* about it next morning. (CB)
b. They’re pulling statues down in Moscow these days. And to replace them there are men and women many Russians feel should be honored, such as Andrei Sakharov or the young men who died *resisting* last August’s coup […]. (CB)
c. You may not get rich backing them, but put your cash elsewhere and you’re throwing it away. (CB)
d. The woman enters holding a box of stockings. (CB)
e. At night workers just sat around playing cards or sleeping. (CB)

1.2.6. In view of the preceding discussion, IPCs may be thought of as a gradient category, with some constructions exhibiting all defining features, others exhibiting some, and yet others none at all (cp. Quirk 2004 [1965]). How such a gradient might have to be conceived of is illustrated in Table 2, where a number of constructions are judged with respect to the defining characteristics of IPCs (versus adjuncts) and the additional characteristics that have surfaced in the preceding discussion. Real IPC-constructions are found at the left hand side of the table, whereas constructions whose PC shows more adjunct-like behaviour are found at the right hand side.

[INSERT TABLE 2 ABOUT HERE]

The gradient in Table 2 certainly licenses at least two conclusions. On the one hand, it is difficult (and perhaps impossible) to find criteria that give a unified description of IPCs as a category and strictly delimit them from other categories. On the other, there is no doubt that the PCs in certain environments show complement-like behaviour and differ from adverbial clauses, regardless of whether or not such PCs form a single coherent (if gradient) class. In that respect at least, an analysis of certain constructions in terms of IPCs is justified. A tentative suggestion as to how to interpret the gradient in Table 2 more meaningfully will be offered below (see section 3).

2. Sources and diffusion

2.1. IPCs are a relatively recent phenomenon in English and if they form a category at all, it is an emergent one. This section examines more closely when and – to the extent possible – how IPCs came into being. As will become clear, IPCs did not appear simultaneously, but made their appearance with one predicate type after another over a period of about four centuries, and the manner in which IPCs arose similarly varies from predicate to predicate.
Two of the constructions discussed or mentioned in the preceding section go back a long time, but both are dubious as to whether they are in fact IPCs from the start. Specifically, done is attested with ing-clauses as early as the sixteenth century, but only in the pattern where done is preceded by the auxiliary have, and it is not inconceivable that at this point the construction is in fact gerundial. A very early but somewhat hard-to-interpret example is given in (44a), a clearer instance of slightly later date is given in (44b). Evidence for the possible gerundial origin of the construction is given in (44c-d), revealing nominal characteristics in the -ing-forms following have done. -Ing-clauses following the expression be gone turn up around the same time, but only in the fixed phrases be gone a-hunting / a-fishing / a-birding, as in (45a-b), with a characteristic a-prefix that renders the syntactic status of these forms dubious as well – moreover, as pointed out above, constructions of this kind may have come to lean closer to catenative uses of verbs of motion and rest than to IPCs proper, at least as far as Present-Day English is concerned.

(44) a. and when they had don plahynge, and then begane the sagbottes plahyng, (1553-59, PPCEME1)
   b. 1591 Shakesp., Gent. II, iii, i, ‘twill be this hour ere I haue done weeping (quoted from Visser 1963-73: 2209)
   c. soþ it is þat dymes ben due vn-to prestis in þe olde lawe, but þey weren holdun to do aʒen sleynge of beestis & hard seruyss. (ICAMET)
      ‘it is true that tenths were due to priests according to the old law, but they were obliged to do their own slaughtering of animals and hard work.’
   d. than risith on of the wisist lordis and reportith to the peple gret recomendacioun and preysyng of the kyng, and of þe good governaunce, and done gret thankynge vnto god þat hath sent so excellent a witt vnto the kyng of Iewes to gouerne hem in suche wise (ICAMET)
(45) a. her husband is this morning gone a Birding: (1599, PPCEME2)
   b. sure I thinke she be gone a fishing for her. (1630, PPCEME2)

The earliest straightforward IPCs attested date from the seventeenth century, and occur in combination with the adjective busy (46a-b). The use of obligatory PCs with spend TIME (the IPC-status of which is again questionable, see above) shows up around the same time (46c), although it only becomes common in the course of the
nineteenth century. Another late seventeenth-century innovation is the use of IPCs with **long**, meaning ‘late, slow’ (46d). Other types lag behind considerably, however: There are the IPCs combining with light verb idioms **have difficulty** or **have trouble** (46e), as well as with **take time** (46f), or IPCs with other adjectives than **busy** – including **done** (preceded by **be**) and **tired**, and possibly also **happy** and **late** (46g-h) – all of which first show up in the second half of the nineteenth century. The twentieth century sees further innovations, among which the use of IPCs with the adjectives **bored**, **comfortable**, **finished**, **fed up**, **slow** and **quick** and the light verb idioms **have success**, **have no right** and **have no business** (46i). Another clearly twentieth-century innovation is the occasional use of IPCs as complements or postmodifiers to nouns such as **difficulty**, **job**, **problem**, (**one’s**) **time** or **work** (46j-k).

(46)  
  a. [A]nd so home to supper -- my people busy **making** mince-pies (1666, PPCEME3)  
  b. Charles Smith and William Moon were both tried for stealing a Silver Tankard from one John Morris, value 6 l. they came to drink at Morris’s House, and whilst the Man of the House was busy **waiting** on the other Guests, the Tankard was gone, and the Men too, without paying the Reckoning: […] (1693, Proceedings of the Old Bailey)  
  c. and she spent the whole day **making** herself clean. (1668, Diary of Samuel Pepys)  
  d. Jo. I have almost broke my Brains with studying & contriving, but now I think I have hit on't. Ka. Tis long coming out. (1684-7, PPCEME3)  
  e. Dear Sir,--For a long time past I have had considerable difficulty **deciding** the important question, ‘Who is the master of my own house? Myself, or YOUR SON Lupin?’ (1894, CLMETEV3)  
  f. We were no sooner done **eating** than Cluny brought out an old, thumbed, greasy pack of cards, such as you may find in a mean inn, and his eyes brightened in his face as he proposed that we should fall to playing. (1886, CEN)  
  g. “Lina” took a long time answering the question, but eventually spelt out “ROSES, LILIES, AND COWS.” (1894, CLMETEV3)  
  h. I am quite happy **standing** here alone in a crowd, knowing nobody! (1894, CLMETEV3)
“I was slow figuring it out,” Leaphorn said. “I smelled something about Jackson. But I figured him to act like a Navajo and he was acting like a white man.” (CB)

Work on the horses. Work around the yard. Work trying to get pregnant.

And, nearly a full-time vocation in itself, work raising Marley. (Marley and me, p.81)

Terry [...] said I would only ever get a job collecting supermarket trollies or cleaning donkey shit at an animal sanctuary (The curious incident with the dog in the night time, p.33)

On the face of it, the non-simultaneous appearance of IPCs with different types of heads is reminiscent of diffusional changes, in which a construction becomes increasingly frequent over time and is gradually matched to an increasing number of hosting constructions (cp. ‘extension’ in Harris & Campbell 1995: ch.5). In any case, as IPCs begin to occur in more and more environments, they increasingly run into other (and older) constructions that are equivalent or roughly similar in meaning and with which they have to compete. The diffusion of IPCs is especially marked by competition with gerund clauses introduced by the preposition in, which in many cases turn out to present a very adequate semantic and syntactic alternative to the IPC. Compare in this light the examples in (46) above with the following examples in (47):

(47) a. It was proved that the three Prisoners coming into the house of Temple, and calling for Wine, whilst Wilson and Pain were busie in drinking, Ellenor Davis makes use of the opportunity, taking the silver Salt-seller, marches off unknown to her Companions, whereupon the said Temple missing his Salt seller, apprehends the said Wilson and Pain, as Accessary in the Theft; (1686, Proceedings of the Old Bailey)

b. A friend of his had spent much time in composing a book, and went to Sir Thomas to have his opinion of it; (1753, CLMETEV1)

c. I had more and more difficulty in keeping the fat landlady at arm’s length, and the nasty child was well beaten one day for lingering about my door. (1888, CEN)

d. [O]ur cousin of France is happy in having a cavalier who is so fit to uphold his cause either with tongue or with sword. (1891, CEN)
e. Several agencies have complained that Turkey has been slow in approving projects. (CB)

In order to give some idea of the competition between the two clause types, Table 3 documents the percentage of IPCs to gerund clauses introduced by in with the most common predicates taking either clause type. Figures are given for two historical periods, the transition from the nineteenth to the twentieth century (the period 1850-1922) and the end of the twentieth century (the period 1990-1995), on the basis of material from CLMETEV and CEN, and from CB respectively.¹⁰

[INSERT TABLE 3 ABOUT HERE]

Not all IPC constructions compete or compete exclusively with gerund clauses introduced by in (tired typically takes gerund clauses introduced by of; happy also takes gerund clauses introduced by about, spend TIME has also come to combine with gerunds introduced by on; and so forth). Moreover, the figures in Table 3 should be interpreted cautiously, as what is counted is potential rather than certain IPCs (i.e. constructions allowing an IPC-reading). This granted, Table 3 still provides a strong indication that at least with a number of predicates, the spread of IPCs progressed at the cost of the older gerund clauses with in. Most relevantly however, the table shows that the progression of IPCs did not proceed at the same time and at the same pace with all predicates. Clearly confirmed by the data in Table 3 is the finding that busy and – to a lesser degree – spend TIME started occurring much earlier with IPCs than other predicates. Another striking observation is that IPCs began to combine with some predicates such as be engaged already in the nineteenth century, but have failed to catch on in the course of the twentieth. For the twentieth century, too, it is intriguing to find that while some predicates have come to combine with IPCs exclusively, others are still highly resistant to use with IPCs, despite the fact that their use does not seem ungrammatical. For instance, constructions like those in (48), though apparently well-formed, remain unattested in CB:

(48) a. Values are important in career exploration because people who believe in the goals of their employers and whose values are in synch with their coworkers’ values are more likely to be successful getting and keeping a
job than those whose values conflict with others in the workplace. (Google)

b. One is justified taking the elevator one floor when no stairs are available. (Google)

c. This book was very helpful getting me up and running and doing what I wanted to do--make my website. (Google)

The questions that these findings raise are straightforward but remain hard to answer. First, what mechanisms give rise to the emergence of IPCs? And second, what determines the course and pace of diffusion? Put differently, why are some predicates affected by a change earlier than others?

2.2. The major mechanism in the emergence of the first IPC-constructions has been reanalysis from adverbial clauses. For the adjective busy, potentially ambiguous sequences are illustrated in (49).\(^{11}\) If the presence or absence of a comma in writing is ignored, many instances of busy followed by a PC allow both an adverbial disjunct interpretation and an IPC-reading. On either reading the PC eventually describes what the subject of the matrix clause is busy doing, but on an IPC-reading, the PC restricts the semantic scope of the predicate by narrowing down the matrix clause subject’s activity (as evoked by busy) to the activity denoted by the PC, while on a disjunct reading, the PC elaborates on the main clause and gives the additional information that justifies the speaker in calling the subject busy—information that typically consists in a description of the subject’s current activity.

(49) a. Up, and to the office betimes; and there all the morning very busy, causing papers to be entered and sorted, to put the office in order against the Parliament. (1666, PPCEME3)

b. Thence took coach and I all alone to Hyde Park [...], and so all the evening in the Park, being a little unwilling to be seen there, and at night home, and thereto W. Pen’s and sat and talked there with his wife and children a good while, he being busy in his closet, I believe preparing his defence in Parliament, and so home to bed. (1668, Diary of Samuel Pepys)

c. When nature was most busie, the first weeke / Swadling the new-borne earth God seemd to like, / That she should sport her selfe sometimes, and
play, / To mingle, and vary colours every day. (a1631, John Donne, An anatomy of the world)

e. Mr. John Collins deposed, […] That he saw the Prisoner, who had a Black Patch upon his Nose, in the House Five or Six Minutes, very busy, breaking the Sashes and Frames of the Windows; (1716, Proceedings of the Old Bailey)

f. and by Course a new Consolidator being to be built, they were as busie as ever. Bidding, Offering, Procuring, Buying, Selling, and Jobbing of Feathers to who bid most; and notwithstanding several late wholesome and strict Laws against all manner of Collusion, Bribery and clandestine Methods, in the Countries procuring these Feathers; never was the Moon in such an uproar about picking and culling the Feathers, such Bribery, such Drunkenness, such Caballing […], as the like has never been known. (1705, CEMET)

For spend TIME similar ambiguities are attested, originating from original disjunct uses, as is illustrated in (50). In each of the examples in (50), the PC may be read as a disjunct, elaborating on the matrix clause (whose pragmatic/syntactic requirement for some sort of adverbial is already met by another element), but may also be read as being itself part of the (semi-)obligatory adverbial modification of the spend TIME construction. For instance, talking again about Creed’s folly in (50a) may be a disjunct elaborating the matrix clause, but may also be interpreted as an obligatory modifier of spend TIME, syntactically on a par with the PP with her. Instances of this type could have given occasion for reanalysis as early as the seventeenth century.

(50) a. So to dinner to my Lady Sandwich’s, and there after dinner above in the diningroom did spend an houre or two with her talking again about Creed’s folly; (1665, Diary of Samuel Pepys)

b. Husbandry is another thing that doth occasion men to break; Some will spend their time in Drinking and Gaming, neglecting their business, until they are undone. (1681, LC)

c. but most of the little time I had with them was spent in a silent retiredness of spirit, waiting upon the Lord. (1683, CEMET)
For the adjectival predicates *tired* and *happy* a similar situation obtains, though here the ambiguity seems to lie between IPCs and adjuncts. Thus, PCs following *tired* (especially *get tired*), as in (51a-b), may be adjuncts specifying how or why the subject is getting tired, or IPCs specifying what the subject is getting tired of. Similarly, PCs following *happy*, as in (51c-d), may function as adjuncts describing the circumstances under which the subject is happy, or as IPCs denoting the source or object of the subject’s happiness. Note that whereas *tired* is found in unambiguous IPC-constructions already in the nineteenth century (see examples (1b) and (32a) above), the evidence for *happy* is more difficult to interpret as the sequences with PC found in the nineteenth-century data are nearly all ambiguous between an adjunct and IPC reading, and convincing instances of the IPC construction are only available for Present-Day English (see (12b) and (30) above).

(51) a. But I think I'll try for the mule-buyer. I'm getting tired *looking* at these slab-sided cowmen. Now, just look at those mules--haven't had a harness on in a month. (1904, CEN)
   b. I hope Hannah and John do not get *tired* doing my chores. (1903, CEN)
   c. Yes, I see; but oh, I was so happy *being* a garden flower with the sunshine on my head, and I can't seem to care the least little bit for being a banian-tree! (1893, CEN)
   d. Dearest mother, should we not be very happy *living* together in London? (1850, CLMETEV3)

Very similar ambiguities are found in the Present-Day English data for adjectives such as *(un)comfortable*, *bored* and *fed up*, and it is likely that these constructions went through the same development. This is shown for *(un)comfortable* in (52): (52a-b) illustrate clear adjunct uses, (52c-d) represent the majority of present-day instances in allowing both an adjunct and IPC reading, and (52e-f) favour the IPC reading. The variable interpretations compare neatly to those with the other emotive predicates: adjuncts specify the conditions or circumstances accompanying the situation of feeling comfortable as depicted by the main clause predication, while IPC constructions profile an attitudinal relation of willingness or reluctance between the main clause subject and the action denoted by the PC.
(52) a. [T]hough tall for a woman Jill was still short enough to be comfortable sitting on the bed. (CB)
b. Many immigrants couldn’t use traditional banks because they required a Social Security card, and they also felt more comfortable doing business in their own language. (CB)
c. it was clear that Deborah didn't feel comfortable exploring these issues at this juncture. (CB)
d. I think a lot of men would feel very uncomfortable going to work without a shirt and tie because in their particular field that's what gives them the confidence that they're part of of of the business world (CB)
e. I'm not sure we're looking yet at a real paradigm shift, but the accumulating evidence does make it very difficult to evade the conclusion that here, as in many other areas, there is a good deal more built in than most developmental psychologists had supposed (or felt comfortable assuming) a decade or two ago. (CB)
f. The psychiatrist impressed us as a sensitive and cautious man. After four visits, during which he played with Ted or interviewed Sara and me, he confessed that he was uncomfortable making a diagnosis. (CB)

For the adjective late, evidence is scantier, but it is possible that examples like (53) could give rise to reanalysis from adjunct to IPC. On the adjunct reading, the PC specifies an activity carried out at a late time – i.e. an activity concomitant to the subject’s being late – while on an IPC reading, the PC specifies a goal that is associated with some (implicit) predefined time of realisation, and that the subject fails to achieve at that time (for a clear IPC instance, see (31c) above). Note, however, that the use of IPCs with late might also have been analogically extended from the earlier use of IPCs with long (see below).

(53) a. Heavens, how sleepy I am! No wonder either! Late going to bed last night and up so early this morning. (1913, CEN)
b. He was merely a young man who had been rather late visiting one of the girls. (1893, CEN)
Finally, the light verb idioms have difficulty and have trouble show ambiguity along the same lines (although here too the evidence is less abundant), with PCs that can either be taken to describe the activity concomitant to the subject’s having trouble (adjunct), or the activity the subject’s trouble specifically pertains to (IPC), as is illustrated in the ambiguous examples in (54a-b). In such cases, adverbial PCs and IPCs are in practice indistinguishable. As (54c) conveniently illustrates, the adjunct reading of PCs is still available in Present-Day English, even though many instances will allow no adverbial interpretation at all (54d).

(54) a. Indeed, the captain told me he met difficulty enough navigating the shallow Main, and I think he prefers the deeper Rhine. (1910, CEN)

b. I will not tell the needless trouble I had breaking into that house--afterwards I found the front door was on the latch--nor how I ransacked every room for food, until just on the verge of despair, in what seemed to me to be a servant’s bedroom, I found a rat-gnawed crust and two tins of pineapple. (1897, CLMETEV3)

c. [C]ustomers returning from Indonesia have experienced difficulties when trying to cash American Express traveller’s cheques (CB)

d. I have difficulties getting marmalade in many hotels (CB)

As far as nineteenth century English is concerned, the most important exception is presented by be done, which acquires IPCs without any evidence of a preceding use of participial adjuncts with the same predicate. There is an obvious alternative explanation, however, since the already existent pattern have done with IPC (or gerund?) was in all likelihood extended to be done through analogy. In the nineteenth century have done occurred with and without IPC, as illustrated in (55a-b). On this basis, the use of be done without IPC in the same meaning as in (55c), attested from the end of the eighteenth century (Visser 1963-73: 2079), could be naturally extended to the use with IPC as in (55d).

(55) a. Interrupt me again, and I have done. (1884, CLMETEV3)

b. And when he has done eating, say I should like to have a few words with him, if he doesn’t mind coming up here. (1873, CLMETEV3)
c. 1771 T. Jefferson, Letter to T. Adams in Harper’s Magazine no. 483, One
further favor and I am done. (quoted from Visser 1963: 2079)

d. We were no sooner done eating than Cluny brought out an old, thumbed,
greasy pack of cards, such as you may find in a mean inn; and his eyes
brightened in his face as he proposed that we should fall to playing. (1886,
CEN)

Another exception is the case of be long. In all likelihood, IPCs with be long, which
first appeared at the end of the seventeenth century (see (46d) above) go back on a
gerundial pattern with the same a-prefix as found in be gone a-fishing (cp. (45)
above), as is illustrated in (56a). There is no evidence to support any form of reanaly-
sis from adverbial PCs, but adverbial uses of long, as in (56b), may have contributed
to the loss of the a-prefix. Note that, once occurring with IPCs, be long may have pro-
vided an analogical model for IPCs with be late, and is – along with spend TIME –
particularly likely to have provided the model for IPCs with the light verb take time.
The latter fails to show evidence supporting reanalysis, and the occurrence of the
blend take long, as illustrated in (57), strongly points in the direction of analogical
extension.

(56) a. She shall be welcome Sir, I’le not be long A clapping you together. (1630,
PPCEME2)
b. it soon became a stormy time. The clouds had been long gathering and
threatening a tempest. (1683, CEMET)

(57) I’l warrant you wouldn’t take long getting things shipshape. (1890, CEN)

Apart from the exceptions discussed above, reanalysis gives a natural account of
the semantic and structural change at hand, and follows a recurrent pattern. On the
one hand, the main clause predicates whose PC is reanalysed all implicitly evoke an
elaboration site or e-site, i.e. a schematic participant that is activated along with a
predicate (Langacker 1987, see also Keizer 2004). Busy implies an activity one is
busy with; as emotive predicates, happy and tired imply a source that triggers the
emotion they denote and in relation to which the emotion holds; the light verbs have
trouble and have difficulty imply an intended goal on the part of their subject that
circumstances hinder the subject from reaching, and so on. On the other hand, adver-
bial PCs with these predicates tend to map onto these e-sites by pragmatic implicature. Disjuncts used with busy are used to support the speaker’s claim in the main clause by describing what the subject is busy with. Adjuncts with emotive predicates such as happy or tired strictly speaking only specify the circumstances under which the subject is happy or tired, but these often and naturally coincide with the source of happiness or tiredness. Adjuncts with have trouble or have difficulty describe an activity unfolding concomitantly to the subject’s experiencing difficulty, and since such an unfolding activity is also related to the subject’s intentions and goals – it is the activity the subject is trying to develop successfully – it naturally maps onto the intended goal implicitly evoked by the predicate. Eventually, what happens under reanalysis is that a pragmatic implicature becomes semantised (cf. Traugott & König 1991; Lopez-Couso to appear). The primary consequence of this is that the mapping of the activity in the PC onto the e-site of the main clause becomes explicit and therefore restrictive. That is, the (schematic) activity filling the predicate’s e-site now gets narrowed down to the activity in the PC.

The invocation of an implicit e-site suggests that reanalysis may be guided by an underlying form of analogy (Hollmann 2003; Denison 2004; Fischer 2007: ch.3, p.c.; De Smet 2009). After all, the e-site attributed to adjectives or light verb constructions in most cases already receives formal expression by other means than the IPC well before the reanalysis from adverbial to IPC takes place. For example, the use of IPCs with be tired virtually mirrors the older use of gerunds introduced by of with the same adjective. As pointed out above, nearly all IPC constructions have semantic equivalents of this kind in the form of prepositionally marked gerund constructions, and these equivalents may be thought of as providing the model on which reanalysis from adverbial to IPC takes place. That is, adverbial clauses were reinterpreted as complements on the model of already existent complement constructions in the same environments.

The mechanism proposed to give rise to IPCs receives credibility from the fact that it accords well with general observations from the history of English. That is, the emergence of IPCs instantiates a development towards closer integration in the matrix clause that is typical of adverbial clauses in general and that in each case appears to depend on the same interaction between implicit e-sites and the pragmatic implicatures conventionally attaching to adverbials in specific environments. For example,
to-infinitives presumably derive from purposive adjuncts but have also acquired the
possibility of functioning as verb complements (Los 2005), probably through reanalysis
in environments such as (58a). A somewhat similar mechanism is likely to have
given rise to the use of lest-clauses as complements (Lopez-Couso 2007), again with
ambiguous environments serving as the trigger (58b). For...to-infinitives first showed
up as complements with predicates ambiguous between an intransitive and a transitive
reading, as in (58c) (De Smet 2007). Finally, the typological literature on complement
clauses confirms this pattern of development for other languages than English
(Haspelmath 198912; Croft 2001: ch.9).

(58) a. & blodig regn & fyren fundiaþ þas eorþan to forswylgenne & to
forbærnenne, <HomS 26 206>
‘and bloody rain and fire make haste / strive to devour and consume the
earth.’ (quoted after Los 2005: 48)
b. Alyse me of Esaues handa, mines broðor, for þam ðe ic hyne swyðe
ondræde, þe læs ðe he cume & ofslea þas modra mid heora cildum
(DOEC, c.1000, Genesis 32.11).
‘Deliver me from the hands of Esau, my brother, because I fear him very
much, lest he come and kill the mothers with their children / because I fear
him very much. (I fear) that he might come and kill the mothers with their
children.’ (quoted after Lopez-Couso to appear)
c. First missis’s children fell ill of the measles, just when th’ week I’d asked
for came, and I couldn’t leave them, for one and all cried for me to nurse
them. (1848, E. Gaskell, Mary Barton) (De Smet 2007)

2.3. What can the account in terms of reanalysis tell us concerning the pattern of dif-
fusion attested for IPCs? It is clear that the earliest instances of IPC-constructions
mostly arose in environments that gave occasion for reanalysis from adverbials to
complement or complement-like clauses. It is therefore likely that reanalysis deter-
mined the initial distribution of IPCs over the set of predicates potentially available
for IPC-complementation. This can in turn serve to explain some facts about the order
in which IPCs emerged in different environments.

For example, the account in terms of reanalysis presented above rules out the
initial occurrence of IPCs in at least one syntactic environment, well in accordance
with the actually attested pattern of diffusion. If IPCs appeared in environments where they were reanalysed from participial adjuncts and disjuncts, it makes sense that they did not at first occur as noun complements or noun postmodifiers (as in Present-Day English examples (46j-k) above), since participial adjuncts or disjuncts do not attach to nominal heads. For the sake of illustration, consider the use of complements to the noun difficulty as illustrated in (59).

(59) a. Doctors often may not recognize the symptoms of clinical depression, which can be sadness, low energy, loss of interest in usual activities, difficulties concentrating, changes in eating or sleeping habits, and suicidal thoughts. (CB)

b. He accepted the defence’s argument that Miss Short would not receive a fair trial because of the difficulties in tracing witnesses and evidence that would back her denial of the allegations. (CB)

Taking once more the percentage of IPCs (59a) to gerund clauses introduced by in (59b) as a measure of the success of IPC-constructions in a given lexico-grammatical environment, the lag of IPCs as noun complements is particularly striking: Table 4 compares the percentage of IPCs to gerund clauses with in as complement to the light verb idiom have / find difficulty(ies) and as complement to the freely occurring nominal head difficulty(ies), showing clearly that IPCs are far less advanced in the latter environment (see endnote 9 on counting practices).

[INSERT TABLE 4 ABOUT HERE]

Diachronically, this indicates that IPCs are cascading down from the environments in which they were first reanalysed to new environments unaffected by the original reanalysis, with some form of analogical extension operating as the underlying mechanism. Thus, the initial emergence of IPCs through reanalysis ties in with and partly explains the order of appearance of IPCs in different environments.

Reanalysis explains differences in timing in another respect as well. The account presented above distinguishes between disjunct-based reanalysis for busy and spend TIME, and adjunct-based reanalysis for have difficulty, have trouble, be happy, be tired and so on. In other words, IPCs with busy and IPCs or obligatory adjuncts with
spend TIME are claimed to derive from disjuncts, while other IPCs are claimed to derive from adjuncts. This distinction is of some importance because it provides a possible explanation for the remarkable head start of busy in taking IPCs as compared to other IPC-taking predicates (cf. Table 3 and the examples in (46) above). Specifically, adjunctively used PCs are themselves a spreading construction, having gradually grown more frequent over the past four centuries. To show the progression of the construction, Table 5 gives estimates of the relative frequency of participial adjuncts in three sub-periods. The possibility of reanalysis from adjuncts in a given environment is of course dependent on the recurrent presence of adjuncts in that environment. Therefore, the increase in the use of participial adjuncts created more opportunities for reanalysis, and therefore bears indirect responsibility for the simultaneous appearance of a range of IPC-constructions around the end of the nineteenth century.

[INSERT TABLE 5 ABOUT HERE]

Turning from adjuncts to disjuncts, and comparing the figures in Table 5 to the situation for disjunctively used PCs, it is found that the latter also saw an increase in use, but the main surge in frequency occurred much earlier in the transition from the Middle to the Early Modern period. Moreover, in all periods disjunctively used PCs vastly outnumbered their adjunctive counterparts (relative frequencies for disjuncts are found in Killie & Swan 2006). There is considerably less ground, therefore, to suspect that disjunct-based reanalysis would have been delayed by frequency-dependence in the same way as adjunct-based reanalysis. In combination, then, the differently timed developments of participial disjuncts and adjuncts, and the different starting points for reanalysis to IPCs can account for the time-lag between the use of IPCs with busy and other predicates. Furthermore, disjunct-based reanalysis may also account for the use of obligatory adjuncts with spend TIME at a time when adjuncts were still highly infrequent in other environments.

Other details of the order in which various predicates began to select IPCs can be explained in a similar fashion. For example, it has been suggested above that among the emotive predicates, be tired was probably the first to acquire IPCs, followed by be happy and other adjectival predicates. This sequence of events ties in with changes in the use of participial adjuncts, which not only grow in number in the course of the Late Modern period (as shown in Table 5 above), but also spread to new
sub-uses. Already in the nineteenth century adjuncts quite readily combine with change of state predicates, especially with the verb *get*, specifying the manner or cause of the subject’s moving from one state to another, as shown in (60). The use of adjuncts with *(get) tired* that probably gave rise to IPCs with the same adjective can be seen to instantiate this schematic pattern of co-occurrence (as is illustrated in (51a-b) above).

(60) a. You couldn’t walk to-morrow if you took all the free samples of solid gold the boys would offer you. You’d get dizzy *looking* down prospect holes. (1905, CEN)
   b. then Snowdon and a son as he had both got drowned *going* over a river at night. (1889, CEN)
   c. I began to hope, although I’d got wrinkles *crying* about him. (1900, CEN)

By contrast, in the nineteenth century, predicates expressing an emotive state (rather than a change of state) only sporadically combine with adjuncts specifying the circumstances related to that state, as in (61a-b). This schematic pattern accounts for the adjuncts getting reanalysed to IPCs outside the change of state pattern, and the fact that it only became current in the course of the twentieth century correlates with the time of emergence of IPCs with emotive adjectives such as *happy* and *comfortable*.

(61) a. He could not go on with his honeymoon, so he would go up to London and work--he felt too miserable *hanging* about. (1910, CLMETEV3)
   b. She remembered how she was reproved for peeping over her neighbour’s shoulder, and how proud she felt *sitting* among all the workwomen. (1885, CEN)

Again, then, the dependence of the first IPC-constructions on reanalysis can be brought to explain facts about the specific order of emergence of different specific combinations.

2.4. Despite the strong case that can be made for reanalysis, not all is reanalysis. In particular, analogical extension has played its part as well in the diffusion of IPCs. While some form of covert analogy may have supported reanalysis (see section 2.2
above), analogy is also likely to have operated as an independent mechanism of change and as such to have played a role in the development of IPCs outside environments licensing reanalysis. Thus, IPCs also appeared in a number of environments where their use is not foreshadowed by adverbial participle clauses. Assessing the influence of analogy, analogical extension seems to be a weak (or at least slow) force that mostly works locally (cp. De Smet 2007 on for...to-infinitives), and that, in the case of IPCs, seems not yet to have run its full potential course.

There are some relatively successful IPC-uses whose existence is most readily explained by analogical extension. There is the example of be done discussed earlier (see (55) above), whose use with IPCs from the end of the nineteenth century onwards is probably not the result of reanalysis but is based on the use of IPCs (or some kind of -ing-clause) with have done, and which in turn is likely to have formed the basis for the occasional use of IPCs with be finished in Present-Day English. Another nineteenth-century example discussed above is the possible extension of IPCs from be long to take time (with the possible help of the spend TIME pattern and the blended pattern take long). A more recent example may be the use of IPCs with have no right and have no business, which could analogically derive from the use of IPCs with other light verb constructions such as have (no) trouble / success etc. The analogue link is not altogether straightforward, but syntactic farfetchedness may here be iconic of the emotional load these expressions tend to convey (have no right and have no busi-
ness typically signal indignation) – that is, marked syntax is motivated by marked semantics.

In other cases, likely instances of analogical extension are somewhat less successful, so that while analogy can be imagined to foster all kinds of new IPC uses, in practice it mostly appears to remain somewhat ineffective. A truly innovative but otherwise relatively unsuccessful case of analogical extension is presented by the use of IPCs with simplex verbs, such as assist, hesitate or succeed, as in (62) (or (38e-g) above), the occurrence of which has so far remained restricted to a few scattered instances in the corpus material. Note further that, as with have no right and have no business, the analogical models on which the simplex verb formations are based are not altogether straightforward, although there do exist semantic and formal relations linking the simplex verbs to other, more common IPC-taking predicates. Semantically, assist can be linked to need help (see example above), hesitate to have no hesita-
tion which in turn relates naturally to have (no) difficulty, succeed to have (no) suc-
which in turn is again linked to have (no) difficulty. Formally, assist and succeed (though not hesitate) can be construed with gerund clauses introduced by the preposition in, just like many other IPC-taking predicates.

(62) The Town Council, who are the Local Health /Authorities, have been condemning many old properties recently, and are pressing proprietors to put their houses in order; but they have been considerably hampered by the great scarcity of houses, and naturally hesitate taking action which would have people removed with no place to house them. (Google)

Another likely instance of analogical extension is presented by the use of IPCs with engaged, occupied, and employed as in (63), probably based on the use of IPCs with busy. But as the figures in Table 3 above indicate, here too analogical pressure seems to be insufficient to forward these uses beyond occasional occurrence.

(63) a. Winter in a Flat racing yard is the most hated time of year for stable lads. It’s the time they’re engaged breaking in the yearlings and, apart from the odd all-weather card, there are no race meetings to break the monotony. (CB)

b. […] in a densely peopled quarter of the city, such as in our own day we should call a slum, where folk were employed making those articles which ministered to the comfort of the luxury of the more fortunate […]. (1903, CEN)

c. He had hurled his lasso with the rest, and it was trailing. He jerked about and fled for a mile or more, holding on with his legs while both hands were occupied gathering in the rope and coiling it about the high pommel of his saddle. (1898, CEN)

Similarly, analogical extension is likely to have been at play in the use of IPCs as noun complement to, for instance, the noun difficulty. Again, however, the data discussed earlier (see in particular Table 4 above) reveals that the extension of IPCs from one environment to another is hesitant. This lack of extendability is most conspicuous, finally, for emotive adjectives: while these seem to be well-represented among the IPC-taking predicates and seem to form a natural basis for analogical extension, there
still exist a good number of common emotive adjectives that remain unattested in the pattern in CB, including annoyed, delighted, excited, glad, sad, sorry, surprised, upset and so on. In sum, a number of innovative IPC uses are most easily explained as the outcome of a process of analogical extension. These extensions show IPCs to be a (mildly) productive syntactic pattern. At the same time, it is certainly not the case that analogy causes IPCs to disperse easily or quickly from one lexico-grammatical environment to another.

2.5. To summarise the preceding diachronic overview, Table 6 lists some of the different items discussed and their most likely historical source. As the Table shows, developments start out with IPCs appearing with various more or less isolated predicate types, primarily as a result of reanalysis. Only in the course of the twentieth century does analogical extension become the dominant mechanism of change. (Note that the term ‘reanalysis’ is to be understood in the qualified sense proposed in section 2.2 above.)

[INSERT TABLE 6 ABOUT HERE]

3. What are IPCs?

3.1. Having given a synchronic characterisation of IPCs and having examined their origins, it is time to tie together the previous findings and come to a view of what exactly IPCs are. Based on the preceding discussion, the following two-part definition can be given:

(i) a. Synchronically, IPCs are non-finite clauses with a main verb in -ing that differ from adverbial participial clauses in showing complement-like behaviour, but differ from most other complement types in not showing any nominal features.

b. Diachronically, IPCs derive from adverbial participial clauses that became interpretationally dependent on the semantics of their matrix clause predicates through reanalysis. After reanalysis had given rise to the first IPC constructions, analogy contributed to further spreading IPCs to a number of new environments.
Let us begin by looking at the diachronic side of the definition. As a diachronic phenomenon, IPCs can be situated at the cross-roads between a number of general characteristics of language and the specific history of English. Following Croft (2001: ch.9), language users have different ways of conceiving of (or ‘construing’) the relation between two situations, which is grammatically reflected in, among other things, the difference between adverbials and complements in relation to their matrix clauses: in a complement construction one situation is perceived as a core participant in another situation (e-site elaboration), while in an adverbial construction one situation functions as the background against which the other situation unfolds (figure-ground configuration). Although adverbial and complement clauses are in this view conceptually distinct, there are at least two reasons why the boundaries between the two are not too strict. On the one hand, e-site elaboration is not an all-or-nothing affair. Because the requirement of a complement is dependent on the expectation of an extra participant linked to the complement-taking head, not all complements are ‘obligatory’ to the same degree (Langacker 1987; Keizer 2004) and e-sites often remain unelaborated. On the other, it has been observed that “adjunct-less intransitive clauses are rare” (Quirk et al. 1985: 506) – in other words, intransitive predicates are unlikely to occur without any further adverbial modification. In combination, implicit e-sites and the relative obligatoriness of adverbials form a breeding-ground for the emergence of new complement-types – a development further fuelled by the existence of other complement constructions that may serve as (covert) analogical models. As far as English is concerned, it has been argued here that the rise in discourse frequency of new adverbial types – participial disjuncts from the beginning of the Early Modern period, as well as participial adjuncts from about the nineteenth century – boiled over into the appearance of a new complement type – IPCs. Diachronically, then, IPCs represent a natural historical development.

It is also clear from the preceding discussion that the origin of IPCs does not lie exclusively in the development of adverbial clauses into complement clauses. The role of adverbial PCs is hard to ignore in the emergence of IPCs, yet other sources exist as well (see Van de Velde, De Smet & Ghesquière 2013 on the role of multiple source constructions in language change). The cases of have done and be long illustrate that sometimes gerund clauses rather than adverbial PCs may have provided the
precedent to IPCs, and that the emergence of IPCs in those cases did not require reanalysis at all. So, even though synchronically there is no straightforward way of distinguishing between the \textit{-ing}-clauses following – say – \textit{be tired} and \textit{be long}, their historical origins differ. If these various constructions can indeed all be classed together as instances of the same IPC construction (a question to be addressed below), they illustrate how a category may expand through historical accident rather than anything else.

3.2. The synchronic status of IPCs is more difficult to assess, as IPCs confront the analyst with synchronic vagueness that extends in at least two directions. On one, ‘horizontal’, axis, IPCs have been shown to take variable positions along a gradient from adverbial to complement (see Table 2 above). The question to be asked here is what is the meaning of this gradient? On another, ‘vertical’, axis, we need to find out what position IPCs take in a constructional hierarchy and whether IPCs as such form a linguistic category that is representative of speakers’ internalised knowledge of language. In other words, do IPCs function as a single construction?

In order to deal with the gradient along which IPCs are situated, a plausible solution is to relate the ordering of various predicates to the conceptual cline running from typical figure-ground configurations to e-site elaboration. It is a matter of degree whether a situation is seen as providing the background against which another situation is profiled, or as one element in an interaction with another participant. However, while it is easy to see why the conceptual boundaries between these two relation types are non-discrete, there is no easy way to account (in a non-circular way) for the specific positions that predicates take along the cline from one relation type to the other. The factor most likely to matter is of course the semantics of the IPC-taking predicate involved. That is, somehow the semantics of different IPC-taking predicates lead to those predicates assuming different positions on the gradient from adverbial to complement.

Importantly, this view is independently supported by the diachronic behaviour of the adverbial-to-complement gradient. If the position of a predicate on the gradient depends on its lexical semantics, we do not expect predicates to move along the gradient unless their meaning changes. Indeed, there is no indication that the IPCs with \textit{busy}, once reanalysed as such, went on to become more resistant to omission in the course of the last four centuries; that the obligatory adjuncts with \textit{spend TIME} gradu-
ally became more resistant to questioning by an adverbial interrogative; and so on. That is, once reanalysed, IPC-constructions stay where they are, fixed in some stable position along the adverbial-to-IPC cline. The fact that different constructions seem to be more or less ideal members of the class of IPC constructions, then, is not due to a diachronic development causing various elements to gradually move along a cline toward greater IPC-construction-hood. Rather, it is due to the lexical properties or requirements of the specific matrix predicates involved. This confirms Traugott & Trousdale’s (2010) claim that synchronic gradience does not necessarily reflect diachronic gradualness. The occasional exception proves the rule. As hinted earlier, some instances of the spend TIME construction have in fact moved up the cline from adverbial to complement, but this change is accompanied by semantic change in the matrix clause predicate itself – see the discussion of the phrase waste no time (section 1.2.4, contrasting examples (42a-b)).

But how precisely can the semantics of IPC-taking predicates be linked to a cline from figure-ground construal to e-site elaboration? On a tentative note, I would suggest that what ultimately determines the position of a predicate is the strength or impact of the interaction it expresses between two participants – that is, the degree to which the state of the subject can be conceived to be dependent on or responsible for the state of the situation expressed in the PC. The more clearly the process denoted by a predicate follows from a specified state in one participant and results in a specified state in the other participant, the higher the probability that the predicate will indeed be perceived as designating an interaction between the two participants, and the stronger and more intrinsic the cognitive link that will activate (the expectation of) the second participant essential to a relationship of e-site elaboration (see De Mulder 2007 on ‘force dynamics’). The hierarchy suggested resembles Givón’s (1980) binding scale or Hopper and Thompson’s (1980) scale of transitivity, but only in part since it does not immediately matter whether influence runs from the first participant to the second or vice versa. Primarily, what matters is whether and to what degree some influence or interaction is likely to be perceived by the language user. For example, be busy and have trouble are ranked higher than spend TIME because they imply greater activity and intentionality on the part of the subject and thereby create a stronger link to a second participant in the form of a particular goal. In turn be tired and other emotive predicates are ranked slightly higher than be busy and have trouble because while the outcome of the subject’s goal-oriented activity is indeterminate in the case of be
busy and have trouble, there is an outspoken effect of one participant (the situation in the PC) on the other (the subject) in the case of be tired: the PC designates a source that triggers a certain emotion in the subject.\textsuperscript{15} By hypothesis, a scale of this kind from weaker to stronger interaction may provide the required semantic underpinning of the gradient attested in the data.

That said, part of the behavioural variation between different IPC-like constructions is explained by other factors. To name only those that surfaced in the preceding discussion, there is the role of pragmatics (e.g. spend TIME, unlike waste TIME, is uninformative without further modification), and there is the interference of other construction types than complement and adverbial constructions (in particular, the role of catenative patterns as in the case of the PCs following verbs of rest). Further, the results of syntactic tests may be obscured by accidental (or at least not directly relevant) characteristics of the language (e.g. not all adverbial relations have a corresponding adverbial interrogative) and by strong idiomaticity in the constructions tested (as might, for instance, be the case for the IPCs following have no business). Thus, while a semantic cline from adverbial to complement relations is responsible for part of the attested syntactic variation, the situation is complicated by a number of unrelated factors.

Turning to the second question, we must ask whether IPCs form a synchronic category. For this to be the case, IPCs would have to meet the requirement that they all instantiate some more abstract pairing of form and meaning (Langacker 1987; Goldberg 2006). Such categorial status could be attributed to IPCs if they show (i) some distinctive formal feature, (ii) a semantic idiosyncrasy unpredictable from their formal make-up (in the sense of Goldberg 1995), or (iii) some distributional restrictions that could be specified coherently (in the sense of Pawley and Syder 1983). If recognised as a category, IPCs could receive their own place among other complement types, which can typically be shown to carry their own meanings and to be stratified over the inventory of complement-taking predicates accordingly (see e.g. Bolinger 1968; Givón 1980; Noonan 1985). Consequently, a number of views are logically possible:

(ii) a. IPCs fall apart as a synchronically unrelated set of purely idiomatic complement constructions with limited productivity
b. IPCs are an independent and internally coherent category, a distinct complement type in the system of complementation

c. IPCs are marginal members of the larger category of -ing-complements

Adopting a view of language as organised along constructional hierarchies, there is even a fourth option stating that the three possibilities under (ii) are simultaneously true. Although, strictly speaking, the issue cannot be solved conclusively on the basis of the available data, it seems that the last option is in fact the most plausible. Let us look at how the three types of evidence – formal, semantic, and distributional – point to this conclusion.

Relying on distributional evidence, it is not difficult to see IPCs as occurring in a set of separate semi-productive idioms: clearly a number of different prominent schemas exist around which IPC-taking constructions are clustered, most prominently the constructions with adjectival predicates (be busy, be tired and so on), light verbs (have difficulty, have trouble and so on), and – if accepted as genuine IPC-taking predicates – the spend verbs (see 1.2 above). This ignores the existence of various other constructions taking IPCs, but even if those are included in the picture, the strong association of IPCs to a number of half-schematic environments is evident. To the extent that these environments are unrelated to one another, IPCs are heterogeneous in distributional terms. Still, it is worth pointing out that, looking at the distribution of IPCs over different predicate types, some connections exist between the various clusters of uses. For instance, there is a straightforward connection between the adjectival pattern and the light verb pattern in the use of IPCs with have success and be successful. Similarly, the distance between the spend TIME pattern and the adjectival patterns is partly bridged by the use of IPCs with take time, take long, be long, and be late. Thus, the distributional evidence suggests that the status of IPCs is somewhere between that of a set of unrelated idioms and a weakly productive complement construction.

Semantic arguments can be used to support the entirely different position that IPCs should be counted among the more general group of -ing-complements. Some IPC uses can be identified as idiomatic on semantic grounds because their component parts do not predict the meaning of the composite construction, e.g. the IPC constructions with have no business or waste no time. This granted, however, it is generally true that IPC constructions do not carry any semantic specifications beyond what is
predictable from their component parts. None of the matrix clause predicates combining with IPCs have to be attributed senses they do not have in other constructions. Furthermore, IPCs themselves appear not to differ semantically from other -ing-clauses. Attempts to capture the meaning of the -ing-suffix can be safely extended to include IPCs (e.g. Langacker’s semantic characterisation of the suffix as construing the process denoted by the verb stem “holistically” and, at the same time, “as being effectively homogeneous” as “a representative series of internal states” (1991: 443)). In semantic terms, then, IPC constructions do not differ in any obvious way from other patterns of -ing-complementation.

As for the formal arguments, IPCs are distinguished from nearly all other complement clauses by the -ing-form of their main verb and from gerund clauses by their non-nominal character. This looks like a strong argument in favour of viewing IPCs as an independent category, but notice that the formal distinction between IPCs and gerunds is in fact based on largely covert (i.e. test-dependent) criteria, and therefore less persuasive than the distinction from other complement types based on the overt presence of the -ing-suffix. Covert criteria may in fact be ignored when doing so results in a unified analysis of otherwise identical patterns (cp. Goldberg 2006: ch.2). Moreover, the nominal nature of the gerund is itself not above suspicion. As is well known, gerunds have been losing nominal features throughout their history. This is true not only of the internal syntax of gerunds (Fanego 2004), but also of their distribution over syntactic environments. Thus, over the past centuries, evidently un-nominal uses have surfaced that would be poorly analysed if treated separately from more clearly nominal examples. For instance, gerunds have come to be used in extra-position and pseudo-extraposition constructions, as in (64a), have spread to various idiomatic environments where they no longer have a strictly nominal alternative, as in (64b), and at least in Present-Day English even occasionally allow subject raising, as in (64c). As a result, none of the gerunds in (64) can be replaced by an ordinary NP.

(64) a. Alice laughed. ‘There’s no use trying,’ she said: ‘one CAN’T believe impossible things.’ (1865, CLMETEV2)

b. Luckily, Boomerangs have a habit of returning. (CB)

c. Nearly two tons of pure cocaine has been stopped getting on the market. (CB)
The extent to which IPCs are seen as a formally distinct category, then, depends on the importance attached to covert syntactic criteria. Even if covert criteria are accepted, however, it is difficult to isolate IPCs entirely from gerund constructions since other -ing-clauses whose origins are more clearly gerundial also show occasional non-nominal behaviour.

The synchronic ambivalence of IPCs is reflected diachronically in the mechanisms that gave rise to them. Being primarily dependent on reanalysis, the emergence of the first IPCs could theoretically have occurred in different environments independently. The prominence of reanalysis can therefore be invoked to support a view of IPCs as a loose set of separate constructions. However, the more recent instances of analogical extension are indicative of a certain degree of productivity beyond isolated, semi-idiomatic constructions, which supports a view of IPCs as an independent category, at least for Present-Day English. Moreover, since reanalysis may have partly depended on a form of hidden analogy anyway, there is no reason to exclude the possibility of a broad category – however marginal – that encompasses both nominal and non-nominal -ing-complements.

4. Conclusion

It has been suggested that grammars change because they leak (Denison 2004). True as this is, the opposite is also true: grammars leak because they change. IPCs instantiate a change from adverbial to complement. This change requires a certain amount of gradience in that it depends on the possibility of construing certain predicates either as semantically transitive or intransitive. In the terminology of the preceding discussion, the change from adverbial to IPC is possible because predicates have an elaboration site that is sufficiently weak to be left implicit but sufficiently strong to assert itself and attract a new complement-type. At the same time, the change from adverbial to IPC creates gradience, in that a new set of constructions emerges whose categorial status confuses existing categorial boundaries – in particular, the boundaries of the English gerund as a nominalisation – and also creates new fuzzy boundaries – in particular, the boundaries between the IPC constructions themselves. Finally, the IPCs that get reanalysed fall by their nature into patterns of gradience related to the non-discrete relationship between complementation and adverbial modification.
Frustrating though it may be, the finding that IPCs refuse to form a neat category is not unlikely to reflect speakers’ actual linguistic knowledge. Such knowledge, after all, is generalised from much the same data as the present analysis.

Notes

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2 Data used in this paper have been collected from various corpora. Present-Day English material has been gathered primarily from the Collins Cobuild Corpus (CB) (containing about 56 million words), and occasionally from the British National Corpus (BNC), the International Corpus of English – Great Britain (ICE-GB), Google, and occasional printed sources. Historical data have been gathered primarily from the extended version of the Corpus of Late Modern English texts (CLMETEV) (the last section of which covers the period 1850-1920 and contains about 6.3 million words) and the Corpus of English Novels (CEN) (which covers the period 1881-1922 and contains about 25 million words) (for more information on these, see the website http://perswww.kuleuven.be/hendrik_desmet). Where necessary the historical data have been supplemented with data from the Penn Parsed Corpus of Early Modern English (PPCEME), the Corpus of Early Modern English texts (CEMET), the Lampeter Corpus (LC), the Proceedings from the Old Bailey, and the Innsbruck Middle English Prose Corpus (ICAMET).

3 Incidentally, adjuncts can occasionally be controlled by the subject of a previous clause, as in the following example: Third party developers were reluctant to release applications for Windows, complaining that it was slow. This was certainly true running on the 6MHz ATs of the day (ICE-GB).
An alternative questioning strategy avoids the addition of a preposition and instead makes use of extraposition, keeping the IPC-slot filled with semantically ‘empty’ doing and using the question word what as its extrapo
dosed object, e.g. what did Jeff have a lot of success doing?

The fact that to-infinitival complements less strongly resist the insertion of ad
verbial material between main verb and complement may reflect the lower de
gree of ‘nouniness’ of to-infinitives as compared to gerund clauses (Ross 1973),
or may reflect the fact that, like IPCs, to-infinitival complements historically de
rive from adverbial constructions (see section 2.2).

Note that if finished shows the same alternation, this remains invisible since the pattern with have is indistinguishable from the verb complement construction with gerund clause.

The same possibility of inserting when or if applies to the adjectives occupied, engaged and employed when preceded by the adverb better.

For be gone this statement may have to be qualified: John is gone fishing implies that John went out purposely in order to go fishing – an implication of inten
tionality that is missing with John is gone.

Notice that in Table 2 characteristics a. (omission of PC renders matrix clause ungrammatical) and c. (omission of PC changes semantics of matrix clause predicate) are logically linked. If under omission of the PC the meaning of a predicate changes it still has to be grammatical, while if a predicate becomes ungrammatical, presumably we can no longer say anything about its meaning.

The manner of obtaining figures differs slightly for the two periods represented in Table 3, due to the different concordancing programs used to access different corpora: CEN and CLMETEV were accessed using Wordsmith Tools 3.0; CB could only be accessed using the interface that comes with the corpus. Differences apply to sampling methods and to the search strings used. Thus, the percentages in Table 3 are based on samples when corpus searches yielded too many instances. Samples were taken for be busy and spend TIME in the period 1850-1920, which were sampled at 1/3 hits and 1/12 hits respectively, and for spend TIME, be happy, be late, be slow, have difficulty and have trouble in the period 1990-1995, which were sampled at 200 hits for be happy and be slow and 150 hits for the other predicates (with the differences in sample sizes compensating for the amount of junk hits with some predicates). The search strings that
were used were based on the main lexical word in the predicate (e.g. busy, happy, and so on) followed by a gap of zero to one words, followed by a word ending in -ing for the period 1850-1920, or a form tagged VBG (i.e. verbal form in -ing) for the period 1990-1995 – for the expression spend TIME, the gap between spend/spends/… and the form in -ing was zero to five words, so as to leave room for the TIME-NP. Note finally, that it is not always easy to distinguish between IPCs and participial adjuncts (see further section 2.2) or between the gerunds with in that function as complement and those that function as adverbial. For this reason, counts are based on instances that can be interpreted as IPCs or complement uses of the gerund with in.

11 The construction with busy and IPC or disjunctive PC is particularly frequent in the diary of Samuel Pepys (49a-b), although as the examples show, it occurs elsewhere as well (49c-e). The same is true for the construction with spend TIME, which is also strikingly frequent in Samuel Pepys’ diary; here too, however, the ambiguous instances are found both in the writings of Samuel Pepys (50a) and elsewhere (50b-c).

12 Concerning Haspelmath’s universal pathway of change from purposive adverbial clause to infinitival complement it may be added that the change does not necessarily run its full course and may in fact recede again (Fischer 2000).

13 The figures for the period 1640-1710 are based on a subpart of PPCEME3, containing about 95,000 words of running text, on the basis of a corpus search on the orthographical sequence -ing. The figures for the period 1850-1920 were obtained in similar fashion, carrying out a similar search on -ing on a subpart of CLMETEV3 containing about 89,000 words. The figures for Present-Day English were obtained from the tagged and parsed ICE-GB corpus. The ICE-GB corpus was not searched for -ing (which the corpus interface does not allow) but for all verb phrases tagged as -ing-participles (ICE-GB was preferred to CB because the latter’s interface neither allows searching on parts of words nor on tags unaccompanied by lexical material). To increase comparability with the historical data only subsections of the corpus were sampled, using different sampling rates to adjust the balance between text genres: the sections Non-academic writing, Reportage, Instructional writing and Persuasive writing were sampled at 25%, the section Creative writing was sampled at 50%. Together, the sampled sections are good for an estimated 69,000 words of text.
Figures should be interpreted cautiously, since it is sometimes difficult to distinguish participial adjuncts from participial disjuncts. The presence of an explicit subject has been regarded as a fully reliable criterion to separate disjuncts from adjuncts. Less reliable is the presence or absence of a (written) comma; instead, in case of doubt the scopal tests described in section 1.1.1 were given priority in determining the adjunct/disjuncts status of a given adverbial participle. The estimated frequencies given in Table 5 are conservative, in that adjuncts have only been recognised as such when an adjunct reading yields the most plausible interpretation in context. One specific difficulty is presented by the Present-Day English data, which contain the fairly frequent use of the participle *using* in a somewhat grammaticalised form, as a semi-preposition roughly meaning ‘with, by means of’ (e.g. *do not open the can using a knife*). Because it is practically impossible to distinguish prepositional from non-prepositional uses, instances of this kind have not been counted. When included, the estimated frequency of participial adjuncts would rise to about 29 instances per 100,000 words for the period.

Incidentally, as Langacker (1991b: 326-7) points out, an experiencer is to some extant an active participant in event structure since experiencing requires the establishment of mental contact with the thing experienced as well as the activation of some cognitive representation (cp. Hollmann 2003: 59).

Admittedly, as far as IPCs are concerned such characterisations remain hard to prove on non-intuitive grounds. Evidence for the semantic characterisation of the *-ing*-suffix comes from the distribution of the progressive tense and from the mass noun-like behaviour of gerunds in a number of environments (Langacker 1991; Heyvaert 2004). It may be assumed that other *-ing*-constructions inherit their semantics from such uses.

References


Table 1. Characteristics of IPCs, adjuncts and disjuncts.

<table>
<thead>
<tr>
<th>IPC</th>
<th>Adjunct</th>
<th>Disjunct</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
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</tr>
<tr>
<td>+</td>
<td>-</td>
<td>n/a</td>
</tr>
<tr>
<td>Enjoy</td>
<td>Have no business</td>
<td>Be tired</td>
</tr>
<tr>
<td>-------</td>
<td>----------------</td>
<td>----------</td>
</tr>
<tr>
<td>+</td>
<td>?</td>
<td>-</td>
</tr>
<tr>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>n/a</td>
<td>?</td>
<td>+</td>
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</tbody>
</table>

i. Omission of PC renders matrix clause ungrammatical
ii. No insertion of adverbial material between predicate and PC
iii. Omission of PC changes the semantics of the matrix clause predicate
iv. PC cannot be questioned by adverbial interrogative pronouns
v. PC resists insertion of subordinating conjunctions
vi. PC allows wh-extraction

Table 2. IPCs as a gradient category.
<table>
<thead>
<tr>
<th>Matrix predicate</th>
<th>1850-1922</th>
<th>1990-1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be busy</td>
<td>93.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Spend TIME</td>
<td>43.0%</td>
<td>98.9%</td>
</tr>
<tr>
<td>Be happy</td>
<td>25.0%</td>
<td>98.9%</td>
</tr>
<tr>
<td>Be late</td>
<td>24.2%</td>
<td>46.9%</td>
</tr>
<tr>
<td>Take turns</td>
<td>22.3%</td>
<td>85.7%</td>
</tr>
<tr>
<td>Have trouble</td>
<td>17.6%</td>
<td>94.3%</td>
</tr>
<tr>
<td>Have difficulty</td>
<td>1.5%</td>
<td>72.1%</td>
</tr>
<tr>
<td>Be engaged</td>
<td>1.3%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Be slow</td>
<td>0.0%</td>
<td>18.2%</td>
</tr>
<tr>
<td>Be right</td>
<td>0.0%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Be successful</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Be justified</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Table 3. Percentage of IPCs to gerund clauses with in.
<table>
<thead>
<tr>
<th>Head</th>
<th>1850-1920</th>
<th>1990-1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have difficulty</td>
<td>1.5%</td>
<td>72.1%</td>
</tr>
<tr>
<td>Difficulty</td>
<td>0.0%</td>
<td>13.6%</td>
</tr>
</tbody>
</table>

Table 4. Percentage of IPCs to gerund clauses with `in`. 
<table>
<thead>
<tr>
<th>Adjunct PCs</th>
<th>1640-1710</th>
<th>1850-1920</th>
<th>1990-1993</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.3</td>
<td>13.5</td>
<td>20.2</td>
</tr>
</tbody>
</table>

Table 5. Adjunctively used PCs (frequencies per 100,000 words).
<table>
<thead>
<tr>
<th>First attestation</th>
<th>IPC construction</th>
<th>Most plausible historical source</th>
</tr>
</thead>
<tbody>
<tr>
<td>16(^{th}) century</td>
<td>Have done + IPC</td>
<td>Have done + gerund</td>
</tr>
<tr>
<td>17(^{th}) century</td>
<td>Be busy + IPC</td>
<td>Reanalysis from be busy + disjunct</td>
</tr>
<tr>
<td></td>
<td>Spend TIME + IPC</td>
<td>Reanalysis from spend TIME + disjunct</td>
</tr>
<tr>
<td></td>
<td>Be long + IPC</td>
<td>Be long + gerund with a-prefix</td>
</tr>
<tr>
<td>19(^{th}) century</td>
<td>Be tired + IPC</td>
<td>Reanalysis from get / be tired + adjunct</td>
</tr>
<tr>
<td></td>
<td>Have trouble / difficulty + IPC</td>
<td>Reanalysis from have trouble / difficulty + adjunct</td>
</tr>
<tr>
<td></td>
<td>Be done + IPC</td>
<td>Analogical extension from have done + IPC</td>
</tr>
<tr>
<td></td>
<td>Take time + IPC</td>
<td>Analogical extension from be / take long + IPC and/or spend TIME + IPC</td>
</tr>
<tr>
<td>19(^{th})/20(^{th}) century</td>
<td>Be happy + IPC</td>
<td>Reanalysis from be happy + adjunct</td>
</tr>
<tr>
<td></td>
<td>Be late + IPC</td>
<td>Reanalysis from be late + adjunct or analogical extension from be long + IPC</td>
</tr>
<tr>
<td>20(^{th}) century</td>
<td>Have no business + IPC</td>
<td>Analogical extension from have no trouble + IPC</td>
</tr>
<tr>
<td></td>
<td>Difficulty + IPC</td>
<td>Analogical extension from have difficulty + IPC</td>
</tr>
<tr>
<td></td>
<td>Succeed + IPC</td>
<td>Analogical extension from have success + IPC</td>
</tr>
<tr>
<td></td>
<td>Hesitate + IPC</td>
<td>Analogical extension from have no hesitation + IPC</td>
</tr>
</tbody>
</table>

Table 6. Overview of IPC constructions and their possible historical sources.