

SPELLING OUT P

**A UNIFIED SYNTAX OF AFRIKAANS
ADPOSITIONS AND V-PARTICLES**

by

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DECLARATION

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*For Helgard, my best friend and unconquerable companion –
all my favourite spaces have you in them; thanks for sharing them with me*

For Hester, who made it possible for me to do what I love

For Theresa, who always takes the stairs

ABSTRACT

Elements of language that are typically considered to have P (i.e. adpositional) category status frequently exhibit divergent morphosyntactic properties, and it is often the case that one and the same element exhibits divergent morphosyntactic properties. Such elements are *syncretic*. An important fact about syncretism is that it poses a challenge to the ontologically primitive syntactic category.

With a concentrated focus on the Afrikaans spatial P domain, this dissertation develops a system in which observed patterns of syncretism fall out naturally from (i) the fine-grained cartographic structure of the non-primitive P domain, (ii) the “shape” of the formal featural specification on particular (classes of) P elements, and (iii) a theory of how lexical material is matched and inserted to express syntactic structure. In this system, syntactic categories are not ontologically primitive but are composite syntactic objects consisting of (overlapping) sets of hierarchically structured formal features. *Category effects* – all the morphosyntactic characteristics associated with a particular category – arise as epiphenomena of the particular set of features that an element lexicalises at a particular insertion site. As the book progresses, it is demonstrated how all the language-internal variation in expressions containing P elements – simplex and complex prepositional phrases, circumpositional phrases, doubling adpositional phrases, and particle verbs with P-based particles – can be derived from the same basic structure. On the proposed analysis, category boundaries are non-discreet and may be spanned by individual lexical items, accounting for the multiple macro-category membership of some P elements using precisely the same mechanisms that account for multiple micro-category membership.

OPSOMMING

Elemente van taal wat tipies beskou word as lede van die P (d.i. adposisionele)-kategorie, vertoon dikwels uiteenlopende morfosintaktiese eienskappe, en dit is trouens dikwels die geval dat een en dieselfde element uiteenlopende morfosintaktiese eienskappe vertoon. Sulke elemente word beskryf as *sinkreties*. Vanuit 'n ontologiese perspektief, skep die verskynsel van sinkretisme 'n belangrike uitdaging vir die idee van 'n primitiewe sintaktiese kategorie.

Met spesifieke fokus op die Afrikaanse ruimtelike P-domein, word daar in hierdie studie 'n raamwerk ontwikkel waarbinne waargenome patrone van sinkretisme die natuurlike uitkoms is van (i) die fyn gegreinde kartografiese struktuur van die nie-primitiewe P-domein, (ii) die “vorm” van die formele kenmerkspesifikasie by spesifieke (klasse van) P-elemente, en (iii) 'n teorie oor hoe leksikale materiaal onderling gepas en ingevoeg word om uitdrukking te gee aan sintaktiese struktuur. In hierdie raamwerk verteenwoordig sintaktiese kategorieë nie ontologiese primitiewe nie, maar saamgestelde sintaktiese objekte wat bestaan uit (oorvleuende) stelle hiërargies-gestruktureerde formele kenmerke. *Kategorie effekte* – al die morfosintaktiese eienskappe wat geassosieer word met 'n spesifieke kategorie – ontstaan as epifenomene van die besondere stel kenmerke wat deur 'n element geleksikaliseer word by 'n spesifieke invoegingspunt. In die loop van die studie word getoon hoe al die taal-interne variasie wat gevind word by uitdrukkings waarin P-elemente voorkom – d.w.s. simplekse en komplekse preposisionele frases, sirkumposisionele frases, verdubbeling adposisionele frases, en partikelwerkwoorde met P-gebaseerde partikels – afgelei kan word vanaf dieselfde basiese struktuur. In terme van die voorgestelde analise, is kategorie-grense nie-diskreet en kan hulle oorspan word deur individuele leksikale items. Die meervoudige makro-kategorie lidmaatskap van sommige P-element kan gevolglik verantwoord word met presies dieselfde meganismes wat gebruik word om meervoudige mikro-kategorie lidmaatskap te verklaar.

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-- Ludwig Wittgenstein, Culture and Value

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CHAPTER 1

P is not Primitive

It is by endless subdivisions based upon the most inconclusive differences that some departments of natural history become so repellingly intricate

-- *Moby Dick*, Chapter XXVIII

1.0 Prelude

This study addresses the challenge that systematic homophony (=syncretism) poses for ontologically primitive syntactic categories. The empirical domain facilitating the investigation is Afrikaans spatial expressions containing one or more elements of the category P (conventionally: Adposition). Such expressions are illustrated in (1), with all the P elements boldfaced. In (1a-b), *op* (“on/up”) is *syncretic*: it expresses two different functions, each of which is associated with a different syntactic category: in (1a), *op* is a locative adposition and in (1b) it is a V-particle.

- (1) (a) Jan pak die wynglase **op** die toonbank.
 Jan packs the wine-glasses on the counter
 “Jan is packing the wine glasses on the counter.”
 ADPOSITION
- (b) Hy het al die inligting **op**gesoek.
 he has all the information up-searched.
 “He looked up all the information.”
 V-PARTICLE

Simply put, it is far from clear how the adpositional use of *op* might be related to the V-particle use, and how the system regulates such distinct uses of the same element. This dissertation seeks to address the problem by modelling the category P as a composite syntactic object comprised of smaller formal features. *Category effects* then arise from how these formal features are spelled out by lexical items. The account offers a transparent view of syncretism with a theory about the structure of the lexicon and the interface processes that bring this pervasive phenomenon about. This in turn opens up fresh opportunities for making unifying syntactic analyses of various P-related phenomena that have to date evaded such unification. Examples of the various P-containing structures that are treated in the course of the dissertation are given in (2). The P elements are again boldfaced.

- (2) (a) Jan draf **in / deur** die wingerd.
 Jan jogs in / through the vineyard
 “Jan is jogging in/through the vineyard.”
 PRE-PP (SIMPLEX ADPOSITION)¹
- (b) Die jakkals kruip **onderdeur** die heining.
 the jackal crawls under-through the fence
 “Jan is crawling through underneath the fence.”
 PRE-PP (COMPLEX ADPOSITION)
- (c) Al die mense is reeds **bo**.
 all the people are already above
 “All the people are already upstairs.”
 INTRANSITIVE PP
- (d) Jan gooi die bal **na sy vriend toe**.
 Jan throws the ball to his friend to
 “Jan is throwing the ball to his friend.”
 CIRCUM-PP
- (e) Hy haal **in** my gesig **in** asem.
 he takes in my face in breath
 He is breathing into my face.”
 DOUBLING PP

¹ In this dissertation, the terms *pre-PP*, *post-PP*, and *circum-PP* are used as shorthand for *prepositional phrase*, *postpositional phrase*, and *circumpositional phrase*, respectively.

- (f) Jan stof die meubels **af**.
 Jan dusts the furniture off
 “Jan is dusting the furniture.” VERBAL PARTICLE

This introductory chapter is structured as follows: Section 1.1 sets out the main problem and outlines the proposal. Section 1.2 draws some boundaries for the empirical and theoretical scope of the study. Section 1.3 provides an overview of the micro-categorial contours in the Afrikaans P domain. Section 1.4 sketches an outline of the dissertation chapters, and Section 1.5 concludes the chapter. As an addendum to the main chapter, Section 1.6 offers some brief definitions of terms and concepts that are relevant to Spellout or that are generally employed in the P-literature, but which are not defined and discussed at length elsewhere in the dissertation.

1.1 Puzzle and Proposal

Paradoxically, elements of language that are typically thought of as belonging to a single category P (=Adposition) often do not behave as members of the same syntactic category. That is, they have distinct properties as far as distribution and other stock and standard litmus tests for syntactic category are concerned. Consider, as a brief illustration, the contrasting syntactic and morphological behaviour of the Afrikaans spatial P elements *bo* (“top/above”) and *op* (“on”):

- (3) (a) Daar is ’n gogga **op** / **bo** jou kop.
 there is a bug on above your head
 “There is a bug on / above your head.”
- (b) (i) Jan speel **bo**. (ii) *Jan speel **op**.
 Jan plays above Jan plays on
 “Jan is playing upstairs.”
- (c) (i) **boo-n-ste** (ii) **op**(*-ste)
 top-/n/-est on -est
 “topmost”

- (d) Daar is 'n gogga **bo-op**/***op-bo** jou kop.
 there is a bug top-on on-top your head
 “There is a bug on top of your head.”

The notion of category is quintessential in syntax, where categories determine the natural classes into which words and constituents fall based primarily on syntactic distribution. Matthews (2007:1) remarks as follows:

There are units such as sentences, within which smaller units do not combine randomly... In one view, which dates from the 1940s, what we have to study is the DISTRIBUTION of these smaller units. By that was meant the class of “contexts”, as defined by the remainder of a sentence, in which they can be identified; and where different units have a similar distribution, it is on that basis that they belong to the same SYNTACTIC CATEGORY... This view has led, among other things, to a distinction between SYNTAX, seen as an account of distributions, and SEMANTICS, as a separate account of meanings. It is a matter of syntax, in this view, that *Jane* has the distribution that it has. It is a matter of semantics, not syntax, that such a word is used to refer to individuals, typically both human and female.

In (3a) above, the P elements *bo* and *op* denote conceptually similar locative relations, and both precede their DP complements. The contrasts in (3b-d), however, suggest distinct category membership: (3b) shows that the complement of *bo* may be optionally omitted,² whereas that of *op* may not; (3c) shows that *bo* is compatible with a derivational affix – the superlative adjectival suffix *-ste* (“-est”) – with which *op* is not; finally, (3d) shows that *op* and *bo* can combine in a fixed order to form the complex locative adposition *bo-op* (lit.: top-on, “on top of”), with the reverse order *op-bo* being impermissible. Importantly, the behaviour of *bo* and *op* in (3) is representative of two adpositional sub-classes, a *bo*-type and an *op*-type. So, the contrast is systematic and cuts across the conventional category P. The P domain of

² So, *bo* as it occurs in (3b)(i), is sometimes considered an intransitive adposition (cf. also example (2c) above). Section 4.6.2 in Chapter 4 and Section 6.1 in Chapter 6 deal specifically with the notion of “intransitive adpositions”. There, it is argued that this concept is not really useful in providing an explanatory characterisation of P elements that (may) surface without overt complements – cf. e.g. the fact that “intransitive adpositions” themselves (which traditionally include cases like *bo* (3b)(i) as well as P-based V-particles) do not even form a homogenous class.

Afrikaans is rife with such systematic category-internal inconsistencies – and this is generally true of P inventories crosslinguistically (cf. the substantial literature on P in volumes such as Asbury et al. 2008 and Cinque & Rizzi 2010, which constitute only a small sample of the work to date).

The above fact is problematic for syntactic analysis, but could be addressed (at least partially) by postulating separate categories for *bo*-type and *op*-type adpositions, each with an ontological status equivalent to that of P (perhaps replacing the single original category) – and this would apply to all “micro-categories” of P that emerge alongside the *bo*- and the *op*-types. The result of such an enterprise would be the emergence of highly detailed syntactic structures of the kind produced by cartographic inquiry (cf. i.a. Rizzi 1997; Cinque 1999; Cinque & Rizzi 2008). For more than two decades, cartography has yielded (and continues to do so) many important insights about possible levels of decomposition in conventional syntactic structure and the (limits of) universality in such fine-grained structures.

The nature of the problem with category-internal inconsistencies such as that illustrated in (3) above, however, runs deeper than the grain of the analysis. This becomes evident in light of the fact that most P elements (it is useful to think of these as lexical items *realising* the fine-grained structures of cartography) are systematically homophonous (=syncretic). In other words, most P elements are capable of functioning as members of more than one of these “micro-categories”. Some, like V-particles and locative nouns, even seem to “reach across” conventional category boundaries into other categorial domains, such as “V” and “D”. This fact poses a challenge to any notion of ontologically primitive syntactic categories, one that cannot be met (solely) by finer grained structures. What the problem seems to call for is a detailed theory about what categories are made of, about the architecture of the lexicon, the format of the categorial specification encoded on lexical entries, and the spellout procedure that links lexical items to correct positions in the (fine grained) structure. Let us briefly consider, with the aid of some examples, why the puzzle posed by syncretism necessitates the decomposition of category. The examples in (4) offer a brief illustration of what (some) syncretism in the P domain of Afrikaans entails.

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- (4) (a) Jan sit die suiker **binne₁/in/op** die yskas.
Jan puts the sugar inside in on the fridge
“Jan is putting the sugar in/on the fridge.”
- (b) Jan hou die suiker **binne₂-in/*in-binne** die yskas.
Jan holds the sugar inside in in inside the fridge
“Jan keeps the sugar in the fridge.”
- (c) Jan gaan **binne₃** / huis/ Stellenbosch/*in toe.³
Jan goes inside home Stellenbosch in to
“Jan is going inside/ home / to Stellenbosch.”

The P element *binne* (“inside”) in (4) aligns with three distinct “micro-categories”. Analogously with *bo* in (3a), *binne₁* in (4a) patterns with P elements like *in* and *op*, preceding its DP complement. In contrast, *binne₂* in (4b) occurs in a position from which elements like *in* and *op* are barred: as the morphologically initial component of a complex locative adposition (cf. also (3d)). A further contrast emerges in (4c): *binne₃* also occurs in a position from which elements like *in* and *op* are barred (cf. also (3b)), but takes no (overt) complement. Note that *binne* in (4c) is not simply an instance of *binne₁* with its DP complement omitted because the DP complements of *in* and *op* in (4a) – with which *binne₁* patterns – are not omissible. The examples in (5-6) provide a further illustration of syncretism in the Afrikaans P domain with the element *aan* (“on”):⁴

- (5) (a) Die kinders hang **aan₁** die hek.
the kids hang on the gate
“The kids are hanging on the gate.”

³ According to the *Afrikaanse Woordelys en Spelreëls* (AWS, Taalkommissie van die Suid-Afrikaanse Akademie vir Wetenskap en Kuns 2009), *binnetoe* is conventionally a single orthographic word, while the same is not true for *huis toe* and *Stellenbosch toe*. The latter fact constitutes a recent change, however, as e.g. *huistoe* is listed as a single orthographic word in earlier editions of the AWS. Importantly, therefore, Afrikaans orthography should not be viewed as an indication of underlying syntactic structure.

⁴ The % symbol in (6b) indicates that only speakers of some varieties find this expression grammatical.

- (b) *Die kinders hang die hek **aan₁**
the kids hang the gate on
- (c) *... dat die kinders die hek **aan₁** hang.
that the kids the gate on hang ADPOSITION
- (6) (a) Die kinders stuur die pakkie **aan₂**.
the kids send the package.DIM on
“The kids are passing the package on/along.”
- (b) %Die kinders stuur **aan₂** die pakkie.
the kids send on the package.DIM
- (c) ...dat die kinders die pakkie **aan₂**stuur
that the kids the package.DIM on-send
“...that the kids are passing the package on/along” V-PARTICLE

It is a striking fact that V-particles in general appear to be elements that are “recycled” from other categories. As shown in (7), V-particles are canonically drawn from classes like Adposition, Adjective, Adverb, and Noun.

- (7) (a) uithaal
out-take
“take (something) out” Particle: *out* (ADPOSITION)
- (b) slegsê
bad-say
“insult (someone)” Particle: *sleg* (ADJECTIVE)
- (c) wegneem
away-take
“remove (something)” Particle: *weg* (ADVERB)
- (d) fietsry
bike-ride
“ride bikes” Particle: *fiets* (NOUN)

When category is conceptualised as a theoretical primitive (=primitive-category approach), the fact of syncretism presents a serious challenge to a maximally economical lexicon. Lexical items need to be encoded with category information, or there is no mechanism linking them to correct structural positions. But on a primitive-

category approach, a syncretic P element requires a separate lexical entry for each (micro-)categorial function it is capable of expressing (e.g. three entries for *binne* in (4)). That is because there are no “smaller” category-related attributes upon which any systematic connection between (micro-)categories can be encoded (i) on a single lexical entry, or (ii) into the syntactic representation proper. So the primitive-category approach necessitates an ontologically uneconomical lexicon.

Moreover, the primitive-category approach fails to capture the high degree of systematicity that is inherent to syncretism. Chapter 2 provides detailed discussion of a highly regular pattern emerging with regard to which sets of (micro-)categories specific P elements can (not) express. Specifically, a robust *ABA pattern (cf. i.a. Bobaljik 2012) emerges for syncretism in the Afrikaans P domain. The significance of this will of course become clear in that chapter; briefly, however, such a highly regular pattern translates straightforwardly into hierarchical structure, suggesting that macrocategorial domains are internally structured. A further example of the systematicity inherent to syncretism is the fact that different (micro-)categorial instantiations of syncretic elements are always linked in terms of their semantic/conceptual denotations. Consider, for example, the fact that *binne*₁₋₃ in (4) all denote a concept like “INTERIOR”, despite their distinct distributional properties. Similarly, the V-particles in (7) all retain the semantic/conceptual denotations they have when functioning as elements of their origin-categories: *uit* denotes a concept like “NOT INTERIOR” both as an Adposition and as a V-particle; *sleg* denotes a concept like “BAD” both as an Adjective and as a V-particle, and so forth.

In striving to construct a maximally economical ontological system representing human language – one which allows the greatest degree of explanatory adequacy as far as syncretism is concerned – the primitive-category approach must be abandoned because it requires multiple listings of syncretic elements. The imperative is to adopt the assumption that syncretic elements originate from single lexical entries (with *one* P(honological) and *one* S(ematic) association). But the question remains how the categorial specification of these elements can be represented so as to allow insertion into all the correct syntactic contexts corresponding to relevant (micro-)categories.

This question begins with the categorial specification of syncretic elements, but extends to all elements of language.

Such is the main question this dissertation seeks to address, namely what the format of the categorial specification encoded on lexical entries should be. This question naturally extends to syntax itself: if categories encoded on lexical entries cannot be ontological primitives, it is worth exploring whether categories are (not) primitive objects in syntax proper. So the question that has to be addressed with regard to categories in syntax proper is how to achieve the well established *category effects* (i.e. all the morpho-syntactic properties that are effectively diagnostics for category status) without subscribing to a notion of (micro-)categories as ontologically real and non-decomposable. Since the question centres around how an ideally-formatted lexical item manages to appear in all the correct syntactic positions (and none of the incorrect ones), the central question of this dissertation is also a question about the procedures at the syntax-lexicon interface – about detailing the mechanisms and processes involved in Spellout.

What emerges from this dissertation's attempt to answer these questions in relation to the Afrikaans P domain is a system where categorial specification comprises sets of ordered formal features. These features are the (F)-component of the lexical entry, which according to Chomsky (1995; 1996) takes the form (P, S, F) (with "P" representing the phonological association, "S" the semantic association, and "F" the formal syntactic association). In the syntactic representation, traditional categories consequently reduce to overlapping subsets of the same formal features. These formal features are represented as syntactic heads which lexical items span to achieve the relevant *category effects* – in a given derivation, the specific subset of features that an element spans determines whether it exhibits greater or fewer traits that are prototypically associated with the macrocategory P. The important point is that any element expressing any features in the syntactic P zone is (broadly speaking) a member of P. The disharmonious (micro-)categorial effects within P arise from elements giving expression to varying subsets of features in the P zone.

Such a system is appealing for various reasons. For one, it is already entirely uncontroversial that syntax operates on formal features. That a problematic notion such as the primitive category can be “dissolved” as a *grammatical reflex* of formal features that are independently required in the active derivation is thus rather appealing on theoretical grounds. That lexical items can span any contiguous range of features for which they are specified allows syncretism to be straightforwardly derived using general derivational mechanisms. Moreover, since conventional categories are essentially decomposed into syntactic “zones” along the same projection line, lexical items that are specified for doing so can (simultaneously) express features that fall into different syntactic zones. Not only does this provide insight into the nature of “hybrid categories” like V-particles, it also maps potential paths of language change and variation, and opens up new possibilities with regard to a unifying analysis of P-containing spatial expressions.

1.2 Empirical and Theoretical Scope

As already discussed, this study focuses on spatial functions expressed by P elements. A P element could be roughly defined as a morphologically independent word that can function as a spatial or grammatical adposition. It is a relevant fact that adpositions also express non-spatial functions, and that spatial functions – crosslinguistically – are frequently expressed by elements that are not adpositions. This section aims simply to draw the reader’s attention to the complexity inherent to defining “the category P” and/or “spatial relations” as a focus of study. It outlines some of the challenges that have to be met (some ultimately beyond this study itself) en route to providing a truly adequate crosslinguistic account of the syntactic domain encoding spatial relations.

First, consider the fact that Afrikaans (spatial) P elements can also express grammatical relations. This is crosslinguistically common.

- (8) (a) John skipped **to** the beach. SPATIAL: GOAL-DIRECTED
 (b) John gave his towel **to** Mary. GRAMMATICAL: GOAL/RECIPIENT
- (9) (a) My baadjie hang **aan** die boekrak.
 my jacket hangs on the bookshelf
 “My jacket is hanging on the bookshelf.” SPATIAL: LOCATION
 (b) Marie gee haar boeke **aan** Jan.
 Marie gives her books to Jan
 “Marie is giving her books to Jan.” GRAMMATICAL: GOAL/RECIPIENT

Moreover, the reverse holds true: spatial relations, though frequently denoted by adpositions (=morphologically independent elements), are also commonly expressed by case morphology. Consider, for example, the following spatial expressions from Finnish and Tabasaran, where INE(-ssive) expresses containment, ILL(-ative) a direction *into*, ALL(-ative) a direction *towards*, and ABL(-ative) a direction *away from*.

- (10) (a) *Inessive and Illative:*
 kaupungissa kaupunkiin
 city-INE city-ILL
 “in the city” “into the city”
 (Finnish, Zwarts 2010:988)
- (b) *Allative and Ablative*
 räy^y -ni -kki -na day -ži -l -an
 mill -ERG-under-ALL mountain-ERG-on-ABL
 “to under the mill” “from the mountain”
 (Tabasaran, Pantcheva 2011:20)

The facts outlined in (8-10) are the source of much theoretical debate. To distinguish the morphological expression of spatial relations from that of grammatical relations (such as non-spatial thematic roles and morphologically expressed Structural Case), dependent morphemes expressing spatial relations are often referred to in the literature as *spatial case*, and are sometimes analysed as members of a distinct syntactic

category labelled K(ase). The distinction that is sometimes drawn between case and adpositions may not be trivial since adpositions (=morphologically independent members of P) are traditionally considered to be case *assigners* whereas case morphemes (=morphologically dependent members of K) are case *realisers*. Many have argued that there are no deep underlying differences in the nature of (spatial) adpositions and cases (cf. e.g. Fillmore 1967; Emonds 1985; Asbury et al. 2006; Asbury 2008). Furthermore, Asbury (2008:90) points out that

Previous work on KP sometimes suggests that this projection might be filled by a preposition in certain languages... [and] work on adpositions... sometimes suggests that Ps could be spelt out as case suffixes on the noun. However, such research does not address the question of whether the two categories can be collapsed into one.

Lestrade et al. (2010:974) seem to suggest that the (sometimes dubious) distinction between spatial P and K might be a conceptual problem with its roots in a “research bias”. They remark as follows:

Case can be used structurally, to mark argument structure, and nonstructurally, to mark semantic roles [this includes spatial functions – EP]. Most work on case acknowledges this distinction between structural and nonstructural case, and then often continues to study only the former (cf. Butt 2006). Similarly, it is generally accepted that spatial meaning can be expressed by morphological case or more lexical markers like prepositions, after which most studies concentrate on the more lexical means.

There are various exceptions to the latter statement, e.g. Blake (1977), Comrie et al. (1998), Haspelmath (1993), Van Riemsdijk & Huybregts (2002), Kracht (2002), Creissels (2009), and Pantcheva (2009). Nevertheless, with reference to the table in (11), where the boldfaced cells **a** and **d** are well-researched phenomena and cells b and c represent less studied phenomena, Lestrade et al. (2010:974) explain their view that “when we limit ourselves to the study of structural case (cell **a**) and the lexical expression of space (cell **d**), we will never know whether a certain generalisation is due to form or function.”

(11)

	Case	Lexical means
Structural	a	b
Semantic (spatial)	c	d

If a misguided distinction between the categories P and K is just a conceptual problem created by a research bias, it should be solvable by typographical research. If K and P were straightforwardly collapsible, the prediction is that no language would employ a strategy involving the horizontally adjacent cells in (11), where either grammatical or spatial relations are expressed through a combination of inflectional morphology and adpositions, i.e. both are present in the same expression. Such co-occurrence should be ruled out on grounds of the fact that case morphology and adpositions would correspond to the same underlying part of the structure. Yet, such co-occurrence is well attested and cross-linguistically common:

- (12) (a) *Greek* (Zwarts 2010:983)
 en tei polei.
 in the.DAT city.DAT
 “in the city.”
- (b) *German* (Zwarts 2006:1)
 Alex tanzte in dem Zimmer.
 Alex danced in the.DAT room
 “Alex danced in the room.”
- (c) *Hungarian* (Dékány 2009:45)
 a fal-hoz közel.
 the wall-all close.to
 “close to the wall.”
- (d) *Russian* (Rojina 2004:2)
 On prigal v vod -u.
 he jumped in water-ACC
 “He was jumping into the water.”

Nevertheless, analyses such as those argued for in Calabrese (2008) and Caha (2009) account for the co-occurrence of adpositions and case morphology without making a fundamental distinction between the syntactic categories to which they belong.

Though it seems undesirable to base any deep distinction between syntactic categories on morphological (in-)dependence, any such distinction is not relevant in this study because (i) the focus is solely on spatial relations and (ii) Afrikaans nouns typically do not inflect for either spatial or grammatical relations.

Finally, the substantive temporal function of adpositions – e.g. *John put sunblock on before swimming* – is taken to be a metaphorical extension of the spatial function (cf. seminal work in Lakoff & Johnson 1980 on *TIME is SPACE* metaphorical language). It is expected that the analyses developed here for spatial relations should extend to temporal functions, but the nature and structure of temporal functions fall outside the scope of this study, and will receive no further attention.

The next section returns to the topic of spatial adpositions in Afrikaans and sets out the distributional evidence in favour of various micro-categories within the spatial domain of syntax.

1.3 Micro-Categories in the Afrikaans P Zone

This section establishes (with more detailed discussion to follow in Chapter 2) that *Axial Part*, (locative and directional) *Adposition*, and (P-based) *V-particle* form distinct “micro-categories” in a syntactic zone described by P. The category *Axial Part* (AxPart) is due to Svenonius (2006) (after Jackendoff (1983)), who argues that axial elements denote a space that is projected around its DP complement. Examples of axial elements in English include *top* and *front* in expressions like *on top of the fridge* and *in front of the car*.

The data in (13) provide examples of expressions incorporating these micro-categories of the P zone. In (13a) the P element *binne* expresses the AxPart function and in (13b) it expresses that of a locative Adposition. In (13c) the P element *oor*

expresses the function of a directional adposition and in (13d) it expresses a resultant state as a V-particle.

- (13) (a) ...dat Jan sy paspoort **binne**_{AXPART}-in die laai sit.
that Jan his passport inside -in the drawer puts
“...that Jan is putting his passport inside of the drawer.”
- (b) ...dat Jan sy paspoort **binne**_{PLOC} die laai sit.
that Jan his passport inside the drawer puts
“...that Jan is putting his passport inside the drawer.”
- (c) ... dat Jan **oor**_{PDIR} die heining spring.
that Jan over the fence jumps
“...that Jan is jumping over the fence.”
- (d) ...dat Jan aan haar wense **oor**_{V-PART}gee.
that Jan to her wishes over-gives
“...that Jan is giving in to her wishes.”

The syntax of Afrikaans expressions incorporating axial elements forms an important focus of Chapter 4. There, it will be argued that the most striking distributional property of Afrikaans axial elements is that they form the morphologically initial component of complex adpositions, as shown in (13a) with *binne*. Important with regard to how the distributional facts are interpreted: recursivity in P is ruled out as a possible account of co-occurring P elements. The logic behind this is discussed in some detail in Section 3.2.1 of Chapter 3. Briefly, however, Hendrick (1976) amongst others points out various asymmetries between co-occurring P elements. For instance, when *away* and *from* co-occur as in (14), *right* can modify *away*, but not *from*.

- (14) (a) Chico raced (right) away from Mrs. Claypool.
(b) Chico races away (*right) from Mrs. Claypool.

Furthermore, in expressions like (15) where a PP co-occurs with a particle like *down*, it appears as though the PP must license *down* (15b), whereas the presence of the PP is not contingent on the presence/absence of *down* (15a).

- (15) (a) John disappeared (down) into the darkness.
(b) John disappeared down *(into the darkness).

Thus, barring recursion as a possible explanation for co-occurring P elements, such co-occurrence actually supports a finer syntactic grain and a view on which these P elements are categorially distinct. The fact that an element expressing the AxPart function co-occurs with an adposition as in (13a) suggests that these elements belong to different categories.

Regarding the category Adposition, it will be argued in Chapter 5 that elements expressing this function underlyingly precede their complement, as *in* and *oor* do overtly in (13a) and (13c), regardless of whether the PP eventually surfaces as a pre-, post- or circum-PP. It is argued of V-particles in Chapter 6 that they denote resultant states that come about due to the event expressed by the verb. As illustrated in (13d) above, V-particles canonically occur left adjacent to the verb in clause final position. The expression in (16) illustrates that the V-particle is separated from the finite main verb when it undergoes V2 movement.

- (16) Jan gee aan haar wense oor.
 Jan gives to her wishes over
 “Jan is giving in to her wishes.”

As shown in (17), elements expressing the various functions outlined above can co-occur in the same expression.

- (17) (a) ...dat die man buite_{AXPART} om_{PDIR} die huis verby_{V-PART} ry.
 that the man outside round the house past drives
 “...that the man is driving round past the outside of the house.”
- (b) ...dat die man bo_{AXPART} op_{PLOC} die berg rond_{V-PART} hardloop.
 that the man top on the mountain round runs
 “...that the man is running round on top of the mountain.”

As follows from standard assumptions about complementary distribution, the fact that such co-occurrence is possible constitutes clear evidence that the elements expressing these functions belong to different (micro-)categories and thus occupy different structural positions.

1.4 Chapters Outline

Chapter 2 sets about establishing which grammaticalized features are active in the P zone. This is done firstly by identifying distinct micro-categories in P, and then uncovering robust patterns of syncretism with respect to those categories. The syncretic range of all elements making up the Afrikaans P inventory is described in terms of *Formal Range Potential* (=FRaP). The focus of the chapter then shifts to building a model of syncretism that allows the grammatically active P-features to be assigned positions in the syntactic hierarchy. Finally, the chapter describes an organisation of the grammar and Spellout responsible for the empirical observations.

Chapter 3 is concerned with setting out the representational system assumed in the study. It brings together the picture of the fine-grained P zone emerging from Chapter 2 with the literature on P and also describes the system of verb event and argument structure assumed in the rest of the study for (i) developing the analysis of V-particles and (ii) understanding how P and verb event structure interact. This chapter also outlines assumptions about multiple-terminal spellout, and concludes with an overview of the analyses to be developed in Chapter 4-6.

Chapter 4 is concerned with the internal syntax of adpositions. It derives axials, simplex and complex locative and directional adpositions from the fine structure established in Chapter 2, using the mode of representation described in Chapter 3.

Chapter 5 addresses the issue of word order in the PP, the language-internal variation and disharmonic word order with respect to the same formal functions (e.g. directionality as expressed either by pre-, post-, circum-, or doubling PPs). It is argued that word order arises as an interaction between structure, domains of spellout, and featural specifications on the lexical items that get inserted to express the structure.

Chapter 6 develops a syncretism-driven analysis of V-particles that unifies the syntax of particle verbs with that of adpositional phrases.

Chapter 7 concludes the dissertation, and suggests avenues for further research.

1.5 Summary

This introductory chapter has set out the empirical and theoretical puzzles motivating the study, highlighted the core issues at stake in addressing the problems, and characterised the approach that will be taken in proposing a solution. The study is essentially an inquiry into the syntax-lexicon interface, and aims to create a model of the interface processes involved in spelling out the structures underlying spatial expressions involving elements of the category P. The overarching hypothesis in accounting for the disharmonious categorial traits of P elements is that “P” is not a theoretically primitive category, and that an explanatory account of this category’s divergent formal properties is possible when P is viewed as a composite syntactic object comprised of smaller formal features.

1.6 ADDENDUM TO CHAPTER 1: Selected Concepts and Terminology

For readers who are less familiar with terminology that is generally utilised in the P-literature, this section provides a brief exposition of some basic concepts that are not explained at length elsewhere in the dissertation. This section does not therefore constitute an exhaustive list of definitions, but is simply intended to orientate the reader by laying some conceptual groundwork or providing cross references to relevant places in the dissertation where the issues are discussed in greater detail. Furthermore, some of the concepts and terminology relating to the organisation of the grammar, as it is assumed to be in this dissertation, and some interface phenomena are also briefly set out.

1.6.1 Spatial Entities: Figure and Ground

A spatial expression may be defined as a function mapping an asymmetrical spatial relation between two referential entities. The asymmetry between the referential entities is embodied in the fact that the spatial properties of one are always more known, fixed, and geometrically complex in relation to that of the other, which tend to be unknown, relative, and geometrically simple. The entity whose spatial properties are known is the *Ground*; the entity whose spatial properties are unknown is the *Figure*. Figure and Ground are characterised as follows by Talmy (2000):

- (18) (a) Figure:
A moving or conceptually movable entity whose path, site, or orientation is conceived as a variable, the particular value of which is the relevant issue.
- (b) Ground:
A reference entity, one that has a stationary setting relative to a reference frame, with respect to which the Figure's path, site, or orientation is characterized.

(Adapted from Talmy 2000:312)

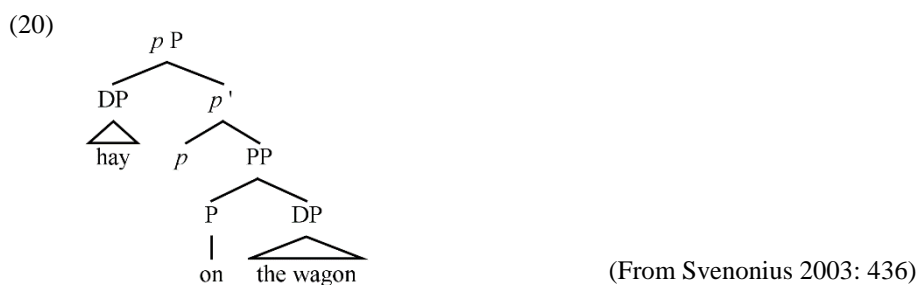
20

The content of the relation is given by the P element, which identifies the spatial properties of the Figure relative to the Ground. The asymmetry of Figure and Ground is illustrated in (19).

- (19) (a) Die fiets staan naby die huis
 the bike stands near the house
 “The bike is near the house”
- (b) ?Die huis staan naby die fiets
 the house stands near the bike
 “The house is near the bike”

The expression in (19a) is good, but (19b) is odd because the spatial properties of a prototypically fixed entity *die huis* are being defined in relation to a second entity *die fiets* whose spatial properties, relative to a house, are not fixed.

It is uncontroversial that P takes the Ground as its complement. For Svenonius (2003) and many others, a functional projection little-*p* in turn takes a PP complement and introduces the Figure in its specifier. This is illustrated with the English expression (*We loaded*) *hay on the wagon*, where *the wagon* is the Ground and *hay* the Figure.



Little-*p* thus parallels little-*v* in the verbal domain (cf. Kratzer 1996) by introducing the Figure, an “external argument”, to the adpositional phrase. The little-*p* projection plays an integral role in the system developed in this dissertation. As such, the topic is revisited throughout: the literature on little-*p* is revised in Chapter 3, and its role in the analysis of Afrikaans spatial expressions is discussed extensively in Chapter 5, but also in Chapter 6.

1.6.2 Locative and Directional

In the literature, the term *locative* is sometimes used in a general sense, as being synonymous with the term *spatial*. In such a sense, reference to, for example, a *locative expression* is intended to be synonymous with *spatial expression*.

In this study, the term *locative* is never used synonymously with the term *spatial*. Instead, *locative* is used on a par with the term *directional* in referring to two subtypes of spatial expression. A basic conceptualisation of the distinction between *locative* and *directional* expressions is that *locative* expressions locate the Figure within a simplex point-in-space relation to the Ground, whereas *directional* ones locate the Figure within a series of locations to the Ground. The issue concerning the conceptualisation of *location* vs. *direction* is taken up again in detail in Chapter 4.

1.6.3 Lexical Entries and Exponents

Given the fundamental importance of a late insertion model in this study, there is an important distinction between what is denoted by *lexical entry* vs. *exponent*.

Basically, a post-syntactic lexicon houses lexical entries taking the form (P, S, F) (cf. Chomsky 1995; 1996), representing listed associations between phonological, semantic, and formal syntactic information, respectively. It is argued in Chapter 2 that the F component of a lexical entry provides it with a range of *functional potentials* specifying the number of distinct syntactic contexts into which the lexical entry may be inserted. Once a lexical item has been inserted into a particular syntactic context, such that it takes on the properties of its syntactic environment and exhibits the *category effects* associated with its insertion site, that morphological form is referred to as an *exponent*. The distinction between *lexical entries* and *exponents* is modelled with examples in Section 4.1 of Chapter 4.

1.6.4 Spellout, Matching, and Insertion

Spellout is taken to occur at various points in the derivation (in *phases* – cf. i.a. Chomsky 2000; Chomsky 2001)), providing lexical access at those points so that the output of Merge in the syntactic component can be *Matched* to lexical material which is then inserted to give morphological expression to the relevant structure. *Match* selects a winning (=the most specific) candidate from among competing lexical entries, and is governed by the *Superset Principle* (Caha 2007) in conjunction with the *Elsewhere Condition* (Kiparsky 1973). These mechanisms and devices are discussed at length in Section 2.4 of Chapter 2 and Section 5.5.1 of Chapter 5.

CHAPTER 2

Syncretism and Formal Range Potential

2.0 Introduction

This chapter establishes *Formal Range Potential* (FRaP) as a concept that allows syncretism to be harnessed as a diagnostic tool for fine grained syntactic structure. Section 2.1 defines FRaP and divides the Afrikaans P inventory into six classes on that basis. Section 2.2 focuses on syncretism and explores methods for modelling the phenomenon. It is argued that a hierarchical model makes desirably strong predictions about what patterns of syncretism should emerge in natural language and it is shown that Afrikaans P elements conform to a robust pattern of that type. Based on these robust patterns, Section 2.2.3 formulates the **ABA Constraint on Afrikaans Spatial P* and the *Space Contiguity Hypothesis for Afrikaans*, describing the cartography of the P zone. Section 2.3 provides an interim summary of the findings of the previous sections. Section 2.4 proceeds with modelling the interface processes such that FRaP can be meaningfully integrated into the minimalist derivational and spellout procedures. Section 2.5 concludes by highlighting how the discussion and findings of the chapter may be interpreted in terms of *category effects*.

This chapter is not yet concerned with deriving either the internal or external syntax of expressions containing P elements. Such tasks are deferred to Chapters 4-6.

2.1 Formal Range Potential (FRaP)

It was pointed out in Chapter 1 that, although at least three distinct micro-categories (AxPart, Adposition, and V-particle) are discernable within the P zone of syntax, these functions are frequently expressed by syncretic (=multifunctional) elements. Consider again for instance the data in (1), repeated from (14) in Chapter 1. In (1a-b), *binne* is syncretic between expressions of AxPart (AXPART) and locative Adposition (P_{LOC}); and in (1c-d) *oor* is syncretic between expressions of directional Adposition (P_{DIR}) and V-particle (V-PART).

- (1) (a) ...dat Jan sy paspoort **binne**_{AXPART}-in die laai sit.
that Jan his passport inside -in the drawer puts
“...that Jan is putting his passport inside of the drawer.”
- (b) ...dat Jan sy paspoort **binne**_{P_{LOC}} die laai sit.
that Jan his passport inside the drawer puts
“...that Jan is putting his passport inside the drawer.”
- (c) ... dat Jan **oor**_{P_{DIR}} die heining spring.
that Jan over the fence jumps
“...that Jan is jumping over the fence.”
- (d) ...dat Jan aan haar wense **oor**_{V-PART}gee.
that Jan to her wishes over-gives
“...that Jan is giving in to her wishes.”

Formal Range Potential (FRaP) is put forward here as a term defining the set of functions which a syncretic P element has the capacity to express. It will be argued that Afrikaans P elements fall into six classes A-F, based on their FRaP in relation to the micro-categories AxPart, locative and directional Adposition, and V-particle. These are given in (2) below. A given P element’s FRaP is established based on its ability to appear in all the distributional contexts that are associated with a particular (micro-)category.

- (2) *Class A*: range potential of only AxPart
Class B: range potential of AxPart and locative Adposition
Class C: range potential of directional Adposition and V-particle
Class D: range potential of locative and directional Adposition, and V-particle
Class E: range potential of locative and directional Adposition, and V-particle⁵
Class F: range potential of Axial Part, locative and directional Adposition, and V-particle

Class A functions solely as Axial Part. In Chapter 4, diagnostics for this category are discussed and developed, where it will become clear that P elements expressing this function can be diagnosed as such based on the fact that they combine with adpositions. As the only member of the Afrikaans P inventory that does not also express another function, the P element *na* is the sole element comprising Class A. In

(3) *na* combines with *by*, an expression of the locative Adpositional node.

- (3) *Class A*
 ...dat Jan na_{AXPART}-by die plaasdam draf.
 that Jan near -at the farm-dam jogs
 “that Jan is jogging near the farm dam.”

Members of Class B express the AxPart and the locative Adposition functions. Various examples of Class B elements have already been encountered (e.g. *bo* in the examples of Chapter 1). The data in (4) below provide an example of another Class B element *onder*: In (4a) *onder* expresses the function AxPart (with *in* expressing the locative adpositional node) and in (4b) it expresses locative Adposition.

- (4) *Class B*
 (a) ...dat jou paspoort onder_{AXPART} in the laai lê.
 that your passport under in the drawer lies
 “that your passport is in the bottom of the drawer.”
 (b) ...dat Jan onder_{PLOC} die brug slaap.
 that Jan under the bridge sleeps
 “that Jan is sleeping under the bridge.”

⁵ Classes D and E have the same range potential in the sense that they must have the same formal specification. It will become clear in the following discussion why the adpositions comprising these classes do not make up a homogenous group.

Class C comprises direction-expressing P elements which are *not* also specified for location. It is elaborated and argued in Chapters 4 and 5 that non-deficient direction-expressing adpositions must lexicalise both a locative node (P_{LOC}) and a directional node (P_{DIR}). The analysis of Class C elements will entail that, when expressing the directional Adposition function, they always require an “auxiliary” element to express P_{LOC}, and this gives rise to the necessity of two P elements in the small class of circum-PPs in Afrikaans – cf. (5a), which illustrates the directional Adposition function as expressed by *toe*. Patently, Class C also expresses the V-particle function (5b).

- (5) *Class C*
- (a) ...dat die man na die plaas toe_{P_{DIR}} ry.
that the man after the farm to drives
“...that the man is driving to the farm.”
- (b) ...dat Jan hom aan sy studies toe_{V-PART} wy.
that Jan him to his studies to devote
“...that Jan is devoting himself to his studies.”

Classes D and E elements, although they have the same formal range potential, exhibit distinct syntactic distributions and are also conceptually distinct. Class D comprises what in the literature for both Dutch and Afrikaans is referred to as the *inherently directional* adpositions (i.e. they never function as locative adpositions), whereas Class E comprises the *non-inherently directional* adpositions (i.e. they function both as locative and directional adpositions, but are widely argued to be either inherently locative or conceptually neutral).⁶ Class D therefore represents the set of P elements which, as adpositions, head only directional pre-PPs, but also function as V-particles:

- (6) *Class D*
- (a) ...dat Jan verby_{P_{DIR}} die plaashuis draf.
that Jan past the farmhouse jogs
“that Jan is jogging past the farmhouse.”

⁶ Cf. e.g. Biberauer & Folli (2004), Den Dikken (2010), and Biberauer (2016b) for discussion and analysis of the (non-)inherently directional distinction among adpositions.

- (b) ...dat Jan by die plaashuis verby_{V-PART} draf.⁷
 that Jan at the farmhouse past jogs
 “that Jan is jogging past the farmhouse.”

Class E represents the set of P elements which do function as locative adpositions, but which also head directional pre-PPs and function as V-particles. Class E also comprises the language’s source of doubling P elements, which are discussed and analysed in Chapter 5.

(7) *Class E*

- (a) ...dat Jan op_{PLOC} die strand slaap.
 that Jan on the beach sleeps
 “that Jan is sleeping on the beach.”
- (b) ...dat Jan op_{DIR} die berg klim.⁸
 that Jan up the mountain climbs
 “that Jan is climbing up the mountain.”
- (c) ...dat Jan teen die berg op_{V-PART} klim.
 that Jan against the mountain up climbs
 “that Jan is climbing up (the side of) the mountain.”

It is interesting that the expressions in (7b) and (7c) seem to constitute mutually exclusive options for forming directional expressions in microvarieties of Afrikaans: in forming directional expressions involving Class E elements, Afrikaans grammars seem to opt for *either* a combination of (7a) + (7b) *or* (7a) + (7c). This topic, though falling largely outside the scope of this dissertation, is taken up again briefly in Section 4.3 of Chapter 4.

⁷ Note that although *voorbij* in Dutch is complex (i.e. *voor+bij*, lit.: front+near), *verby* in Afrikaans is simplex and means only “past”.

⁸ It should be noted that directional pre-PPs headed by Class E elements are only possible for speakers of some microvarieties. Those for whom Class E elements cannot head directional pre-PPs require the P element to be doubled e.g. *Jan klim op die berg op* (lit.: Jan climbs up the mountain up, “Jan is climbing up the mountain”).

Class F elements are specified for expressing the entire functional range AxPart, locative and directional Adposition, and V-particle:

- (8) *Class F*
- (a) ...dat die yskas teen aan die muur staan.
that the fridge against_{AXPART} on the wall stands
“...that the fridge is against the wall.”
- (b) ...dat die yskas teen_{PLOC} die muur staan.
that the fridge against the wall stands
“...that the fridge is against the wall.”
- (c) ...dat Jan die bal teen_{PDIR} die muur gooi.
that Jan the ball against the wall throws
“...that Jan is throwing the ball against the wall.”
- (d) ...dat Jan die nuwe taalbeleid teen_{V-PART} staan.
that Jan the new language-policy against stands
“...that Jan is resisting the new language policy.”

The table in (9) overleaf is a chart of Afrikaans P elements, arranged in the six FRaP Classes A-F.⁹ The columns represent the (micro-)categorical functions, and a shaded cell indicates the P element’s ability to express that function (i.e. that it falls within the P element’s FRaP). Where possible, an equivalent English P element has been provided in each shaded cell to convey the specific meaning of a P element expressing that function. Sometimes a direct translation is not possible, in which case a roughly equivalent concept is given in scare quotes (“...”). As mentioned in Chapter 1, temporal functions that are expressed by P elements are not included as a set of functions that are formally distinct from spatial functions. In as much as temporal functions in the P domain can be considered a conceptual mapping of time to space (cf. Lakoff & Johnson 1980 where TIME = SPACE is a basic conceptual metaphor), the spatial and temporal functions of P are not distinguished here. If any temporal functions expressed by P cannot simply be considered a conceptual extension of the spatial functions, they are not discussed here.

⁹ This chart, for the reader’s convenience, is repeated in the Appendix to the dissertation.

(9) Afrikaans P elements organised by Formal Range Potential (FRaP)

AXIAL PART		ADPOSITION		V-PARTICLE
	AXPART	P _{LOC}	P _{DIR}	RES
Class A				
na ₁	<i>near</i>			
Class B				
agter	<i>back</i>	<i>behind</i>		
binne	<i>"interior"</i>	<i>inside</i>		
bo	<i>"top"</i>	<i>above</i>		
buite	<i>"exterior"</i>	<i>outside</i>		
onder	<i>under</i>	<i>beneath</i>		
tussen	<i>in.between</i>	<i>between</i>		
van	<i>of</i>	<i>"origin"</i>		
voor	<i>"face"</i>	<i>front</i>		
langs	<i>beside</i>	<i>next.to</i>	<i>along/via</i> [†]	
Class C				
af			<i>down/off</i>	<i>down/off</i>
toe			<i>to</i>	<i>to</i>
Class D				
deur			<i>through</i>	<i>through</i>
na ₂			<i>to</i>	<i>to</i>
om			<i>around</i>	<i>around</i>
verby			<i>past</i>	<i>past</i>
Class E				
aan		<i>"contact"</i>	<i>(on)to</i>	<i>to.vicinity</i>
by		<i>at</i>	<i>past</i> ^{††}	<i>to.with</i>
in		<i>in</i>	<i>into</i>	<i>into</i>
op		<i>on</i>	<i>onto</i>	<i>up</i>
oor		<i>above</i>	<i>over</i>	<i>over</i>
uit			<i>out</i>	<i>out</i>
Class F				
rond	<i>"perimeter"</i>	<i>"region"</i>	<i>around</i>	<i>around</i>
teen	<i>against</i>	<i>against</i>	<i>to.against</i>	<i>"opposite"</i>

[†] *Langs* constitutes an exceptional case since it forms the postpositional element of route-denoting circum-PPs (cf. (i)), in which respect it is functionally similar to *toe* and *af* comprising Class C. It does not, however, function as a V-particle as the Class C elements do; neither does Class C express the AxPart or the locative Adposition functions as Class B does. It may therefore prove necessary to distinguish an additional FRaP Class, of which *langs* forms the only member, although this is not at present a crucial matter.

(i) Jan draf met die pad langs.
Jan jogs with the road along
"Jan is jogging along the road."

^{††} This is not a standard use of *by*, but appears to occur in regional varieties of Keimoes and Kimberley in the Northern Cape province (cf. note 15 in Section 4.4.2 of Chapter 4).

One striking observation about (9) is that syncretism in the P zone is prolific. Another striking observation concerns the robust pattern to which the syncretism conforms: multifunctional P elements express only functions that are contiguous in the table. In other words, syncretism appears to be restricted to “adjacent” functions. For instance, no element expresses location as an adposition and resultant state as a V-particle, to the exclusion of direction as an adposition.

The significance of such a robust pattern of syncretism will become clear in the following section, as we consider methods of modelling syncretism: a paradigm with no “gaps”, is strongly compatible with a hierarchical model of syncretism; this in turn translates to a syntactic hierarchy in the fine-grained minimalist derivation.

2.2 Syncretism

Syncretism has been investigated from a wide variety of linguistic approaches, including unification-based grammars,¹⁰ Network Morphology (cf. Baerman et al. 2005; Brown & Hippisley 2012), and Paradigm Function Morphology (PFM; cf. Stump 1993; 2001; Sadler & Nordlinger 2006). Until recently, syncretism was viewed primarily as a morphological phenomenon and, with the exception of work done in the nanosyntactic framework (cf. i.a. Caha 2007; 2009; Starke 2009; Pantcheva 2011; De Clerq 2013), it has not received much systematic attention in broad minimalism.¹¹

¹⁰ Such approaches include Generalised Phrase Structure Grammar (GPSG; cf. Gazdar et al. 1985), Head-Driven Phrase Structure Grammar (HPSG, cf. Pollard & Sag 1994), Functional Unification Grammar (FUG; cf. Kay 1979), and Lexical Functional Grammar (LFG; cf. Kaplan & Bresnan 1982).

¹¹ “Broad Minimalism” here refers to what might be considered mainstream “Chomskyan” minimalism taken together with the more recent “Fine-grained” approaches like Distributed Morphology (DM), Cartography, and Nanosyntax (NS). These Fine-grained approaches are discussed in more detail in Section 2.4 of this chapter where appropriate references to relevant literature are also given.

Syncretism and inflectional paradigms are closely related because the concept of a paradigm facilitates the organisation of grammatical features and provides a tangible way of representing systematic relations between morphological forms. Spencer (2003:252) describes a paradigm as “a set of [morphological - EP] forms defined by a set of [grammatical - EP] oppositions”. A paradigm typically consists of two “axes”,¹² each of which represents a grammatical function. The positions along each axis represent values that are available with respect to the grammatical function. The positions at which the values on the axes intersect represent Spencer’s “grammatical oppositions”, and a relevant morphological form embodies each grammatical opposition. Clearly, no two positions are defined by the same set of oppositions. Crucially, each paradigm is constrained by information not held within the paradigm itself, such as grammatical category (e.g. N, V, P), inflection class (e.g. declension or conjugation), etc.

Syncretism occurs when two or more oppositions are embodied by the same morphological form (Gvozdanovic 1991:135), which obviously defies the expectation that each unique set of grammatical oppositions will be embodied by a unique morphological form. In other words, there is a one-to-many mismatch between form and functional meaning. Suppose, for example, that the nouns in a language inflect for four cases (nominative, accusative, genitive, dative) and two numbers (singular, plural). Then we expect all nouns to have 4x2 forms (Spencer 2003:252). A paradigm which conforms to this expectation is an “exhaustive paradigm”. Natural language, however, does not seem to favour such paradigms, and most contain fewer forms than the number of grammatical oppositions. When two grammatical oppositions are syncretic, it is possible to distinguish between them by comparison with other parts of the same paradigm, i.e. parts where the grammatical oppositions are not syncretic (Gvozdanovic 1991:135). This property of inflectional paradigms renders them

¹² The term “axes” here is not employed in the sense of a geometrical axis that demarcates points in space, although some approaches take this analogy more seriously (cf. e.g. McCreight & Chvany 1991).

systematic and able to provide clues about syncretic elements, their functions, and the associated formal features.

According to Baerman et al. (2005:3), “we do not have the same expectations of consistency and completeness for derivational morphology as for inflection.” In other words, it is widely accepted that syncretism, which could be described as “systematic homophony” and which is (morpho-)syntactic in nature, is conceptually distinct from *accidental homophony* (Baerman et al. 2005:9-10). Inquiries on syncretism are normally restricted to the study of inflectional paradigms and are not concerned with derivation or lexical homophony (cf. e.g. Carstairs-McCarthy 1991; Blevins 1995; Stump 2001; Müller 2004; Baerman et al. 2005). Müller argues that, within a certain functional domain, the zero hypothesis concerning instances of homophony should be that they are systematic (as opposed to accidental). Müller's (2004:197) claim is captured in what he refers to as the *syncretism principle*:

- (10) *Syncretism principle*
Identity of form implies identity of function (in a domain Σ and unless there is evidence to the contrary)

The most discernible criterion for delimiting Σ – that is, for defining the grammatical positions on a paradigm – seems to be: *omit semantic information*. Delimiting Σ thus translates to establishing the presence of a range of formal features in syntax.

2.2.1 Modelling Syncretism

It is important to recognise the distinction between syncretism, as an empirical phenomenon, and the theoretical modelling of that phenomenon. And it is certainly the case that some theoretical representations lend themselves more fruitfully to minimalist-style inquiry than others. Translatability is a crucial issue here: the more readily syncretism as a phenomenon can be incorporated into the established minimalist mode of representing other syntactic phenomena, the more readily it can

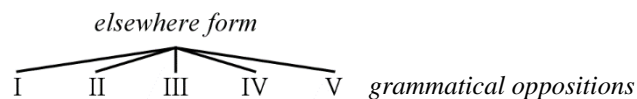
be appropriated as a contributing source of information guiding the ongoing generative inquiry into the structure of human language. So, following Baerman et al. (2005:126-132) I will give a very brief survey of three models of representation, namely (i) the flat model, (ii) the hierarchical model, and (iii) the cross-classification model, before highlighting and describing in detail the hierarchical model, which is compatible with minimalist syntax and will be taken up as the mode of representation in this study.

As Baerman et al. point out, the flat and hierarchical models are rigidly constrained, whereas the cross-classification model is unconstrained. The flat model, illustrated in (12) for the abstract paradigm in (11), constrains syncretism to one elsewhere form per paradigm: in the absence of a unique morphological form that is specified for expressing the particular set of grammatical oppositions represented by the functions I, II, III, IV, and V, the expression is “defaulted” to the mother node, i.e. the single elsewhere form.

(11) *Abstract paradigm*

property b (e.g. case)	Grammatical property a (e.g. gender)		
	I	II	III
	IV	V	

(12) *Flat model of syncretism*



Empirical evidence suggests that any adequate model of syncretism needs to be able to accommodate more than one syncretic form in a paradigm (recall the prolific syncretism in (9) above). This fact simply cannot be accommodated in a flat model,

34

which defaults the expression of any opposition for which there is no specially designated form to the single root node representing the elsewhere form.

Starke (2011) notes that the so-called “conventional” minimalist method of representing grammatical features as (unordered) bundles in syntactic terminals, as crudely illustrated in (13), actually defaults the representation of grammatical features in these structures to a flat model. In (13), *v*- marks a feature that is inherently valued on a D terminal, whereas *u*- marks a feature that must be externally valued in the course of the derivation.

- (13) **D**
 [*v*-person]
 [*u*-case]
 [*v*-number]
 [*v*-gender]

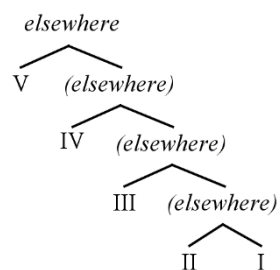
Representations such as (13) would make for inadequate accounts of the syncretisms occurring in this domain. To see this, one need only consider the English 3rd person pronominal paradigm in (14) (but cf. also the Old Norse demonstrative paradigm in (18) below), where there are five elsewhere forms. A flat model could not, in the first place, account for the presence of more than one elsewhere form (cf. (12) above where only one such form can be accommodated). In the second place, it can make no predictions about the distribution of these elsewhere forms across a paradigm because the features are not ordered with respect to one another. We must assume that any patterns emerging with regard to the distribution of one (or more) elsewhere forms is co-incidental. The unordered (flat) representation of D-features in (13) thus already has nothing to offer in terms of explaining the distribution of the elsewhere forms in paradigm (14).

(14)

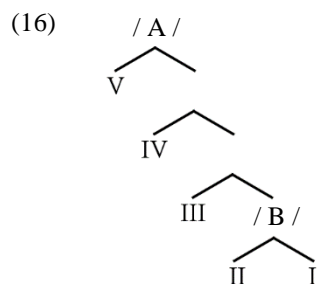
	M.SG	F.SG	N.SG	M.PL	F.PL	N.PL
NOM	he	she	it	they	they	they
ACC	him	her	it	them	them	them
GEN	his	her	its	their	their	their

The hierarchical model, too, is highly constrained, but is not limited to one syncretic/elsewhere form per paradigm. Here, the constraint is on the structural contiguity of the functions representing the grammatical oppositions in the paradigm. In (15), the terminal nodes represent distinct functions I, II, III, IV, and V, and the mother nodes possible loci of association between function and morphological form.

(15) *Hierarchical model of syncretism*



To see how the model works, suppose there is a morphological form /B/ associated with the mother node of [II I], and another form /A/ associated with the mother of [V [IV ...]], as illustrated:



In a scenario like (16), functions I and II are expressed by /B/ (the elsewhere form corresponding to functions I and II), in the absence of any specially designated forms at terminals I and II; functions III, IV and V will be expressed by /A/ (the elsewhere form corresponding to functions I, II, III, and IV), in the absence of any specially designated forms at those terminals. Importantly, though, if these two elsewhere forms

were to compete for insertion (e.g. for expressing function II), /B/ would win because it is more particularly specified for that function than /A/. So, the absence of a designated elsewhere form at a given mother node causes any terminals dominated by that mother node to be defaulted to the elsewhere form associated with the nearest dominating mother node.

It is a natural consequence of this model that only contiguous functions can be expressed by the same elsewhere form. Due to the binarity inherent to the model, it can never be the case that for example III is expressed by /A/, II by /B/, and I again by /A/. This gives rise to what is referred to as the **ABA Constraint* by proponents of this model in broad minimalist syntax (cf. i.a. Caha 2007, 2009, Bobaljik 2012, (Bobaljik & Sauerland 2017)). **ABA* makes a strong prediction regarding what patterns of syncretism ought to be (im)possible in natural language. To the extent that it bears out, the constraint forms a powerful guiding principle in organising the grammatical oppositions in inflectional paradigms, and this model can be straightforwardly “translated” into minimalist syntactic representation. Such hierarchical representations also hold the potential for modelling paths of acquisition and diachronic change, as done in e.g. Biberauer & Roberts (2015), Biberauer (2016a) *et seq.* with a universal and cognitively general NONE > ALL > SOME algorithm.

For the simple reason of providing one additional alternative model of syncretism, I will provide a very brief description of *cross-classification*. In clear contrast with the flat and hierarchical models, cross-classification aims to offer an unconstrained method of modelling syncretism so that there is no limit (i) to the number of syncretic forms occurring in a single paradigm or (ii) in terms of which positions in a paradigm may be expressed by a single syncretic form. The model involves assigning a shared abstract feature to all paradigmatic positions that are expressed by a single elsewhere form, these features being the locus of syncretism. In the paradigm represented in (17), for example, suppose the functions denoted by the oppositions III and IV are expressed by the same elsewhere form (shaded). On a cross-classification model, an abstract feature [α] must be present in both of these positions, signalling to the system the possibility of syncretism between these (and all other [α]-marked) positions.

(17)

Grammatical property b	Grammatical property a		
	I	II	III α
	IV α	V	VI

This model clearly does not place restrictions on the contiguity of syncretic forms in any paradigm (in fact, that is one of its explicit aims – cf. Baerman et al. 2005), i.e. there is no *ABA constraint on this approach to modelling syncretism. While designed to account for paradigms in which the syncretisms apparently do not conform to the *ABA Constraint (a potential strength of this approach), this model does not place any predictive constraints on syncretism, which is also the basis for its shortcomings. The next section explores the strengths and shortcomings of these models.

2.2.2 Taking Stock: A Choice for the Hierarchical Model

As Baerman et al. (2005) point out, syncretism - across languages and domains - does seem to occur in ABA patterns, which constitutes a problem for the hierarchical model on which the *ABA Constraint is inviolable. Consider for example the paradigm of the reinforced demonstrative in Old Norse (Gordon 1956:295), where the syncretisms are indicated by various types of shading in the cells. Of the five syncretic/elsewhere forms in the paradigm – *Pessi*, *Pessa*, *Pessar*, *Petta*, and *Pessum* – it appears only *Petta* conforms to the *ABA constraint (that is, since the two instances of *Petta* occupy adjacent cells), and no pattern is discernible amongst the other syncretisms.

(18) *Old Norse – Reinforced demonstrative*

	F.SG	M.SG	N.SG	F.PL	M.PL	N.PL
NOM	<i>Pessi</i>	<i>Pessi</i>	<i>Petta</i>	<i>Pessar</i>	<i>Pessir</i>	<i>Pessa</i>
ACC	<i>Pessa</i>	<i>Penna</i>	<i>Petta</i>	<i>Pessar</i>	<i>Pessa</i>	<i>Pessa</i>
GEN	<i>Pessar</i>	<i>Pessa</i>	<i>Pessa</i>	<i>Pessa</i>	<i>Pessa</i>	<i>Pessi</i>
DAT	<i>Pessi</i>	<i>Pessum</i>	<i>Pessu</i>	<i>Pessum</i>	<i>Pessum</i>	<i>Pessum</i>

In cases where no discernible pattern emerges, models such as cross-classification do seem to offer the only chance of capturing the facts. The problem with such a model, however, is that it reduces potential understanding of syncretism to mere description, and holds no explanatory power (although mere description is the best any model could do in cases where no patterns emerge from the data). In this light, it seems an important question whether underlying patterns of syncretism might not somehow be masked in “chaotic” paradigms (cf. e.g. Ackerman & Malouf 2013 who argue that natural languages do not to allow chaotic paradigms). Two remarks on this issue:

Firstly, as Lander (2014; 2015) argues for the Old Norse paradigm in (18), ABA patterns sometimes arise from post-syntactic morpho-phonological processes that mask a deeper underlying pattern where the *ABA Constraint is obeyed.

Secondly, on a methodological point, the traditional (grammarians’) organisation of a paradigm sometimes masks an underlying pattern conforming to the *ABA Constraint. A simple example here is the German strong adjectival case paradigm, illustrated in (19), which on the descriptive tradition is organised NOM, ACC, DAT, GEN. On that organisation, an ABA pattern occurs with the accusative and genitive ending in the masculine singular, across the non-syncretic dative form. However, all that is required for the *ABA Constraint to go unviolated is the reorganisation of the paradigm so that ACC and GEN are adjacent:

(19)

	M.SG	F.SG	N.SG	PL.
NOM	rot-er	rot-es	rot-e	rot-e
ACC	rot-en	rot-es	rot-e	rot-e
GEN	rot-en	rot-en	rot-er	rot-er
DAT	rot-em	rot-em	rot-er	rot-en

(Caha 2009:284-285)

Such reorganisation should not, of course, undermine the organisation of paradigms reflecting the same grammatical oppositions in other languages, or we are no closer to establishing universal trends in the organisation of grammatical functions. In a crosslinguistic study, Caha (2009) shows with regard to ordering case features in

paradigms that the (re-) organisation NOM, ACC, GEN, DAT (INS, COM) is justified in the sense that no ABA patterns emerge on such an organisation. According to McCreight & Chvany (1991:106-107),

When investigating spatial phenomena such as peripherality and contiguity we must first determine the organisation of the syntactic coordinates. Suppose the paradigm contains a person dimension, with coordinates of first, second and third person. If the coordinates are organised as first-second-third person, then the first and third are peripheral; first and second may be contiguous, excluding third; or second and third may be contiguous excluding first; but first and third may not be contiguous to the exclusion of the second. These relations would be altered if the organisation of the coordinates were instead first-third-second person. Hypotheses about the actual organisation of syntactic coordinates as adjacent or peripheral should respectively predict confluents and exceptional forms.

Though the *ABA Constraint predicts that ABA syncretisms do not underlyingly exist in natural language, I will remain agnostic on this point. Indeed, it constitutes a potential problem for hierarchical models and would have to be addressed as it arises – probably case by case, since we have seen that certain paradigms which appear at first to incorporate an ABA pattern can turn out underlyingly to respect the Constraint. To be clear, for proponents of hierarchical models, there is a strong prediction in play, namely that there are no true ABA patterns in natural language, and it remains to be seen (e.g. through detailed typological work) whether this predication bears out. This issue does not constitute a problem for the study at hand since, as shown with the table (9) above, no ABA patterns arise in the Afrikaans spatial P paradigm.

Despite cross-classification avoiding the possible pitfall of the *ABA Constraint, such a method of modelling the phenomenon essentially renders syncretism useless as a diagnostic tool for establishing syntactic hierarchies of grammatical features; and that is precisely where the strength of hierarchical models lies. Despite certain apparently false predictions, hierarchical models take syncretism out of the opaque and arbitrary domain of listed associations between individual forms and meanings, and put it into the transparent and systematic domain of syntax, without postulating any new theoretical devices. This is profoundly in line with the generative agenda and

abandoning such an explanatory approach prematurely would be detrimental to understanding syncretism as an interface phenomenon.

Summing up: three methods for modelling syncretism have been investigated, of which the hierarchical model represents the best “fit” for a generative approach to syncretism. The next section deals with the question of how a hierarchical model of syncretism can be “translated” into the (fine-grained) minimalist derivation.

2.2.3 Syncretism in the Afrikaans P Zone

With reference to the discussion in the previous section about the role of paradigms in modelling syncretism, this subsection explores two ways of constructing a paradigm for Afrikaans spatial P elements. Both involve plotting oppositions between formal and conceptual information associated with Afrikaans P. The formal information relates to the (micro-)categories of P introduced in Chapter 1 and Section 2.1 of this chapter, namely AxPart (AXPART), locative (P_{LOC}) and directional (P_{DIR}) Adposition, and V-particle (RES(ult)). The conceptual information – e.g. VICINITY, INTERIOR, TOP, BOTTOM, FACE, REAR, etc. – provides the “content” of various spatial relations.

The first paradigm – given in (20) below – is concerned with mapping out how spatial functions are expressed by *suppletion* (i.e. where the whole function is expressed by a single exponent, as opposed to some analytical means – e.g. in the form of a morphologically complex adposition, a circumpositional phrase, or through particle verb formation). The tacit assumption is that suppletion is the least costly strategy for lexicalising the articulated underlying structure. So the use of a suppletive element is taken to be an indication that the language has in its lexical inventory an item which is (i) specified for the formal features associated with the relevant spatial function and (ii) a conceptual match for the information referred to by the root. This first paradigm therefore constitutes a “stock-taking” exercise of sorts, one that establishes which formal + conceptual information “packages” exist in the lexicon of Afrikaans.

The second paradigm – given in (27) below – is concerned with capturing all the *non-suppletive* (analytical) strategies that the languages utilises, presumably for the lack of any adequately specified suppletive element in the relevant derivational context. As will be seen, these strategies involve forming complex adpositions, circumpositions, and particle verbs. The purpose of the second paradigm, therefore, is essentially setting out the dissertation’s “roadmap” in accounting for variation in the P domain of Afrikaans. The hypothesis is that the rich variety of spatial structures showcased in paradigm (27) are the result of the language’s lack of appropriately specified suppletive elements (those showcased in paradigm (20)). In a sense, then, the usefulness of (20) lies in accounting for the articulated P-internal structure through patterns of syncretism, and the usefulness of (27) lies in making explicit which P-external phenomena arise when particular suppletive forms are not available. The subsequent task (undertaken in Chapters 4-6) is to provide a unified account of the internal (suppletive) and external (analytical) syntax involving elements of P.

Turning now to the first paradigm in (20) overleaf, the shading in the cells represents FRaP Classes A-F, which were introduced in Section 2.1 above, with the key given below the table. Recall from Section 2.2.1 that a guiding principle for establishing patterns of syncretism in a grammatical domain is omitting “semantic information”. It could be argued that the conceptual information, or the “content” of the spatial relations, constitutes such semantic information and, for that reason, should not be included as an organising factor in the paradigm.

(20)¹³

Conceptual meaning	Functional meaning						
	AxPart		P _{LOC}		P _{DIR}		V-particle
VICINITY	<i>rond/teen</i>		<i>rond/teen</i>		<i>rond/teen</i>		<i>rond/teen</i>
	<i>van</i>	<i>na₁</i>	<i>van</i>	<i>by/aan</i>	<i>by/aan</i>	<i>by/aan</i>	
INTERIOR	<i>binne</i>		<i>binne</i>	<i>in</i>	<i>in</i>	<i>in</i>	
TOP	<i>bo</i>		<i>bo</i>	<i>op/oor</i>	<i>op/oor</i>	<i>af</i>	<i>op/oor</i> <i>af</i>
BOTTOM	<i>onder</i>		<i>onder</i>				
FACE	<i>voor₂</i>		<i>voor₂</i>				
REAR	<i>agter</i>		<i>agter</i>		<i>na₂</i>	<i>na₂</i>	
EXTERIOR	<i>buite</i>		<i>buite</i>		<i>om/uit</i>	<i>om/uit</i>	
SIDE	<i>langs</i>		<i>langs</i>		<i>verby</i>	<i>verby</i>	
MIDST	<i>tussen</i>		<i>tussen</i>		<i>deur</i>	<i>deur</i>	

KEY	<i>Class A</i>	<i>Class B</i>	<i>Class C</i>	<i>Class D</i>	<i>Class E</i>	<i>Class F</i>
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A strong argument in favour of admitting conceptual information to (20), however, lies in the emerging systematicity. That is, paradigm (20) conforms to the *ABA Constraint, *both* with regard to (i) specific morphological forms expressing the oppositions, *and* (ii) the FRaP classes A-F to which the forms belong. In other words, a single form such as *na₂* never expresses a “lower” function, e.g. AxPart, and a “higher” function, e.g. directional Adposition, to the exclusion of an intermediate function. This can be stated in the following generalisation:

(21) *ABA Constraint on Afrikaans Spatial P

- (a) If a suppletive form functions as an AxPart and V-particle, then it also functions as a locative and directional Adposition.
- (b) If a suppletive form functions as a locative Adposition and a V-particle, then it also functions as a directional Adposition.
- (c) If a suppletive form functions as a locative Adposition but not as a directional Adposition, then neither does it function as a V-particle.
- (d) If a suppletive form functions as a directional Adposition but not as a locative Adposition, then neither does it function as an AxPart.

¹³ Note that *na₁* in both tables (9) and (20) refers to one and the same P element (i.e. the sole member of FRaP Class A), and *na₂* in both (9) and (20) refers to the FRaP Class D element.

From the constraint in (21) it is possible to derive the *Space Contiguity Hypothesis* (which is analogous to the *Universal Case Contiguity* hypothesis of Caha 2009)¹⁴:

- (22) *Space Contiguity Hypothesis for Afrikaans*
 Syncretism targets contiguous regions in the sequence AxPart-P_{LOC}-P_{DIR}-V-particle.

In other words, when a form expresses a low and a high function, it necessarily expresses all the functions in between. Furthermore, each FRaP class is located on contiguous positions in (20), i.e. no “gaps” occur in the patterns of the shading representing each class. These facts suggest not only that the conceptual information in (20) is (somehow) grammatically active,¹⁵ but also that the points on both axes are correctly organised. In fact, the organisation of the points on the conceptual axis is strongly reminiscent of Zwarts' (2010) hierarchy of locations, given in (23). Although Zwarts claims that (23) is “primarily semantic”, his hierarchy is based on the grammatical strategies – suppletion, case marking, projection, government, reordering, and identity – of various languages in encoding the locations within directional expressions. Basically, he argues that, progressing up the hierarchy, once a language “switches” from utilising one strategy to another, it does not revert back.¹⁶

¹⁴ *Universal (Case) Contiguity* (Caha 2009:10):

(a) Non-accidental case syncretism targets contiguous regions in a sequence invariant across languages.

(b) The Case sequence: nominative – accusative – genitive – dative – instrumental – comitative

¹⁵ I make no claims regarding how this is so, however; nor does the discussion here hinge on how this information is organised. It is enough that the legitimacy of this information as an organising factor in (20) is established. The interested reader is referred to Zwarts (2010) and references therein for further discussion in which the conceptual information of spatial P elements seems to be (again, somehow) grammatically active, in both child language acquisition and in crosslinguistic grammatical encoding strategies.

¹⁶ It falls outside the scope of the present discussion to provide a more detailed exposition of Zwarts' work. The interested reader is referred to Zwarts (2010) for detail. Cf. also Levinson & Meira (2003), and other references in Zwarts (2010) for alternative approaches to constructing hierarchies for location. For instance, an analogous hierarchy of location is motivated by conceptual complexity and primacy in child language acquisition in the work of, e.g. Johnston & Slobin (1979), building on Piaget & Inhelder (1969).

(23) AT < IN, ON < UNDER < BEHIND < FRONT

Certain points on the axis of conceptual meaning in (20) would permit reordering without violating the *ABA Constraint. For instance, TOP and INTERIOR would permit such reordering – note, however, that this reflects Zwarts’ hierarchy in which IN and ON are unordered – so would BOTTOM and FACE, and so would the more “complex” conceptual notions REAR, EXTERIOR, SIDE, and MIDST. The hierarchy in (23) is generalised crosslinguistically, with non-generalisable locations removed. As shown in (24), however, hierarchies based on smaller language samples than that in (23) do turn out a similar picture to the variability of the Afrikaans P elements in (20).

- (24) (a) *Adpositions in English and Dutch (various encodings)*
 AT < IN, ON < NEAR < BEHIND, FRONT, OVER, UNDER
 (b) *Oblique/accusative case (government encoding)*
 AT < IN, ON < UNDER < BEHIND, OVER < BETWEEN, FRONT < BESIDE
 (c) *Local case (suppletion encoding)*
 AT < IN, ON < UNDER < BEHIND < NEAR, FRONT

(Zwarts 2010:1001; examples 20-22)

The fact that certain oppositions in (20) are expressible by more than a single morphological form, e.g. *van/by/aan/rond/teen* for VICINITY + P_{LOC}, is due to the fact that the points plotted on the conceptual axis are too coarse-grained to capture all the nuances in meaning. For instance, a conceptual subcategory with respect to VICINITY seems to emerge for *aan* and *teen*, which denote contact between surfaces, whereas this is not the case with *van*, *by*, and *rond*. The same is true with TOP for *op* and *oor*, where *op* necessarily denotes contact, and *oor* necessarily does not. This could be resolved simply by plotting a more fine-grained conceptual axis. However, the contours of nuance in the conceptual meaning of spatial relations are at best vague and subjective; so keeping to a coarse axis with regard to conceptual information is deemed theoretically preferable to an unverifiably complex one on which all the nuances probably are not grammaticalized. It is assumed that such conceptual nuances as are available to the conceptual component determine the selection of e.g. *by* vs. *aan* when such items are formally identical.

Refining the points plotted on the functional axis is by contrast entirely grammatically verifiable. In fact, much recent work has been concerned with refining P_{DIR} into a set of “decomposed”, grammatically active subtypes namely GOAL, SOURCE, and ROUTE (cf. i.a. Kracht 2002; Zwarts 2010; Pantcheva 2011). One argument for the legitimacy of these distinctions in the grammar comes from morphologically rich languages, where separate morphemes express each functional opposition. Again, a hierarchy of functions can be determined based on the “nesting” patterns of the morphemes expressing the functions: those associated with “lower” functions are present in expressions of the “higher” functions. On the basis of crosslinguistic similarities in these nesting patterns, Pantcheva (2009; 2010; 2011) determines a functional hierarchy: GOAL<SOURCE<ROUTE. Consider, for example, the data in (25) where expressions of SOURCE morphologically include that of GOAL; in (26) expressions ROUTE in Akhvakh and Avar morphologically include that of SOURCE.

(25)

Language	Goal	Source	Reference
Bulgarian	-kəm	-ot-kəm	(Pashov 1999)
Dime	-bow	-bow-de	(Mulugeta 2008)
Chamalal	-u	-u-r	(Magomedbekova 1971)
Ingush	-ga	-ga-ra	(Nichols 1994)
Jingulu	-nka	-nka-mi	(Blake 1977)
Mansi	-n	-n-əl	(Keresztes 1998)
Quechua	-man	-man-da	(Jake 1985), (Cole 1985)
Uchumataqu	-ki	-ki-stani	(Vellard 1967)

(from Pantcheva 2011:49)

(26) (a) *Akhvakh*

	Series	Source	Route
on	-g	-g-u	-g-u-ne
at/near	-x	-xar-u	-xar-u-ne
at	-q	-q-u	-q-u-ne
in	-l'	-l'-u	-l'-u-ne
under	-t°	-t°-u	-t°-u-ne

(from Magomedbekova 1971)

(b) *Avar*

	Series	Source	Route
on	-da	-da-ssa	da-ssa-n
at	-q	-q-a	-q-a-n
in a hollow object	-∅	-∅-a	-∅-a-n

(from Blake 1994)

Based on the functional distinction between GOAL, SOURCE, and ROUTE, the second paradigm for Afrikaans spatial expressions, given in (27) overleaf, involves a richer functional axis – which in turn allows the conceptual axis to be simplified, with *deur* being subsumed as a route-directed expression of INTERIOR, allowing MIDST to fall away as a separate point on the conceptual axis.

Unlike (20), paradigm (27) is not restricted to suppletive forms; rather, it attempts to capture various grammatical strategies of encoding the oppositions for which suppletive forms are unavailable. It is taken to be the case that non-suppletive strategies arise as a spellout reflex of the unavailability of a suppletive exponent which is specified for all the requisite features of a given functional-conceptual opposition (cf. e.g. the analysis of circum-PPs developed in Chapter 5). Thus, in complement to (20), (27) shows what options are available to the system when a suppletive spellout strategy is unavailable. I will borrow Zwarts' (2010:990-991) terminology for describing the strategies, which are indicated by the shading in the table. Aside from the V-particles, all forms in (27) occur positionally unless otherwise indicated by ellipses (...) for the DP in circum-PPs. Once the non-suppletive strategies have been introduced, the rest of this chapter returns its focus to the suppletive forms, and what they reveal about the functional hierarchy in the syntactic P zone.

Following Zwarts, *marking* refers to expressions where “two different morphemes [can be discerned – EP], but these morphemes are closely tied together in one word”, e.g. *into the city* in English. In (27) overleaf, the marking strategy commences at P_{LOC} through the ROUTE component of P_{DIR}, and *always* involves a morphologically initial

(27) Grammatical strategies encoding functional & conceptual oppositions

Conceptual meaning	Functional meaning		P _{DIR}	SOURCE	ROUTE	V-particle
	axial part	P _{LOC}				
VICINITY	van/mi/ teen/rond	van/by/aan /teen/rond	na ₁ ...toe	van...af	met...langs	by/aan/teen
INTERIOR	binnel/ tussen	na/by/na-aan	by/aan/teen	vanaf	rond	in/deur/wit
		binnel/in/ tussen	in	wit	deur	
TOP	bo	binnel/in tussen in	binnel/in tussen in	vanuit	tussendeur	op/oor/af
		bo/op/oor	op	af	oor	
BOTTOM	onder	bo/op/oor	na bo...toe	van bo...af	bo-oor	
FACE	voort ₂	onder	na onder...toe	van onder...af	ondertoe	
REAR	agter	voort ₂	na voort...toe	van voort...af		
EXTERIOR	buite/ rond	agter	na agter...toe	van agter...af	na ₁	niet
		buite/ rond/om	na buite...toe	van buite...af	om	
SIDE	langs	langs	tot langs	van langs...af	rondom	verby
		langs/aan				

KEY						
SUPPLETION						
MARKING						
PROJECTION						
REORDERING						

axial element and a final locative or directional adposition.¹⁷ Expressions involving marking, like *na-by* (“near”), are *complex adpositions*. According to Zwarts (2010:991), the projection strategy involves “definitely two separate words corresponding to Dir and Loc”, e.g. *from under the sofa* in English. In (27) this strategy commences in the GOAL component of P_{DIR} through ROUTE. In the VICINITY series, GOAL is expressed by *na...toe*, SOURCE is expressed by *van...af* and ROUTE by *met...langs*, illustrated in (28).

- (28) (a) Jan gaan na die park toe.
Jan goes after the park to
“Jan is going to the park.”
- (b) Jan kom van die park af.
Jan comes of the park from
“Jan is coming from the park.”
- (c) Jan ry met die pad langs.
Jan drives with the road along
“Jan is driving along the road.”

With more “complex” conceptual oppositions, GOAL and SOURCE are expressible by the projecting expression plus an additional locative element from the same conceptual series. E.g. the opposition GOAL + TOP is expressible by *na bo...toe*, as illustrated in (29). Such expressions are, however, marked because other available strategies for expressing the same oppositions win out for requiring fewer exponents.

- (29) Jan skuif die rakke na bo die yskas toe.
Jan moves the shelves after over the fridge to
“Jan is moving the shelves to above the fridge.”

Reordering, according to Zwarts (2010:991), is a “special [case]. There is no separate morpheme for [the higher function], but still [the higher function] is expressed in

¹⁷ Cf. Chapter 4 for detailed discussion and an analysis of complex adpositions. Although some combinations are not written as orthographic units, e.g. *onder in* (“at the bottom”), or are hyphenated *binne-in* (“inside”) (AWS, Taalkommissie van die Suid-Afrikaanse Akademie vir Wetenskap en Kuns 2009) such combinations all behave syntactically alike. Cf. note 3 in Chapter 1 regarding Afrikaans orthography as non-indicative of underlying syntactic structure

another morphosyntactic way, namely by... [having] to occupy a special position.” In (27) this strategy commences at P_{DIR}, with the projecting VICINITY +GOAL/SOURCE/ROUTE expressions, and include the V-particle function, where the V-particle status of a suppletive form is indicated by special distributional properties – cf. Section 2.1 above for these properties. The data in (30-31), repeated from (5-6) in Chapter 1, again illustrate the distributional properties of the suppletive form *aan* as a V-particle.

- (30) (a) Die kinders hang aan die hek.
the kids hang on the gate
“The kids are hanging on the gate.”
- (b) *Die kinders hang die hek aan.
the kids hang the gate on
- (c) *... dat die kinders die hek aan hang.
that the kids the gate on hang ADPOSITION
- (31) (a) Die kinders stuur die pakkie aan.
the kids send the parcel.dim on
“The kids are passing on the parcel.”
- (b) *Die kinders stuur aan die pakkie.
the kids send on the parcel.dim
- (c) ...dat die kinders die pakkie aanstuur.
that the kids the parcel.DIM on-send
“...that the kids pass the parcel on.” V-PARTICLE

Although the VICINITY +GOAL/SOURCE/ROUTE expressions utilise both the projecting and the reordering strategies, in (27) they are only marked as utilising the projecting strategy, so as to draw a neat distinction between them and the V-particles, which only utilise the reordering strategy.

2.3 Interim summary

Section 2.1 distinguished four (micro-)categories in the P zone: AxPart, locative and directional Adposition, and V-particle and introduced the concept of *Formal Range Potential* (FRaP, the range of functions that a syncretic element has the capacity to express). The Afrikaans P inventory was divided into six classes based on FRaP.

Section 2.2 was concerned with defining, delimiting, and modelling syncretism. Subsection 2.2.2 argued for adopting a hierarchical model of syncretism as the most constrained and minimalism-compatible theoretical lens for understanding the phenomenon; crucially, the **ABA Constraint*, as a feature of the hierarchical model, prohibits syncretic forms from expressing non-contiguous oppositions in a paradigm. Subsection 2.2.3 showed that the patterns of syncretism in the Afrikaans spatial P zone are robust and highly compatible with a hierarchical model of syncretism. The systematicity emerging from the FRaP chart in (9), and from paradigm (20) gave rise to the generalisation expressing the **ABA Constraint on Afrikaans Spatial P* in (21), from which the *Space Contiguity Hypothesis for Afrikaans* in (22) followed.

To sum up, it has been established that (i) syncretism will be regarded a legitimate grammatical reflex for establishing functional meaning in C_{HL} , (ii) four distinct (micro-)categories are discernible in the Afrikaans P zone (AxPart, locative and directional Adposition, and V-particle), and (iii) the patterns of syncretism arising with respect to these four functions are highly systematic and show strong compatibility with a hierarchical model of syncretism. The remainder of this chapter is concerned firstly with feeding the data into the hierarchical model and secondly with “translating” the model into a theory of spellout in the minimalist derivation.

2.4 Deriving Syncretism: A Functional Hierarchy in the P Zone

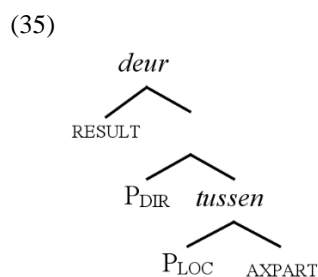
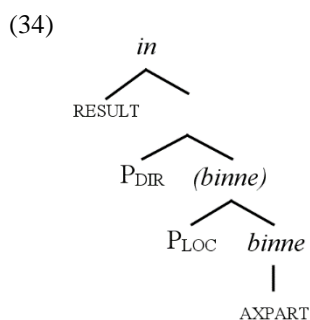
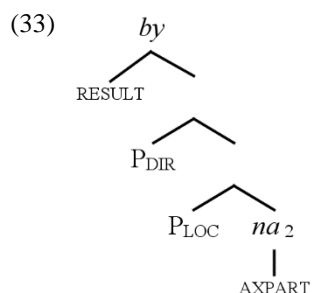
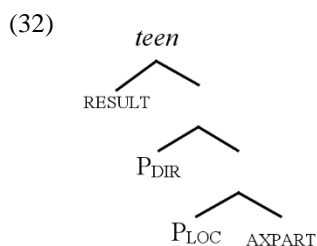
This section aims to incorporate the hierarchical model of syncretism discussed in the previous section as a working aspect of the derivation (C_{HL}). Since any model of syncretism, in the context of C_{HL} , is essentially a theory about how morphological form maps onto structure, this section is especially concerned with the content of the *spellout* procedure as the locus of form-to-meaning mapping. Assumptions about how the hierarchical model of syncretism translates into minimalism are in line, to varying degrees, with work in fine-grained minimalist approaches such as cartography (Cinque & Rizzi 2008), distributed morphology (Halle & Marantz 1994; Harley & Noyer 1999; Bobaljik 2015), and nanosyntax (Caha 2007; 2009; Starke 2009) – similarities and differences with these frameworks will be pointed out, mostly in footnotes, at relevant points in the discussion.

2.4.1 Spellout: Mapping Form to Meaning

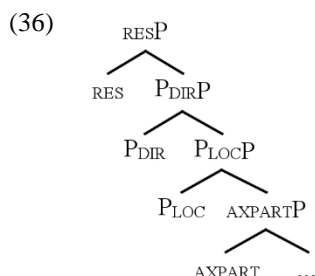
Following the discussion in Section 2.2.1 on modelling syncretism hierarchically, the syncretism with *teen* in the VICINITY series of paradigm (20), can be represented as in (32), and that with *na₂* and *by* as in (33); likewise, that in the INTERIOR series can be represented as in (34), and that in the MIDST series as in (35). The pattern in (32) is taken to be the case for all Class F elements; that in (33) for cases in which elements from both Classes A and E are activated due to shared conceptual information; that in (34) for cases in which elements from Classes A and C are activated due to shared conceptual information; and that in (35) for cases in which elements from Classes B and E are activated due to shared conceptual information. As in Section 2.2.1 above, the elsewhere form is represented on the root node of the relevant function, and all functions lacking a special morphological are expressed by the nearest dominating elsewhere form.

In (32-35) the function AxPart is represented by an AXPART node, locative Adposition by P_{LOC} , directional Adposition by P_{DIR} , and V-particle by RES. The motivation behind

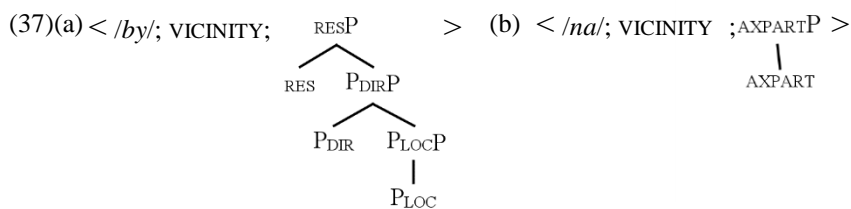
this notation becomes clear when analyses of expressions involving these elements are developed in subsequent chapters.



If the functions (AXPART – RES) in the models above are taken to represent syntactic features that are nodes in the functional hierarchy (this is patently argued to be the case in the nanosyntactic framework – cf. i.a. Caha 2007, 2009; Starke 2009, 2011; Dékány 2009; De Clercq 2013 – although here it is assumed to be justified on grounds of the argumentation in Section 2.1 surrounding the “grammatically active” status of the functional meaning associated with syncretic elements of language), and if the ordering of those functions are taken to reflect the ordering of the syntactic hierarchy (which is assumed to be justified based on the *Space Contiguity Hypothesis for Afrikaans* in (22) above) then the structure in (36) overleaf represents the cartography of the syntactic P zone. At this point, all that remains for syncretism to be transparently incorporated into the derivation is a theory of how the morphological forms associated with each function are mapped onto the structure in the course of the derivation. Although discussion of this topic is propagated throughout the dissertation, the rest of this subsection provides a preliminary view of the issue.



As mentioned in Chapter 1, Chomsky (1996:60) suggest that lexical items take the form (P, S, F), representing listed associations between phonological, semantic, and formal syntactic information, respectively. So the assumption here is that the formal information (F) takes the form of a structured functional specification stipulating possible contexts of insertion for every given morphological form. Specifically, (F) consists of a subtree, describing a lexical item’s FRaP, that is matched at spellout to a part of the syntactic structure (this assumption is in line with that of nanosyntax – cf. e.g. Starke (2009) and Pantcheva (2011). Taking (33) above as an example, the lexical entry for *by*, containing the information (P, S, F), can be represented as in (37a), and that of *na₁* as in (37b).¹⁸



The very fact of syncretism – being a phenomenon that is characterised by systematic one-to-many form-to-meaning associations– implies that a morphological form may express structure that does not constitute an exact match for the subtree embodying

¹⁸ It should be noted that *na₁* in Afrikaans, unlike in Dutch *naast* is no longer capable of functioning independently as an adposition meaning “near”. This follows from the fact that *na* cannot lexicalise P_{LOC}.

its formal specification. Rigid matching, where the structure encoded on a lexical entry must be a perfect match for the structure which it expresses, constitutes the least desirable option from a theoretical point of view because it can offer no account of syncretism.¹⁹ “Relaxed matching”, where a morphological form may express structure for which it does not constitute an exact match, can again be modelled in various ways. Two options are a matching procedure governed either by the Subset or by the Superset Principle, of which the latter (stated in (38)) is adopted here.²⁰

- (38) *The Superset Principle*
 A lexical item qualifies for insertion iff it is specified for a superset of the features to be spelled out.
 (Adapted from Caha 2007)

According to the Superset Principle, lexical items need not be encoded with the *exact* formal specification in order to qualify for insertion, since the device identifies a set of qualifying lexical items based on whether those items contain all (or any superset of) the features requiring morphological expression in the structure. A second device, the Elsewhere Condition (39), determines which of the competing items constitutes the best match for the structure. The Elsewhere Condition is sometimes referred to as *Minimise Junk* (Starke 2009:4), which reflects the fact that the winning competitor is the lexical item containing the least superfluous information.

¹⁹ In a system incorporating rigid matching, each lexical item is only a match for one single structure and hence only qualifies for insertion into that particular structure. Such a system has no choice but to postulate separate lexical entries for items with shared morphological identity, but with different LF interpretations. On such a view, the implicit claim is that all homophony in language must be accidental.

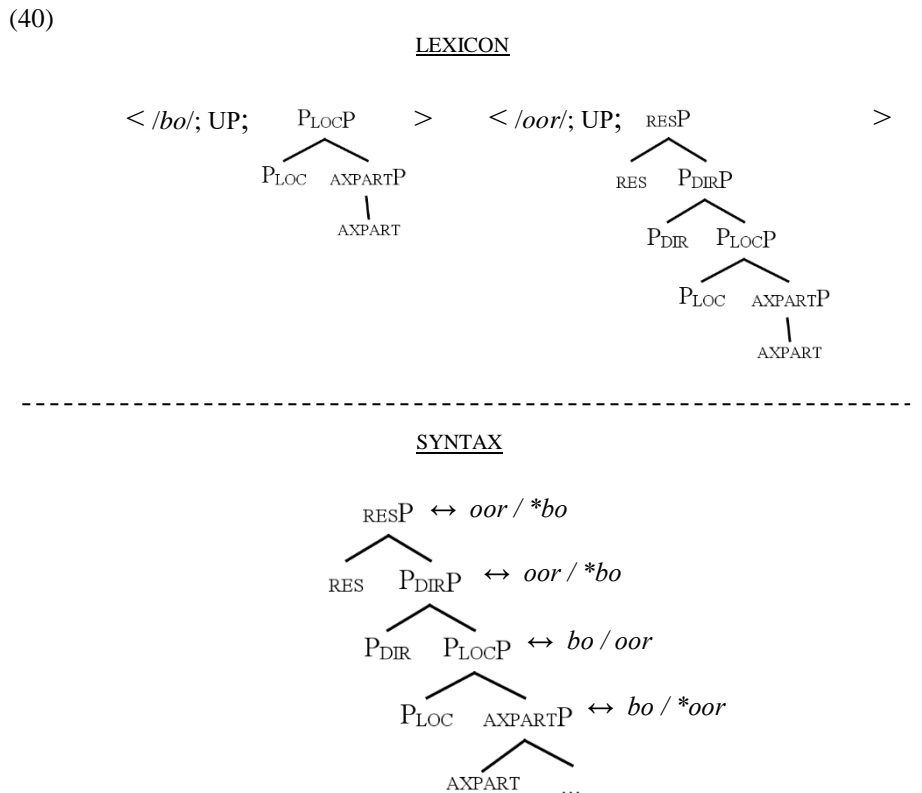
²⁰ The framework of Distributed Morphology incorporates the subset principle, stated in (i):

- (i) *The Subset Principle*
 A linguistic element qualifies for insertion iff it is specified for a subset of the features to be spelled out.
 (cf. Harley & Noyer 1999)

Cf. Caha (2007:6-13) for arguments in favour the Superset Principle over and against the Subset Principle.

- (39) *The Elsewhere Condition:*
 Let E1 and E2 be competing elements that have D1 and D2 as their respective domains of application. If D1 is a proper subset of D2, E1 blocks the application of E2 in D1.
 (Adapted from Kiparsky 1973)

Consider, for example, the matching procedure in a derivation involving items associated with the TOP conceptual series in (20) above. The items *bo* and *oor* are listed in the lexicon as indicated in the top half of the diagram in (40) and compete for insertion in the structure as indicated in the bottom half of (40).

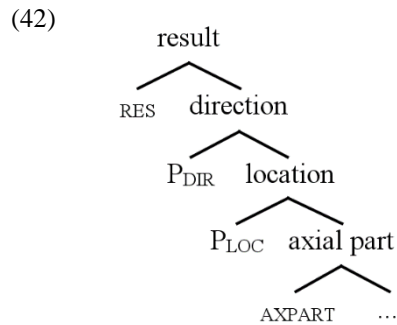


Until subsequent chapters, I remain agnostic about the “phases” in which syntactic material is spelled out. For the purpose of the present discussion on the matching procedure and how a winning lexical item is selected from a set of competitors, note that both *bo* and *oor* qualify for insertion into AXPARTP, because both entries contain

a superset of that structure, i.e. both are encoded with (at least) the structure [AXPART[AXPART]]. The Elsewhere Condition selects *bo* as the winner because it contains the least superfluous information, hence the grammaticality of an expression such as (41a), where *bo* expresses an axial part, and the ungrammaticality of expressions such as (41b), where *oor* cannot express an axial part.

- (41) (a) Die melk staan bo op die yskas.
 the milk stands top on the fridge
 “The milk is on top of the fridge.”
- (b) *Die prent hang oor bo the yskas
 the picture hangs over above the fridge
 Intended: “The picture is hanging above the fridge”

Note that I have assumed, for the sake of the argument, that *oor* is specified for AXPART, though it never actually expresses that function. Although this is explained by the fact that *bo* blocks *oor* in lexicalising this function, it is a fair question whether *oor* is in fact even specified for AXPART. Theoretically, the answer here depends on whether the functions are viewed as being necessarily cumulative or not. A cumulative view of how functions are coded in syntactic structure, as in e.g. Caha (2009) for non-spatial case, and in Pantcheva (2011) for the spatial expression of path, entails that functions are coded for by a certain node *in addition to* the lower nodes on the functional spine. On such a view, for example, location is not coded for by the P_{LOC} node alone, but by the accumulation of AXPART with P_{LOC}; likewise, direction is not coded for by the P_{DIR} node alone, but by the accumulation of AXPART, P_{LOC}, and P_{DIR}. Essentially, in the same way that a number forming part of a sequence is not itself the sequence, features represented on terminal nodes are not themselves equivalent to the functions they, in combination with other features, code for. In fact, each phrasal node dominating the relevant set of ordered features can be considered equivalent to the relevant function. The diagram in (42) overleaf illustrates this.



To emphasise the fact that the features themselves do not represent the functions they are coding for, Caha annotates each feature in the non-spatial case hierarchy with a number instead of a descriptive label. In the context of the present discussion regarding elements such as *oor*, which expresses “higher” functions such as direction and result but does not overtly express a “lower” function such as axial part, this means they must be encoded with AXPART – and hence possess the spellout *potential* for expressing an axial part – because the AXPART node is a part of the extended structure coding for the “higher” functions, which *oor* does express overtly. Cumulative coding will be adopted here as part of the general system, but, as will be discussed with regard to “division of labour” or analytical spatial expressions such as the directional goal *na...toe* and source *van...af*, certain elements are not specified for all the lower nodes coding for a particular function.

For insertion into $P_{LOC}P$, again both items *bo* and *oor*, qualify since both are encoded with (at least) the structure $P_{LOC}[P_{LOC} AXPARTP[AXPART]]$, but again *bo* will be selected by the Elsewhere condition as the winner due to the fact that it contains less superfluous information. The fact that *bo* and *oor* can both express location with equal felicity, as illustrated in (43), could be due to the fact that these elements in fact associate with different conceptual information and are therefore not always in direct competition for expressing location – whichever element is more closely associated with the desired conceptual nuance in the context of a given derivation will be activated for matching during spellout.

- (43) (a) Die prent hang bo die yskas.
 the picture hangs above the fridge
 “The picture is hanging above the fridge.”
- (b) Die prent hang oor die yskas.
 the picture hangs over the fridge
 “The picture is hanging over the fridge.”

The element *bo* does not qualify for insertion into $P_{DIR}P$ or RESP, since it is not specified for expressing that part of the structure, hence is not associated with direction or result.

The fact that na_1 can express direction as the sole P element in a pre-PP does not affect the outcome of the analytical expression $na_1...toe$, where na_1 , though it is specified for $P_{LOC}-P_{DIR}$, expresses only P_{LOC} in the analytical expression. Such “division of labour” between two exponents is what will be called a *Spellout Repair* scenario: a certain exponent which is selected for insertion, in this case *toe*, is unable to realise the full range of syntactic nodes which require morphological expression. The system selects another exponent which *is* specified for the node(s) which the first element cannot express, the insertion of which “saves” the derivation by allowing all syntactic nodes to receive morphological expression. Spellout Repair may at first seem to violate a general economy principle known as *Minimise Exponence* (cf. Siddiqi 2009), where a scenario in which a single (suppletive) exponent lexicalises a structure is always preferable to two or more exponents lexicalising the same structure. As a Last Resort operation, however, the availability of Spellout Repair is conditioned on the unavailability of a single exponent to realise the structure and thus in fact is also governed by Minimise Exponence. This scenario – and the analysis of circum-PPs – forms the special focus of Chapter 5.

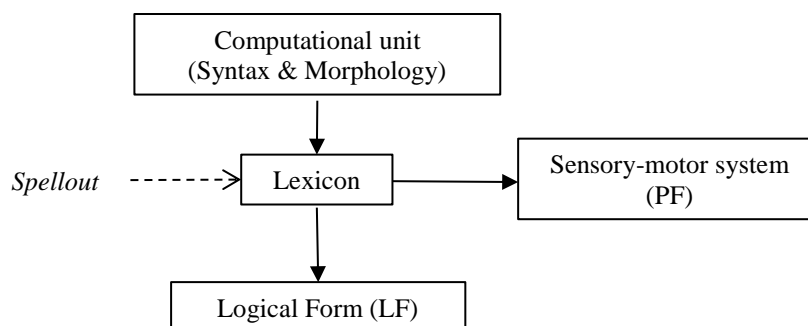
2.4.2 Late Insertion

The mechanisms associated with spellout presented above necessarily assume a late insertion model of the derivation. This section briefly expands on the underlying

assumptions and benefits associated with such an organisation of the faculty of language (FoL).

Adopting a reorganisation of FoL along the lines in (44), the remainder of this section argues that *spellout* represents the mechanism by which the derivation accesses the various interpretations of a syncretic element.

(44)



As regards spellout in the conventional minimalist framework, Chomsky (1996:59) remarks as follows:

Given N , C_{HL} computes until it converges... at PF and LF with the pair (π, λ) [where π is the phonological representation of an expression, and λ the semantic interpretation – EP]. In a perfect language, any structure Σ formed by the computation... is constituted of elements already present in the lexical elements selected for N ... We assume, then, that at some point in the... computation to LF there is an operation Spell-Out that applies to the structure Σ already formed. Spell-Out strips away from Σ those elements relevant only to π , forming Σ_P and leaving Σ_L , which is mapped to λ by operations of the same kind used to form Σ . Σ_P is then mapped to π by operations unlike those of the $N \rightarrow \lambda$ mapping.

Consider specifically the final remark in this excerpt, “ Σ_P is then mapped to π by operations unlike those of the $N \rightarrow \lambda$ mapping”. In this regard, Chomsky (2013a; 2013b) argues that the externalisation of language through various channels of the sensory-motor system involves “ancillary processes which may or may not externalise

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the internal [hierarchically structured – EP] objects...”.²¹ In other words, the mechanisms responsible for converting structure into linearly ordered sound streams (or hand signs) are not involved in the core computation and differ in nature from such core computational operations. The mechanisms mapping Σ_P to π are concerned with *linearisation*, for which Kayne's (1994) *Linear Correspondence Axiom* (LCA) is the most widely adopted theory.²² Spellout, according to Chomsky, creates Σ_P from Σ , hence it is the procedure which essentially creates the input of the linearisation process:

$$(45) \quad \Sigma \xrightarrow{\text{Spellout}} \Sigma_P \xrightarrow{\text{Linearisation}} \pi$$

In conventional minimalism, spellout is often taken to be the point in the derivation after which covert operations at LF apply. Yet the details of the process and the nature of the elements that are “stripped away” appear to be somewhat vague (but cf. Bobaljik 2002, who proposes an interesting alternative). On the (re-)organisation of FoL as in (44), spellout introduces phonological information to the derivation, allowing the derivational procedure to be simplified.

With all late insertion models,²³ there is “a distinction between the input symbols and the vocabulary items which replace them” (Adger & Svenonius 2010:28). That is, the objects serving as input for the core computational unit, let us call them *elements of*

²¹ Briefly, since the sensory-motor system enforces linearisation on externalised language, linear dependency not only represents the simplest computational option for C_{HL} , it is also the most economical solution for externalisation because linearisation, as an additional process, would be superfluous. Yet it seems that linear dependency is universally unavailable to C_{HL} since it invariably makes use of a more complex, less economical computational option, namely structural dependency. Cf. Chomsky (2013a,b) for further discussion.

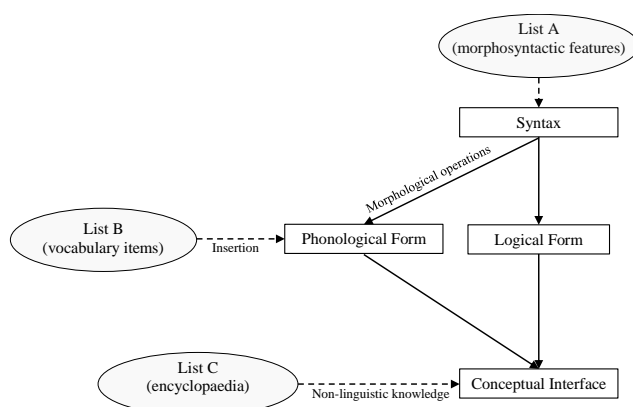
²² Cf. also De Vos (2014) for a recent alternative proposal.

²³ Late insertion originated as a defining feature of Distributed Morphology (DM; Halle & Marantz 1993; 1994).

Σ (synonymous with formal syntactic features), are distinct from lexical items which, according to Chomsky (1996:60), take the form {P, S, F}, representing associations between phonological, semantic, and formal syntactic information respectively. In late insertion models, some pre-syntactic repository houses the elements of Σ . For instance, in DM this repository is “List A” and contains only *morphosyntactic features*. And in cartography, elements of Σ originate from a pool of universal *cognitive features* of which a language-specific subset is drawn into FoL during language learning (Shlonsky 2010); each feature retains its cognitive-conceptual essence, but has become linguistic in nature (i.e. grammaticalised) and is thus able to serve as input for C_{HL} .²⁴ Nanosyntax, as far as could be ascertained, remains agnostic regarding the origins of such elements of Σ , although they are sometimes referred to as *syntactico-semantic* features (cf. e.g. Lundquist 2009). Importantly, elements of Σ do not represent associations between various kinds of information. In the sense that a *lexicon* is essentially a list of items which represent such associations, the pre-syntactic repository in late insertion models is not considered to be a “second” lexicon.

Regardless of the details, fine-grained approaches such as DM, cartography and NS seem to agree that elements of Σ are *syntactic features* in the “purest” sense, so they

²⁴ DM, as the name suggests, distributes morphological operations across various components of grammar, drawing from three lists containing the information that is conventionally located in the lexicon proper. The organisation of FoL assumed in DM is depicted as follows:

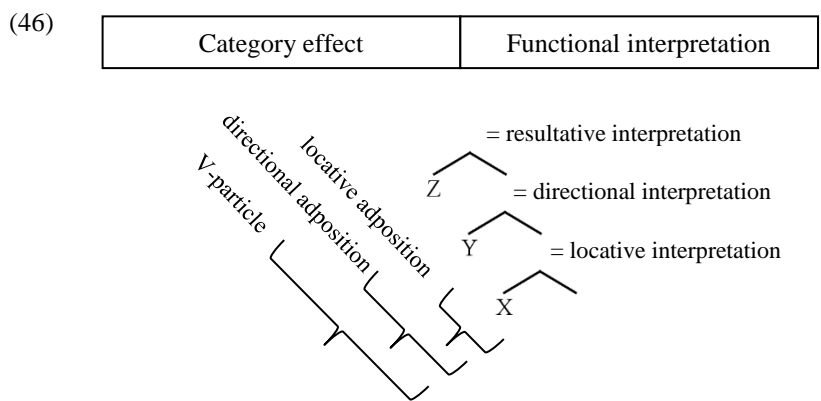


(Diagram adapted from Harley & Noyer 1999:3)

are arguably the “formal features” of conventional minimalism. To sum up, this section has argued for a late insertion model of C_{HL} . Late insertion allows for (i) the derivational process C_{HL} to be simplified and (ii) for the development of a substantive notion of spellout as the mechanism for effecting lexical insertion.

2.5 Concluding Remarks: Category Effects

The approach to explaining syncretism argued for in this chapter puts structure inside syncretic (and by extension, all) elements of language. As a brief example, suppose the multifunctional element *aan* behaves as a member of three different “categories” – locative Adposition, directional Adposition, and V-particle. Such an element would be lexically specified for expressing (at least) a set of features $\{X, Y, Z\}$, none of which are category features in themselves, and which are organised according to a universal hierarchy in the syntax such that $X < Y < Z$. Functionally, X corresponds to a locative interpretation and elements expressing X alone behave syntactically like locative adpositions; in the same way, X-Y corresponds to a directional interpretation and elements expressing X-Y behave syntactically like directional adpositions (note that the functions are cumulative and Y alone does not denote the directional adpositional function. Finally, X-Y-Z corresponds to a resultative interpretation and elements expressing X-Y-Z behave syntactically like V-particles.



Though *aan* is specified for expressing the entire functional hierarchy X-Y-Z, it may also express either just X or X-Y, in accordance with a matching procedure governed by the Superset principle and the Elsewhere condition (cf. i.a. Caha 2007; 2009). Thus, when *aan* expresses only X, it behaves syntactically like a locative adposition, when it expresses X-Y, it behaves like a directional adposition, etc. The system predicts that no element may express X and Z to the exclusion of Y; effectively, no element may express location as an adposition and result as V-particle, and be lexically unspecified for expressing direction as an adposition (cf. i.a. Caha 2007, 2009, Bobaljik 2012 for the *ABA principle). That no such gaps occur in the FRaP chart for Afrikaans spatial P elements in (9) and the table capturing patterns of syncretism in Afrikaans spatial expressions in (20) above suggests the organisation of the hierarchy of functions represented in (46) (cf. also (42) in Section 2.4) is correct.

The argument advanced in this study is that syntax operates on primitives that are smaller than categories – namely, formal features like *AXPART*, *P_{LOC}*, *P_{DIR}* and *RES* – and that “category effects” come about due to the “chunk” of structure that an element expresses in a given syntactic context. Traditional categories are thus composite objects comprising overlapping subsets of formal features. The next chapter sets out in detail the representational system employed in this study.

CHAPTER 3

Representing Spatial Relations

3.0 Introduction

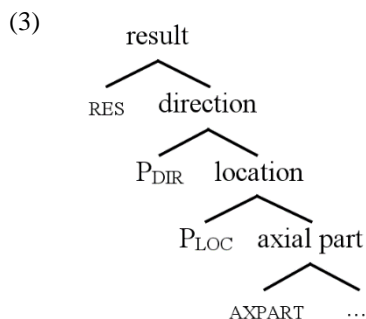
This chapter brings together the “cartographic landscape” of the P zone developed in the previous chapter with some remaining theoretical assumptions and issues concerning the representation of structural relations. Section 3.1 revisits the fundamental components motivating fine structure in P. Section 3.2 provides an overview of the literature on the fine structure of P, showing that the functional hierarchy proposed in Chapter 2 is in line with that established in the literature. Section 3.3 sets out Ramchand’s (2008) system for verb event and argument structure which is taken on board for the analysis of V-particles and understanding the interactions between PP and event structure. Since a similar mode of representation to that of Ramchand (2008) will be implemented in this study, the overview of that system also serves to introduce a working example of the representations adopted in this study. Section 3.4 discusses approaches to representing multiple-terminal spellout, and Section 3.5 concludes with an overview of the analyses developed in the remainder of the dissertation.

3.1 A Recap of the Fundamentals

The analysis of the Afrikaans spatial P system developed in this study is a theory about (i) the fine-grained syntactic structure underlying spatial expressions involving adpositions and V-particles, and (ii) how syntax interfaces with the lexicon to spell out this fine-grained structure.

The empirical problem we considered first in Chapter 2 to shed initial light on (i) and (ii) was syncretism. The **ABA Constraint on Afrikaans Spatial P* (cf. example (21) in Chapter 2, repeated here as (1)) led us to formulate the *Space Contiguity Hypothesis for Afrikaans* (cf. example (22) in Chapter 2, repeated here as (2)). This in turn made it possible to construct a fine-grained syntactic hierarchy for spatial P, which is repeated here in (3) from (42) in Chapter 2.

- (1) **ABA Constraint on Afrikaans Spatial P*
- (a) If a suppletive form functions as an AxPart and V-particle, then it also functions as a locative and directional Adposition.
 - (b) If a suppletive form functions as a locative Adposition and a V-particle, then it also functions as a directional Adposition.
 - (c) If a suppletive form functions as a locative Adposition but not as a directional Adposition, then neither does it function as a V-particle.
 - (d) If a suppletive form functions as a directional Adposition but not as a locative Adposition, then neither does it function as an AxPart.
- (2) *Space Contiguity Hypothesis for Afrikaans*
Syncretism targets contiguous regions in the sequence AxPart-P_{LOC}-P_{DIR}-V-particle.



That the most syncretic of Afrikaans P elements express the entire range of functions, behaving as members of several syntactically distinct (micro-)categories – AxPart, Adpositions, and V-particle – was taken as an indication that lexical entries do not incorporate categorial specifications in the traditional sense of being specified as belonging to “P”, “V”, etc. Instead, in a late insertion model, lexical items were argued to incorporate structured sets of formal features (synonymous with the (F)-component of Chomsky’s lexical entries) which describe a particular lexical entry’s FRaP (= *Formal Range Potential*). Lexical entries are then matched, according to the Superset Principle and Elsewhere Condition, and inserted to express syntactic structures that fall within their FRaPs. Once inserted, a P element exhibits the category effects associated with the chunk of *structure* it expresses. In this sense, the notion of “category” reduces to fine-grained syntactic structure. This is in line with e.g. Borer’s (2005) idea that lexical roots are a-categorial and that functional meaning and “category” is contributed by root-external syntactic structure (cf. also e.g. Wiltschko 2015). This idea also bears resemblance to the “standard” view from Distributed Morphology, in which an a-categorial root is first-merged with a categorising (e.g. nominalising, verbalising, etc.) head. The main differences are that no “categorizing head” as such is assumed here (“category effects” simply fall out from the identity of the formal features), and lexical entries are not assumed to be syntactically inert roots (since they are encoded with grammatically active formal feature specifications).

So, on the view put forward in this study, categories are composite objects, made up of overlapping subsets of ordered hierarchical features. Regarding the spatial categories, the strong hypothesis is that AxPart comprises (at least) the formal feature [AXPART], that locative adpositions comprise [P_{LOC} [AXPART]], directional adpositions [P_{DIR} [P_{LOC} [AXPART]]], and V-particles [RES [P_{DIR} [P_{LOC} [AXPART]]]]. However, as will become clear in relevant chapters, there seems to be evidence that locative Adposition encodes simply [P_{LOC}], directional Adposition [P_{DIR} [P_{LOC}]] (Chapter 4), and V-particle at most [RES [P_{DIR}]], and at least simply [RES] (Chapter 6). This departure from the strong “cumulative coding” hypothesis does not pose a problem for the main ideas advanced in this study. In fact, the particular fine-grained P-hierarchy proposed thus

far, in combination with a phase-based approach will allow us to understand why a hierarchy-only-based hypothesis would make the wrong predictions.

3.2. The Fine Structure of P

3.2.1 Non-recursion in P

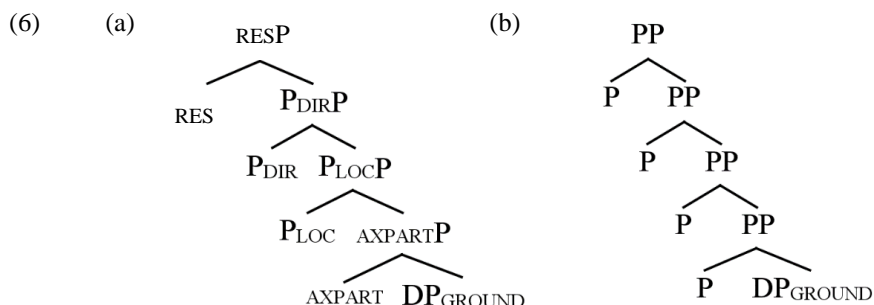
As argued in Chapters 1 and 2, distributional evidence forces us to acknowledge the existence of various “micro-categories” in P. This is an argument for an articulated “P” zone consisting of a series of ordered and, crucially, distinct functional projections. Consider the expressions in (4), repeated from (16) in Chapter 1:

- (4) (a) ...dat die man buite_{AXPART} om_{PDIR} die huis verby_{V-PART} ry.
 that the man outside round the house past drives
 “...that the man is driving round past the outside of the house.”
- (b) ...dat die man bo_{AXPART} op_{PLOC} die berg rond_{V-PART} hardloop.
 that the man top on the mountain round runs
 “...that the man is running round on top of the mountain.”

Because of standard assumptions about complementary distribution, the fact that the various P elements in (4) can co-occur in the same expression is evidence that they occupy different structural positions within that expression. Some early accounts (e.g. Jackendoff 1973; 1990) argue that such co-occurrence suggests P recursion (the expressions in (5) were the original cases in point).

- (5) (a) Chico races away from Mrs. Claypool.
 (b) From out of the darkness hurtles a masked hobbit on a broomstick.
 (c) Down from above the altar groaned a mysterious voice.

To be clear, I illustrate an analysis supporting an articulated P zone as in (6a), and one supporting P recursion as in (6b).



As briefly mentioned in Section 1.3 above, Hendrick (1976) challenges the notion of recursion in P by pointing out certain asymmetries regarding modification and licensing. When *away* and *from* co-occur, as in (7), *right* can modify *away*, but not *from*.

- (7) (a) Chico raced (right) away from Mrs. Claypool.
 (b) Chico races away (*right) from Mrs. Claypool.

With regard to licensing, it appears that, in conjunction with certain verbs, the PP must license the particle, whereas the presence of the PP is not contingent on the presence/absence of *down* (8a).

- (8) (a) John disappeared (down) into the darkness.
 (b) John disappeared down *(into the darkness).

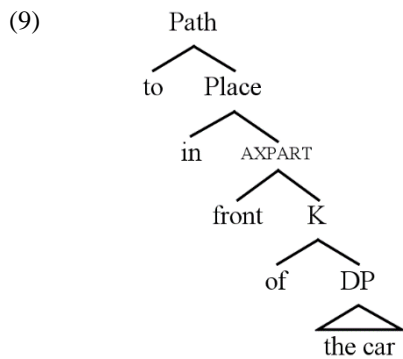
As Svenonius (2006) suggests, these facts – and other co-occurrence facts (cf. Chapter 2) – far from being an indication of P recursion, actually evidence finer structure in “P”, suggesting that “P” is in fact better thought of a syntactic zone than as a syntactic primitive. If the expression with *down* in (8a), for instance, represented P recursion where the verb takes a PP complement, and that PP in turn takes a PP complement of its own, it is difficult to motivate how the verb looks across its complement (*down*) to determine the complement of its complement (*into the darkness*). I assume, with Svenonius, Hendrick, and others, that “true” P recursion, where one category takes a functionally identical category complement, is ruled out and that this provides a

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simple explanation for the “paucity” of expressions involving series of P elements, as also noted by Den Dikken (1996:80).

Instead, what we find is that a series of micro-categories associated with P occur in highly restricted combinations and particular orders, which is exactly what we expect, given a theoretical view on which “macro-categories” (e.g. “P”) are derivative of finer structure, spelled out by syncretic elements that are in fact compatible with the expression of various micro-categories of P. So, what might at first blush appear to be recursivity of the particle (and, more generally, recursivity in P) is actually an expression of distinct, universally ordered nodes that all happen to be expressed by P-like elements, but which are in fact expressing different grammatical functions; if you will: fine-grained, “micro”-categories.

In accordance with the fact that (i) syntactic structures must be able to accommodate more than one “P-type” element, and (ii) P recursion is obviously not the ideal solution, Svenonius (2006a; 2007 *et seq.*) argues for an articulated structure such as the one given in (9), for an expression like *to in front of the car* in English:



I will remain silent on the matter of the K projection. Though I support its existence (cf. Section 1.4.2 of Chapter 1), the projection is never overtly filled in Afrikaans spatial expressions as they are in many languages, including English, with expressions involving axial elements. Section 4.4.4 of Chapter 4 discusses a class of binominal

Afrikaans expressions of the type *die binnekant van die laai* (lit.: the inside-side of the drawer, “the inside of the drawer”) in which one of the nominals (*binnekant*) is derived from an axial part (*binne*). Such binominals exhibit the regular syntax of possessum-possessee relations that are indeed marked by a genitive K element *van*. Such expressions differ distinctly from the English axial expression in (9), which is monominal. The appearance of K is obligatory in English monominal expressions with axial parts, but does not surface Afrikaans monominal expressions with axial parts.

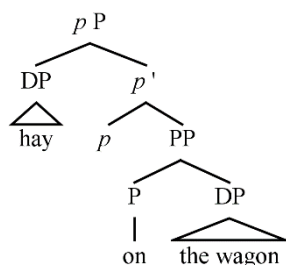
3.2.2 Little-*p*

This section introduces and surveys some treatments of little-*p* in the literature: (i) little-*p* is typically taken to introduce the Figure argument; (ii) elements expressing little-*p* – called “functional prepositions” after Van Riemsdijk (1978; 1990) – have been analysed as the postpositional elements in post- and circumpositional PPs in Dutch, German, and Afrikaans; and (iii) in a conceptual contribution to the structure, the presence of little-*p* has also been argued to render a PP referential. While I take on board the idea of little-*p* introducing the Figure, I will give a different treatment to post- and circumpositional PPs. Although, with Zeller (2001), the analysis of V-particles argued for in this dissertation also assumes little-*p* to be missing from the structures underlying V-particles, it is not specifically assumed here that any functional projection above “P” is required for rendering the PP referential.²⁵

For Svenonius and many others, an additional functional projection, little-*p*, takes a Path (= roughly, P_{DIR}) or Place (= roughly, P_{LOC}) complement, and introduces the Figure argument in its specifier. This is shown in (10) for the English expression (*We loaded hay on the wagon*):

²⁵ This latter issue is discussed in detail in Chapter 5, but is outlined in this section below.

(10)



(From Svenonius 2003: 436)

In this regard, as briefly mentioned in Chapter 1, little-*p* parallels little-*v* in the verbal domain (cf. Kratzer 1996) by introducing the “external argument” of P. So with “transitive” adpositions, as reflected in the structure in (10), the Ground (= the internal argument) is merged in complement of P and the Figure (= the external argument) is introduced in the specifier of little-*p* just like the Theme is merged in complement of V and the Agent is introduced in the specifier of little-*v*. The structural asymmetry of P’s arguments can be verified on the basis of interpretational difference. Notice the oddness of an expression like (11b):

- (11) (a) The bike is near the house
 (b) ?The house is near the bike

Various others have also argued for the existence of a projection like little-*p*. In the literature on German and Dutch (e.g. Van Riemsdijk (1978; 1990); Zeller (2001)) and Afrikaans (cf. e.g. Oosthuizen 2000), little-*p* is expressed by a functional adposition which surfaces as the postpositional element in post- and circumpositional PPs.

For Van Riemsdijk, “the functional preposition serves to express certain locational dimensions where the lexical prepositional head does not do so itself” (Van Riemsdijk 1990:239). So circumpositional expressions such as those in (12a) are argued to have the underlying structure in (12b), where *ins* and *vom* are the lexical preposition + D complexes, and *hinunter* and *aus* are the functional *ps*.

- (12) (a) (i) ins Tal hinunter.
 into-the valley down

- (ii) vom Fenster aus.
from-the window out (Van Riemsdijk 1990:234)
- (b) [pP [PP⁰ NP] p⁰] (Van Riemsdijk 1990: 236)

Van Riemsdijk (1990:239) provides the table in (13) for German elements with *p* category status as a (partial) analysis of three main features expressed by this category. Note that many of the elements categorised as expressions of little-*p* in (13) constitute what in the literature on German are referred to as H- (= the elements beginning with either *her-* or *hin-*) and DR- (= the elements beginning with *dr-*) postpositions.

(13)

Direction	Orientation	Proximity	
+	+up	+/-	<i>herauf/hinauf</i>
+	-up	+/-	<i>herab, herunter/hinab, hinunter</i>
-	+up	0	<i>oben</i>
-	-up	0	<i>unten</i>
+	+in	+/-	<i>herein/hinein</i>
+	-in	+/-	<i>heraus/hinaus</i>
-	+in	0	<i>(dr)in(nen)</i>
-	-in	0	<i>(dr)aussen</i>
+	0	+/-	<i>her, zu/hin, weg</i>
-	0	+/-	---

Following Van Riemsdijk, with regard to form-alternating adpositional pairs in Afrikaans, such as those represented in (14-15) below, Oosthuizen (2000) argues that the prepositional elements *met* and *vir* represent lexical Ps, and the postpositional elements *mee* and *voor* represent corresponding functional *ps*.

- (14) *met-mee*
 - (a) Jan sny sy brood [PP met [’n bottermes]]
Jan cuts his bread with a butter-knife
“Jan cuts his bread with a butter knife”
 - (b) hy sny sy brood [pP[daar]_{DP} -mee ___]
he cuts his bread there-with
“he cuts his bread with it” INSTRUMENTAL

(15) *vir-voor*(a) Jan doen dit [_{PP} vir [die aandag]]

Jan does it for the attention

“Jan is doing it for the attention”

(b) hy doen dit [_{pP} [daar]_{DP} .voor ____]

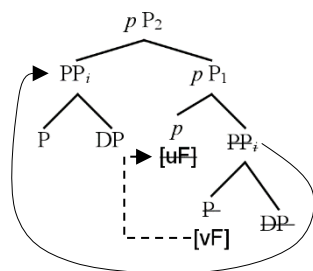
he does it there-for

“he does it for that”

PURPOSITIVE

On Van Riemsdijk’s analysis, little-*p* projects a head-final phrase, producing the post- or circumpositional word order; on Oosthuizen’s analysis, both P and little-*p* project head-initial phrases and Agree followed by movement of PP to spec-*p* produces the correct surface word order. De Vos (2013) also builds on this latter proposal,²⁶ which is illustrated in (16).

(16)



Finally, it has also been argued that little-*p* affects the referentiality of its complement. For Zeller (2001), the crucial point of difference between V-particles and full adpositional phrases lies in the presence vs. absence of this functional layer. He argues that (P-based)²⁷ V-particles are non-referential P elements that do not project little-*p*

²⁶ De Vos (2013) argues that the form alternation observed with *met-mee* and *vir-voor* is due to the existence of a separate suppletive agreeing form *mee/voor* in the lexicon, which is not available for other agreeing adpositional forms. On De Vos’ analysis, the surface word order is established by a spellout-interface phenomenon called Precedence which requires the goal element of two objects in an agreement relation to be linearised to the left of the probe, with no syntactic movement taking place.

²⁷ Zeller’s (2001) analysis is not confined to P-based V-particles, and includes N-based and A-based V-particles. In each case, the structural distinction between the V-particle and the “full”

whereas full adpositional phrases are referential and incorporate this functional layer. Thus, for Zeller, it is the locality of the two “lexical cores” in particle verbs, not being separated by any functional structure, that brings about the word-like behaviour that is typical of particle verbs. To briefly unpack Zeller’s claim, consider (17):

- (17) (a) Peter repariert das Auto.
 Peter repairs the car
 “Peter is repairing the car”
- (b) Peter fährt Auto.
 Peter drives car
 “Peter drives cars” – Peter is a car-driver

The verb in (17a) requires a referential complement, so a bare noun in V-comp is ungrammatical (cf. **Peter repariert Auto*). By contrast, the verb in (17b) does not require a referential complement. *Auto* in this expression is non-referring since it does not correspond to any token of the type “car”: it is expressing something about “car-ness” in general. Note that, whereas in (17a) [*repariert [das Auto]*] constitutes V + full DP complement, in (17b) [*fährt Auto*] is a particle verb, where *Auto* is an N-based V-particle.

Like Van Riemsdijk (1990), Zeller (2001) assumes that little-*p* in German can be filled by the H- and DR-postpositions (cf. the table in (13) above). Zeller argues that the H- and DR-postpositions are fully referential in the sense that they denote *token* paths; they are also termed “prepositional proforms” by McIntyre (2001), in the sense that they are referential and stand in place of full prepositional phrases. So when the reference object (= the DP_{GROUND} associated with the token path) is implicit, it must be recoverable from context (18a-b). By contrast, the implicit reference objects of particle verbs are non-referential and not recoverable from context (19a-b):

- (18) (a) Peter will einen Kreis herausschneiden.
 Peter wants a circle H-out-cut
 “Peter wants to cut a circle (out of some entity).”

categorial phrase lies in the absence of an appropriate functional layer in the structure of the particle that would otherwise be present in the structure.

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- (b) Hier strömt Gas heraus.
here streams gas H-out
“Gas escapes (out of some entity).”
(Zeller's 2001:137 glosses)
- (19) (a) Peter will einen Kreis ausschneiden.
Peter wants a circle PRT-cut
“Peter wants to cut out a circle.”
- (b) Hier strömt Gas aus.
here streams gas PRT
“Gas is escaping here.”
(Zeller's 2001:137 glosses)

Summing up, fine structure in the P zone is taken to be [RES [P_{DIR} [P_{LOC} [AXPART]]]], motivated by patterns of syncretism in the Afrikaans P domain, and corroborated in the literature. It will be assumed that a little-*p* projection introduces the Figure, the “external argument” of P. Like Zeller (2001) I will argue that there is no little-*p* layer in the structure underlying V-particles, whereas “full” adpositional phrases have this layer present. I will not, however, take primary motivation for this from the (non-)referentiality of the P in question; instead, in Chapter 5, I will motivate the absence vs. presence of little-*p* based on the PP’s (non-)predicative status, and in Chapter 6 the absence of this projection in the structure underlying particle verbs is argued for based on lexicon-syntax interface phenomena (i.e. spellout).

3.3 The Fine Structure of V: Ramchand (2008)

3.3.1 Event Structure

In preparation for the account of particle verbs developed in Chapter 6, and for the interaction of PP-syntax with verb event structure developed in Chapter 5, this section provides an exposition of Ramchand's (2008) fine structure of V. That is, a decomposed system for verb event and argument structure. In Ramchand's system, the interaction of verb event structure and argument structure turns out the known

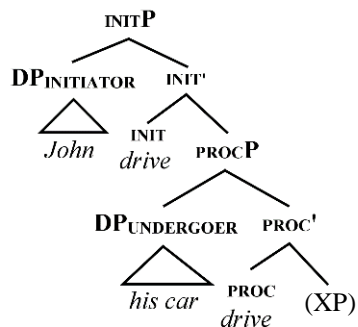
(semantic) classes of verbs. Below I set out first the event structure and then the argument structure before turning to what this means for the present study.

In Ramchand's system, verbs may consist of the featural subcomponents INIT (= "initiation"), PROC (= "process"), and RES (= "result"), each of which represent syntactic heads which combine in a structural hierarchy [INIT [PROC [RES]]]. Conceptually, INIT corresponds to the causation subcomponent of an event, PROC to the dynamic change, and RES to the state that comes about because of any change denoted by PROC (Ramchand 2008:40). Varying combinations of these subcomponents determine verb event structure. For instance, as illustrated in (20a), stative verbs like *fear* identify only the INIT subcomponent since PROC denotes a dynamic event (Ramchand 2008: 55-56); activity and manner of motion verbs like *eat* and *drive* identify INIT and PROC (20b) (Ramchand 2008:63-74); and punctual verbs like *jump* identify INIT, PROC, and RES (20c) (Ramchand 2008:74-82). The representations in (20) are not provided by Ramchand but are given here using the representational style of lexical entries in Chapter 2. This is purely for expository purposes; discussion of the actual syntactic representation follows.

(20) (a) < /*fear*/; FEAR; INIT^P >
 |
 INIT

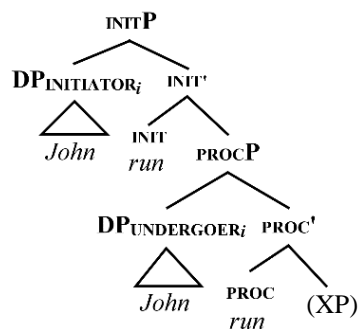
(b) < /*drive*/; DRIVE; INIT^P >
 / \
 INIT PROC^P
 |
 PROC

(c) < /*jump*/; JUMP; INIT^P >
 / \
 INIT PROC^P
 / \
 PROC RES^P
 |
 RES

(22) John drove his car.²⁸

The argument associated with PROC (i.e. the DP in spec-PROC) is interpretatively the UNDERGOER of the dynamic event denoted by the verb; and the one associated with INIT (i.e. in spec-INIT) is interpretatively the INITIATOR of that event. Crucially, the system relies on composite roles, indicated by coindexed argument positions. Unergative manner of motion verbs like *run*, for instance, are analysed as consisting of the same subcomponents as transitive manner of motion verbs like *drive* above. What causes the unergative to surface with only one argument is the fact that the UNDERGOER and INITIATOR positions are coindexed – saturated by the same DP:

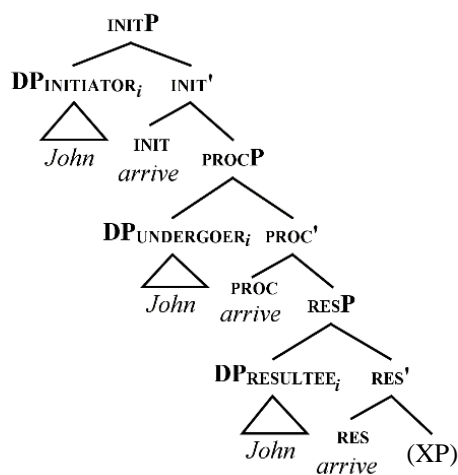
(23) John ran.



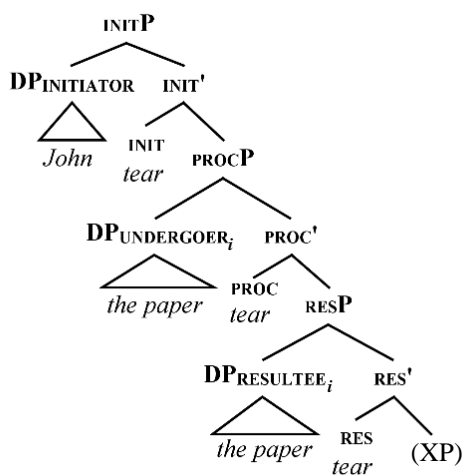
²⁸ In this (and subsequent) structures, XPs are represented as being optionally selected by the verb event structure. Such XPs constitute *rhetic* material and can be DPs, PPs, or APs. Cf. Section 3.3.3 for discussion of *rhetic* vs. *thematic* material in this representational system.

The argument associated with RES in the structure of a punctual event is the RESULTEE and is the entity bearing the effect of the dynamic event. Again, roles are composite and can be coindexed in various ways. With intransitive punctual verbs like *arrive*, all argument positions are coindexed (24a); with transitive punctual verbs like *tear*, the UNDERGOER and RESULTEE positions are coindexed (24b).

(24) (a) John arrived.



(b) John tore the paper.



3.3.3 Thematic and Rhematic Material

Thus far, all arguments have been structural specifiers. But in Ramchand's system, DPs can also occur in complement position. The position of a DP in relation to a head (i.e. whether that DP is in a complement or a specifier position) is a crucial aspect of how that DP relates to the predicate. Ramchand (2008:51) remarks as follows:²⁹

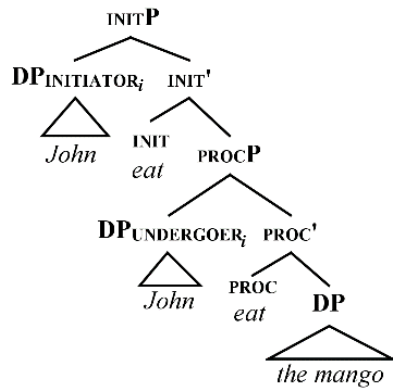
The structures being proposed here embody a primitive difference between the combinatorics semantics of the specifier position with the head, as opposed to the complement position and the head. Put in formal terms, the specifier syntactic position always introduces the "Figure" or "Theme" related to the subevent denoted by the head; the complement position is never a "Figure", but rather the "Ground" or "Rheme" of a particular subevent. With respect to properties which are homomorphic to the part-whole structure of the event, rhematic DP objects are related by properties which are also homomorphic to their own part-whole structure. Arguments in specifier position are also related to the event, but via the relation of predication, and the property that they are ascribed by virtue of predication is never constrained to be monotonic with respect to their part-whole structure

There is a crucial difference between what is referred to as "Theme" vs. "Rheme". Structurally, Themes occupy specifier positions and Rhemes complement positions. There is also an interpretive asymmetry between Themes and Rhemes in the sense that, as an event tends towards completion, the rhematic object is "used up" or "made whole" in proportion to the progression of the event. This is not so for thematic objects, i.e. argument in specifier positions. So the conventional "internal argument" of a consumption verb like *eat* constitutes a rhematic object in Ramchand's terms because it is "used up" in proportion to the progression of the eating event:

²⁹ Note that in the quote and the discussion that follows, *Theme* and *thematic object* do not have the conventional meaning of "internal argument of the verb" but should rather be understood in terms of the *Theme/Rheme* dichotomy under discussion at the relevant point in Ramchand's book, where Themes are arguments in specifier positions and Rhemes are arguments in complements positions. Further clarification follows in the body of the text below.

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(25) John ate the mango.

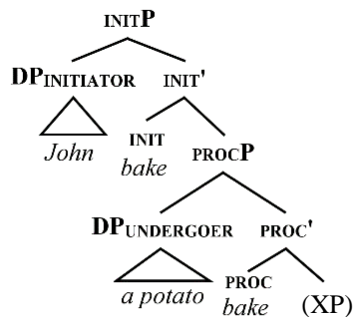


Like consumption verbs, verbs of creation also incorporate rhematic objects as these conventional internal arguments are “made whole” in proportion to the progression of the event. This can be illustrated with the interpretive contrast between *bake a cake* and *bake a potato*, where only the former is a verb of creation and the contrast can be verified on the basis of (in-)felicitous modification by *in/for two hours*: verbs of creation can be felicitously modified by *in two hours* but not vice versa:

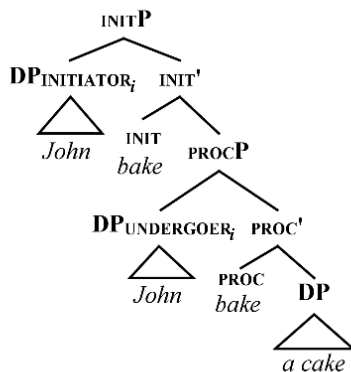
(26) John baked the cake in two hours / *for two hours.
 John bakes the potato for two hours / *in two hours.

The distinct underlying structures are given as follows (cf. Ramchand 2008:68-71 for discussion):

(27) (a) John baked a potato.

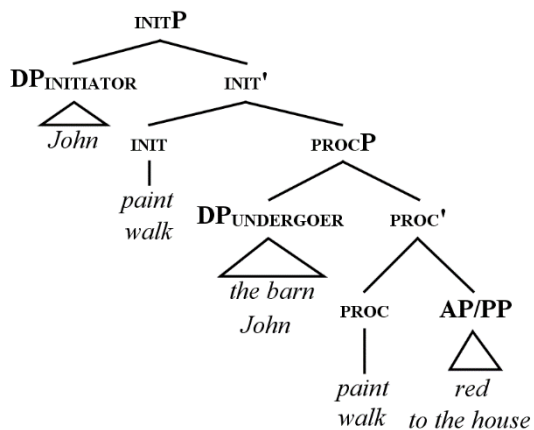


(b) John baked a cake.



Rhematic material is not categorially confined to being DP, so in the expressions *John painted the barn red* and *John walked to the house*, the AP and PP are analysed as rhematic objects saturating V-comp, just like *a cake* in (27b) (cf. Ramchand 2008:71; 110-125 for discussion). The diagram in (28) illustrates the structure underlying the expressions with the rhematic AP and PP. Note, that these structures have been interpreted from the discussion in Ramchand (2008:71; 110-125) and are not explicitly given as such.

(28)

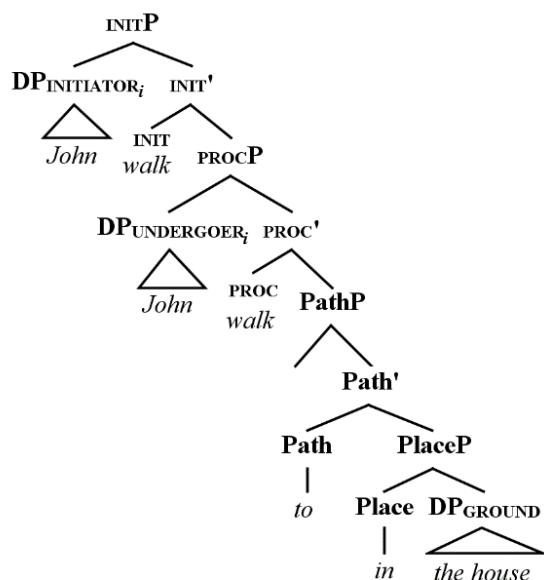


In the expression *John painted the barn red*, the DP *John* is the INITIATOR and *the barn* is the UNDERGOER, with the AP *red* constituting the rhematic material (in the sense that *the barn* becomes red in proportion to the progression of the event). There is no RES subcomponent in the event structure of this expression, because *paint* is an activity (i.e. if the event is interrupted before John paints even one complete wall, then *the barn is red* does not hold true, which is what we would expect if the event incorporated a RES component). In the expression *John walked to the house*, the DP *John* is the INITIATOR, and UNDERGOER, (this can be understood in the sense that *John* is an experiencer). The PP *to the house* constitutes the rhematic material (again, in the sense that John's progress towards the house increases in proportion to the progression of the event). There is again no RES subcomponent in the event structure of this expression, with the walking event brings about no discernible resultant state that holds true of John once the event reaches completion.

It should be clear that telicity can arise from the structure in two ways: either from the RES subcomponent as expressed by punctual verbs like *jump*, *sneeze*, *break*, *tear*, *arrive*, or *fall*; or it can arise from appropriate rhematic material in V-complement. In (27b) above, for example, telicity arises due to the DP *cake* providing a logical end point for the creation activity. In the same way, a bounded Path like *into the house*, representing a mode of boundary crossing, provides such a logical end point for an event, like *walk*, *run*, *dance* or *skip*, that expresses no such internal end point. Thus, on Ramchand's analysis, the structure of an expression like *John walked into the house* is given in (29):³⁰

³⁰ In (29), *in* is the realisation of a lower node Place and *to* of a higher node Path that takes Place as its complement, with a base order *to* > *in*. That the surface order is *into* can be modelled with head movement or another notational equivalent.

(29)



The topic of thematic vs. rhematic objects and the locus of telicity form major foci of Chapter 6, where the analysis of particle verbs is developed. For now, it suffices that the functions of the event subcomponents INIT, PROC, and RES have been introduced, and that the representation of core predication – i.e. the structural relation between a predicating head and its argument – is represented by a spec-head relation in the analyses developed in this study.

3.4 Movement, Merge, and Morphological Metatheory

Until now, I have remained silent on the topic of movement in the structures represented in this section. On Ramchand's (2008) account, coindexed specifier positions become saturated through regular DP-movement. In other words, the DP *John* – in various examples above, where it occurs in more than one coindexed argument position in the same structure – is base merged in its lowest position, and undergoes (successive) phrasal movement to saturate all the coindexed argument

positions, once those positions become available in the structure. This seems unproblematic, and is adopted for representing argument structure in this study.

Less familiar is Ramchand's method of representing the lexical material associated with the verb subcomponent heads INIT, PROC, and RES. The immediate issue is the fact that a single lexical entry associates (i.e. expresses/spells out) more than one syntactic head. In Ramchand's (2008:59) words, "this seems to call for some equivalent of head movement," and yet "head movement does not actually capture the intuition that the verb is a single lexical item that can project more than one category label". To address this, Ramchand adopts a notion of *Remerge*:

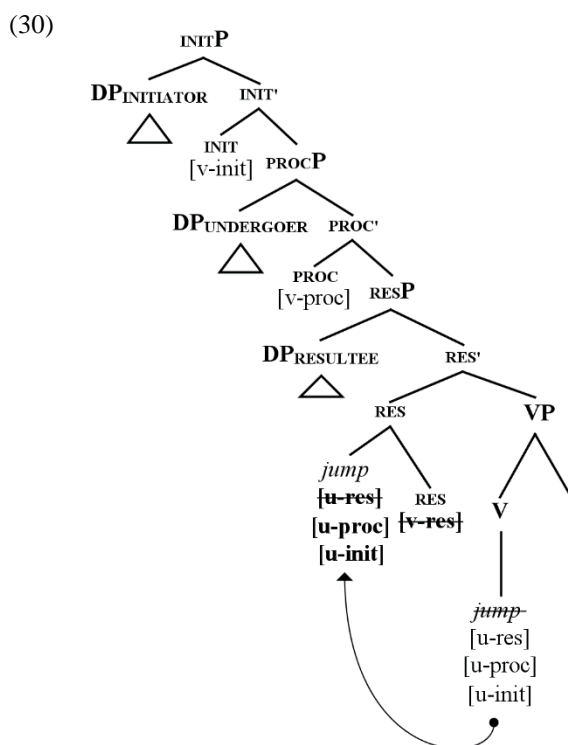
I will simply drop the assumption that lexical items 'insert' under a single terminal node (see also Starke 2001), or that the initial Merge position is somehow privileged. Instead, elements may Merge and project and then Rmerge in the sense of Starke (2001) at a later stage of the derivation. Basically, if the Merge of two elements is conceived of as set formation, then nothing prevents a particular item from being a member of more than one set. Rmerge simply takes that idea seriously by creating a new association line without going through the redundant step of making a copy. This general idea has also been pursued for independent reasons in syntax, as in Ackema, Neeleman, and Weerman (1993), Koenenman (2000) and Bury (2003). Rmerge of 'heads', as argued for by those authors, becomes a necessity in this system because lexical items have more than one category label. Intuitively, this is the technique by which a single item can be associated to more than one position simultaneously.

(Ramchand 2008:59)

The following remark addresses what might be a case of terminological ambiguity: the concept of Rmerge put forward by Ramchand seems to correlate to *reprojection* (cf. i.a. Koenenman (2000) and Biberauer & Roberts (2010)) rather than *multidominance* as instantiated by, e.g. *parallel merge* (cf. Citko (2005)). Setting out what each entails would take the discussion too far afield. What is important for present purposes is that *reprojection* is frequently taken to be a representational variant of Head-Movement, whereas *multidominance* contrasts with movement. Head-Movement might therefore achieve the same effects as Ramchand's Rmerge, in as much as Head-Movement is considered to capture the intuition that a single

morpheme expresses more than one syntactic terminal. Support for such a view comes from the following theoretical consideration:

In systems where morphemes cannot associate with multiple syntactic terminals, the relevant mechanism for achieving similar effects would have to be feature checking (i.e. that driving Head Movement in the pre-Agree system of Chomsky (1995), for instance). Such a scenario might be represented as in (30):



Here, the verb presumably enters the derivation with a set of unvalued features [init; proc; res], and undergoes successive Head-Movement in the process of checking these features against the valued features of the functional heads higher in the structure; alternatively, it could check them in situ. Regardless, the features must be checked in order – [res], [proc], and then [init]. In (30), this works out because of locality: the relevant feature-bearing heads are merged in the correct functional order and each

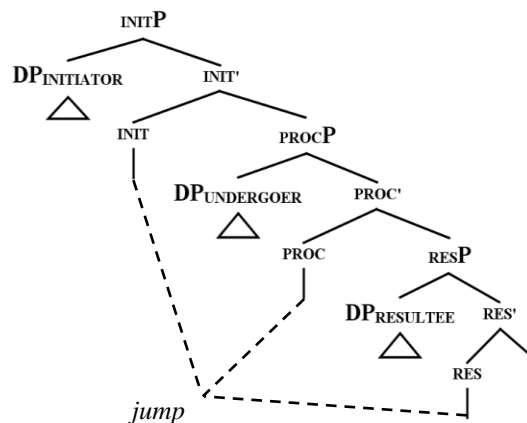
associated feature is checked after merge. But nothing inherent to the unvalued features *on the verb* stipulates that they have to be checked in this order, since they are conventionally represented as an unordered bundle in the terminal node V.³¹ So the fine-grained structure dominating the lexical V node becomes indispensable for the singular reason that it imposes some kind of structure on an inherently unordered set of features in the V terminal. At this level of granularity, a forced dichotomy between syntactic heads and the features they bear actually constitutes an unnecessary complication. The problem resolves if the features on the verb are structured and conceptualised as essentially “made of the same stuff” as syntactic heads, a state of affairs independently argued for in Chapter 2 of this study. When this redundant theoretical difference is eliminated, feature unification (or valuation) is synonymous with insertion. The “order” in which the features are checked is preserved by the hierarchy and the lexical item realises all relevant features/syntactic heads at once. This might be represented as follows, where dotted lines represent a lexical item’s (multiple) association(s):

³¹ It is a fact that fine-grained modes of inquiry, such as Cartography, Distributed Morphology (DM) and Nanosyntax (NS), as well as approaches that are specially concerned with the nature of formal features in the syntax (cf. i.a. Harley & Ritter (2002), Déchaine & Wiltschko (2002), Béjar & Rezac (2003), Georgi & Müller (2010); Biberauer & Roberts (2015)), are providing an increasingly large body of evidence that formal features are (somehow) hierarchically structured. The question of how best to represent this is debated in the literature, and Remerger constitutes one of various approaches to doing so. Nanosyntax incorporates what is referred to as Phrasal Spellout (cf. e.g. Caha 2009, Pantcheva 2011), whereas Distributed Morphology incorporates (morphological) operations like Regrouping (cf. Marantz 1988, Marantz 1989), Impoverishment (cf. Bonet 1991), and Readjustment (cf. Noyer 1997) to maintain representations in which there is a strict one-to-one correspondence between morphemes and syntactic terminals.

Cf. Caha (2009:57-63) for arguments from negation in Korean in favour of Phrasal Spellout in NS. Caha argues against Readjustment rules (particularly Fusion and Fission) in DM.

Cf. also Embick & Marantz (2008) for arguments against Phrasal Spellout, from a DM perspective.

(31)



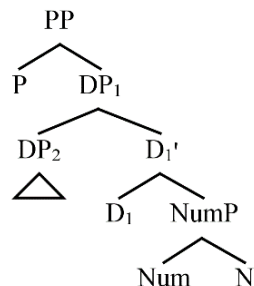
The structure in (31) basically represents an approach to lexicalising structure called *Spanning* (cf. e.g. Taraldsen (2010), Dékány (2011), and Svenonius (2012; 2016)). The term *span* is due to Williams (2003:214), and refers to (a subpart of) the complement line in an extended projection, specifically in the context of spellout. The central idea is that insertion recognises and targets spans:

Morphological exponents (morphemes, for short) cannot spell out two heads unless they are in a complement relation with each other. Thus, a single morpheme cannot spell out a head in an extended projection together with all or part of a specifier, nor can a single morpheme spell out a head in an extended projection together with all or part of an adjunct.

(Svenonius 2012: 2)

Regarding the issue of what structural components constitute a span, Svenonius (2012: 1) provides the following exercise:

(32)



The structure in (32) contains a span P–D–Num–N, which may be targeted for the insertion of a single morpheme. DP₂ in the specifier of D₁ does not form part of this span – i.e. it is ignored for the purposes of spelling out the span constituting the main projection line.³² It is interesting to contemplate whether specifiers are ignored for insertion targeting spans in the main projection line because they have already been spelled out (as advocated in Uriagereka (1999)), or whether unspelled-out specifiers are less integrated with the main projection line (as has been argued for adjuncts) such that they might be considered to “hang” on a different plane, being effectively invisible to interface procedures when the main projection line is spelled out. Whatever the case may be, in this “radical” implementation of *extended projection* (Grimshaw 1991), where each head-complement relation forms part of the same extended projection, Spanning draws from Mirror Theory (MT; Brody 2000a; 2000b). In MT the primary mechanism driving word formation is complementation and the spec-head relation represents core predication, so traditional complements, such as internal arguments, are specifiers because these arguably are never targeted for insertion together with their predicates (i.e. by a single morpheme). This aspect of Spanning and MT overlaps with Ramchand’s representation of the predicate-argument relation as set out in Section 3.3, and will be adopted here.

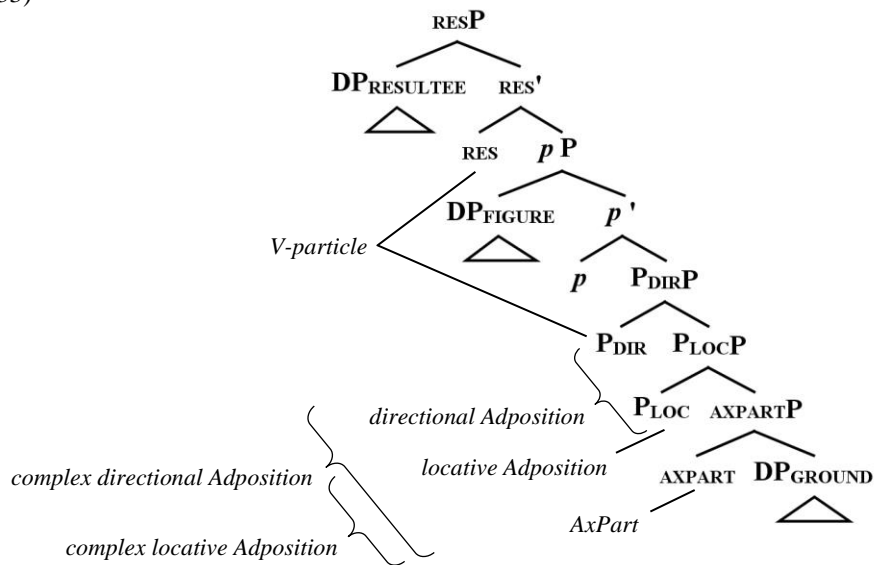
It should be noted that Svenonius (2012; 2016) puts forward a theory of Spanning that is mutually exclusive to Head-Movement. In this study, I choose to remain agnostic on this issue and take Spanning, Reprojection (=Ramchand’s Rmerge), and Head-Movement to be notational variants, in as much as each can be considered to supply mechanisms implementing some form of multiple-terminal spellout. As such, some representations utilise Head-Movement (e.g. the derivations of complex adpositions in Chapter 4), others show a span to be lexicalised in situ, as illustrated in (31) above.

³² This constitutes a major difference between Spanning, as it is presented here, and Phrasal Spellout in Nanosyntax (NS) where specifiers such as DP₂ in (32) would have to undergo Spellout-Driven “Evacuation” Movement to a position higher than P (cf. e.g. Caha 2010; Starke 2011) in order for the P-D₁ part of the span to be spelled out as a unit, since specifiers are not ignored for the purposes of spellout in the NS framework.

3.5 Overview of the Analysis

The diagram in (33) is a sketch of the analyses that are developed in Chapters 4-6 of this dissertation.

(33)



From (33) it should be apparent that axial elements will be argued to comprise [AXPART], locative adpositions [P_{LOC}], complex locative adpositions [P_{LOC} [AXPART]], directional adpositions [P_{DIR} [P_{LOC}]], complex directional adpositions [P_{DIR} [P_{LOC} [AXPART]]], and V-particles [RES [P_{DIR}]]. The node RES should now be recognisable as the lowest structural subcomponent of Ramchand's (2008) system, and the intention is that PROC and INIT can embed the structure in (33). This essentially makes V-particles members of a "hybrid" V/P category, but it is important to note also that nothing makes V-particles "special", except that they span what we might consider to be conventional (though, in this system: non-discreet) category boundary. Chapter 4 develops analyses of the "internal syntax" of axial elements, and simplex and complex adpositions. Chapter 5 is concerned with the syntax of the adpositional phrase (i.e.

how pre-, circum-, and doubling PPs are derived), and Chapter 6 develops the analysis of V-particles.

In (33), any node that is not actively in use during a particular derivation – e.g. AXPART in the derivation of a simplex directional adposition – is presumably omitted. So, as mentioned in Section 3.1 above, it is not taken to be the case that all “lower” features are necessarily present in the structures underlying the “higher” functions. The presence of “lower” features in “higher” functions has to be established case by case, e.g. as with the presence of P_{LOC} in the structure of directional adpositions). It is, however, of necessary importance that those features which *are* present in each structure be merged in such a way that the functional hierarchy in (33) is respected.

The nature and function of the little-*p* projection forms a major focus of Chapter 5. As shown in (33), this projection introduces the FIGURE. Accordingly, the absence of this projection is taken to correspond to the absence of a FIGURE. On this basis, following arguments by Zwarts (2014), Chapter 5 argues that little-*p* renders the PP as a whole predicative. In line with what is argued by Zeller (2001), but for different reasons, I will argue that the structure underlying particle verbs incorporates no little-*p*.

This Chapter has tied together several preliminaries to conducting the analyses that follow in the rest of the dissertation: it (i) briefly corroborated the proposal for the fine structure of P that was developed in the previous chapter with the literature, (ii) explored various conceptions of the “external argument”-introducing projection, little-*p*, (iii) outlined Ramchand’s (2008) system of verb event and argument structure adopted in this study, and (iv) set out the structural mode of representation that is used for the analyses that follow.

CHAPTER 4

The Internal Syntax of P

4.0 Introduction

This chapter is concerned with the internal syntax of adpositions and prepositional phrases. Before proceeding with the core business of the chapter, I will remind the reader of the crucial distinction in this study between *P elements* and *exponents* (cf. Chapter 2, especially Sections 2.4). To this end, Section 4.1 briefly illustrates the implementation in representing abstract P elements, and their categorial incarnations as exponents. Section 4.1 also repeats the Formal Range Potential (FRaP) Chart from (24) in Chapter 2, since the FRaP Classes are a frequent point of reference in this Chapter. For ease of reference, the reader is invited to consult the dissertation's Appendix, where the FRaP chart is also repeated.

In Section 4.2, a general characterisation of Axial Part is followed by a detailed discussion of its properties in Afrikaans. Unlike in many languages, axial exponents in Afrikaans are not syncretic with nouns, but rather with adpositions, so the development of language-specific diagnostics forms an important component of that section. In preparation for the analysis of complex adpositions, Section 4.3 briefly discusses how (and whether) adpositional structure interacts with verbal structure in creating directional meaning.

Section 4.4 proposes an analysis of complex adpositions which takes as its starting point the formulation of the *Axial-Initial Complex Adposition Generalisation*, basically stating that the morphologically initial element of complex adpositions is always an axial element. The morphological composition of complex adpositions is assessed by FRaP Class (i.e. which FRaP classes occur in the initial vs. final slot), in terms of blocking and insertion where the *Consecutive Identity Insertion Constraint*, stating a ban against the consecutive insertion of two elements from the same FRaP Class. Finally, complex adpositions are analysed as deriving from raising AXPART-to-P_{LOC}(-to-P_{DIR}), and the section concludes with a discussion of binominal spatial expressions.

Section 4.5 argues for a structural distinction between projective and non-projective locative adpositions, with key evidence for the analysis coming from measure modification. Finally, Section 4.6 proposes an analysis of so-called “intransitive” adpositions on which they are underlyingly transitive, and structurally equivalent (in the “P domain”, at least) to R-pronouns and a class of locative nouns termed *home-class nouns*.

4.1 P Elements have FRaP; Exponents have Category Status

Given the central role of syncretism in this study, it is important to keep in mind the distinction between “P elements” and exponents. Basically, “*P elements*” are lexical entries, whereas *exponents* are derived from lexical entries by insertion. “P elements” are devoid of any particular categorial information, being encoded with a range of syntactic potentials, i.e. a Formal Range Potential (FRaP) which is conceptualised as the lexical entry’s Formal component, as discussed at length in Chapter 2. The exponents deriving from a given “P element” are tokens of that lexical entry which, depending on their context of insertion, embody relevant (micro-)categories falling within the P element’s FRaP. The P elements of Afrikaans were divided into six FRaP Classes, repeated here in (1) overleaf.

(1) Afrikaans P elements organised by Formal Range Potential (FRaP)

AXIAL PART		ADPOSITION		V-PARTICLE
	AXPART	P _{LOC}	P _{DIR}	RES
Class A				
na ₁	<i>near</i>			
Class B				
agter	<i>back</i>	<i>behind</i>		
binne	<i>"interior"</i>	<i>inside</i>		
bo	<i>"top"</i>	<i>above</i>		
buite	<i>"exterior"</i>	<i>outside</i>		
onder	<i>under</i>	<i>beneath</i>		
tussen	<i>in.between</i>	<i>between</i>		
van	<i>of</i>	<i>"origin"</i>		
voor	<i>"face"</i>	<i>front</i>		
langs	<i>beside</i>	<i>next.to</i>	<i>along/via</i> [†]	
Class C				
af			<i>down/off</i>	<i>down/off</i>
toe			<i>to</i>	<i>to</i>
Class D				
deur			<i>through</i>	<i>through</i>
na ₂			<i>to</i>	<i>to</i>
om			<i>around</i>	<i>around</i>
verby			<i>past</i>	<i>past</i>
Class E				
aan		<i>"contact"</i>	<i>(on)to</i>	<i>to.vicinity</i>
by		<i>at</i>	<i>past</i> ^{††}	<i>to.with</i>
in		<i>in</i>	<i>into</i>	<i>into</i>
op		<i>on</i>	<i>onto</i>	<i>up</i>
oor		<i>above</i>	<i>over</i>	<i>over</i>
uit			<i>out</i>	<i>out</i>
Class F				
rond	<i>"perimeter"</i>	<i>"region"</i>	<i>around</i>	<i>around</i>
teen	<i>against</i>	<i>against</i>	<i>to.against</i>	<i>"opposite"</i>

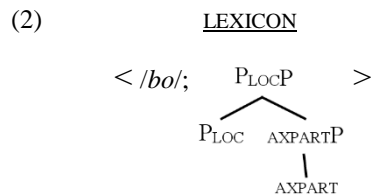
[†] *Langs* constitutes an exceptional case since it forms the postpositional element of route-denoting circum-PPs (cf. (i)), in which respect it is functionally similar to *toe* and *af* comprising Class C. It does not, however, function as a V-particle as the Class C elements do; neither does Class C express the AxPart or the locative Adposition functions as Class B does. It may therefore prove necessary to distinguish an additional FRaP Class, of which *langs* forms the only member, although this is not at present a crucial matter.

(i) Jan draf met die pad langs.
Jan jogs with the road along
"Jan is jogging along the road."

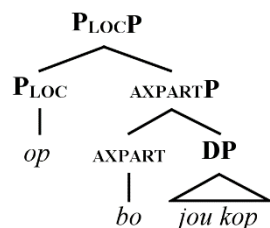
^{††} This is not a standard use of *by*, but appears to occur in regional varieties of Keimoes and Kimberley in the Northern Cape province (cf. note 15 in Section 4.4.2 of Chapter 4).

A shaded cell indicates a function that falls within a P element's range potential, and that thus represents a node for which the P element is specified.

The FRaP of Class B elements, for example, can be stated as [P_{LOC} [AXPART]], but the P elements themselves are not members of syntactic categories. Instead, the exponents align either with the category Axial Part or Adposition, depending on whether their insertion site is [AXPART], [P_{LOC}], or [P_{LOC} [AXPART]]³³. Consider an example with the FRaP Class B element *bo* ("top/above"), of which the lexical entry could be represented as in (2),³⁴ and the post-insertion, category-bearing exponents could be represented as in (3).



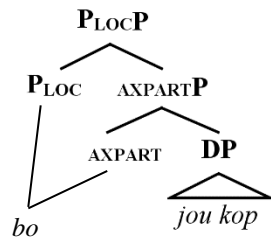
- (3) SYNTAX
- (a) *Exponent bo is an Axial Part*
 Daar is 'n gogga bo-op jou kop.
 there is a bug top on your head
 "There is a bug on top of your head."



³³ These are the logical options. It will be argued below that in fact each of these is attested.

³⁴ Note that conceptual information has been omitted for expository simplicity.

- (b) *Exponent bo is a (locative) Adposition*
 Daar is 'n gogga bo jou kop.
 there is a bug above your head
 “There is a bug above your head.”



As will become clear in the sections below, the complete picture regarding Class B elements is somewhat more complex than that presented in (2-3). However, what is of importance here is simply the fact that *bo* is a syncretic exponent, which seems to align with (at least) two separate categories, but deriving from the same abstract and a-categorial “P element” (lexical entry). In this study, the morpho-phonological form *bo* is never labelled as either Axial Part or Adposition independently of an actual utterance from which category status can be discerned through diagnostics. This means category status cannot be taken for granted on the basis of morpho-phonological identity. As we have seen thus far, elements of language are subject to constant, systematic category “shifts” of the type illustrated with *bo* in (3); that is, syncretism in the P domain is prolific. Since a primary source of evidence for the internal structure of P elements is syncretism, it is necessary to maintain a keen sensitivity to the distinction between the abstract P element, and its exponents.

4.2 Axial Parts

The term *Axial Part* simultaneously denotes a syntactic category and the concept to which exponents of this category refer. In Afrikaans, the exponents embodying the syntactic category derive from FRaP Classes A, B, and F in (1), and this section

provides both a conceptual characterisation and a battery of diagnostics for identifying them. The notion was introduced by Marr (1982) in connection with visual-neurological processing of objects. Jackendoff (1996) connects this with the language that is used in denoting spaces occupied by objects:

The “axial parts” of an object – its top, bottom, front, back, sides and ends – behave grammatically like parts of the object, but, unlike standard parts such as a handle or a leg, they have no distinctive shape. Rather, they are regions of the object (or its boundary) determined by their relation to the object’s axes. The up-down axis determines top and bottom, the front-back axis determines front and back, and a complex set of criteria distinguishing horizontal axes determines sides and ends.

(Jackendoff 1996:14)

Svenonius (2006 *et seq*) argues for the existence of AXPART as a functional projection in syntax. As such, this section is concerned with exponents giving expression to the AXPART node. As the quote above suggests, such elements denote vector spaces that are projected around parts of the Ground (rather than parts of the Ground itself), and that are delimited by a set of speaker-relative axes. The conceptual distinction between a vector space projected from part of an object vs. that part of the object itself is rather subtle. This, along with the fact that exponents giving expression to AXPART tend to be cross-linguistically syncretic with nouns, has resulted in many of the diagnostics for axial parts being aimed at distinguishing them from nouns. The diagnostics in (4-5) show that axial parts in English (i) cannot take determiners and (ii) are subject to selectional restrictions that do not apply to nouns. The data in (4) illustrate this with the axial exponent *front*, contrasting it with the noun *front* in (5).

- | | | | |
|-----|-----|--|--------|
| (4) | (a) | There was a kangaroo in (*the) front of the car. | |
| | (b) | *There was a kangaroo on front of the car. | AXPART |
| (5) | (a) | There was a kangaroo in *(the) front of the car. | |
| | (b) | There was a kangaroo on the front of the car. | NOUN |

(Adapted from Svenonius 2006:50)

Whereas nouns can pluralise (6a) and undergo adjectival modification (7a), this is not the case with axial parts (6b-7b). Moreover, whereas nouns can be targeted for pronominalisation, axial parts also cannot be (8).

- (6) (a) There were kangaroos in the fronts of the cars. NOUN
 (b) *There were kangaroos in fronts of the cars AXPART
- (7) (a) There was a kangaroo in the smashed-up front of the car. NOUN
 (b) *There was a kangaroo in smashed-up front of the car AXPART
- (8) (a) The kangaroo was in [the front of the car]_i, but the koala wasn't in it_i.
 NOUN
 (b) The kangaroo was in [front of the car]_i, but the koala wasn't in it*_i.
 AXPART

(Svenonius 2006:50-51)

It also seems to be the case that subextraction from the binominal expression (i.e. where *front* is a noun) is not possible (8'a), whereas fronting the DP_{GROUND} in the monominal expression (i.e. where *front* is an axial part) is good (8'b).

- (8) (a) */?? [Which car]_i did the kangaroo sit in the front of t_i? NOUN
 (b) [Which car]_i did the kangaroo stand in front of t_i? AXPART

Finally – and importantly for the discussion that follows in Section 4.4 – axial parts, since they denote vector spaces, can take measure phrases, whereas nouns cannot:

- (9) (a) *There was a kangaroo sixty feet in the front of the car. NOUN
 (b) There was a kangaroo sixty feet in front of the car. AXPART

(Svenonius 2006:51)

4.2.1 Axial Parts vs. Nouns in Afrikaans

Unlike in English and many other languages like Tzeltal (cf. Levinson 1994), Persian (cf. Pantcheva 2006), Kĩĩtharaka (cf. Muriungi 2006), and Korean, amongst others (cf.

Svenonius 2006:53-59 for discussion), Afrikaans axial exponents are not syncretic with nouns. To see this, consider (10), which runs the determiner diagnostic on the exponent *binne*. In (10), the axial element and the noun are morphologically distinguished by the suffix *-kant* (“-side”) appearing on the noun:³⁵

- (10) (a) Daar was ’n gogga in die binnekant van die laai. NOUN
 there was a bug in the inside-side of the drawer
 “There was a bug on the inside of the drawer.”
- (b) *Daar was ’n gogga in die binne van die laai. AXPART
 there was a bug in the inside of the drawer

Binominal expressions like (10a) are treated in Section 4.4.4 below. Axial exponents in Afrikaans appear rather to be syncretic with adpositions, which means for the most part that they require a different set of diagnostics to those developed for English. I suggest the most reliable diagnostic for axial parts in Afrikaans is the test that was introduced in Section 2.1.3, namely the ability of axial parts to cooccur with – specifically, to linearly precede – adpositional exponents:³⁶

- (11) ...dat Jan sy paspoort bo_{AXPART}-/binne_{AXPART}-in die laai sit.
 that Jan his passport top inside -in the drawer puts
 “...that Jan is putting his passport in the top / inside of the drawer.”

³⁵ It should be noted that although the P element *binne* does not have the capacity to express the function of a regular (determiner-taking, pluralising, adjectival modifier-taking) noun, *binnekant* can in fact behave as an adposition (i), like *buitekant* (lit.: outside-side, “outside”), *anderkant* (lit.: other-side, “on the other side of”), etc. These elements are discussed and analysed in Section 4.3.5 below.

- (i) Die poskantoor is (*die) binnekant die dorp.
 the post-office is the inside-side the town
 “The post office is inside the town.”

³⁶ Although many axial part + adposition combinations are written as single orthographic units (e.g. *binne-in* in (12a), *rondom* in (12b), and *tussendeur* in (12c) – traditionally, *complex adpositions*), some are not (e.g. *bo in* in (12a) and *buite om* in (12b)). Given the arbitrary nature of orthography (cf. also note 3 in Chapter 2 regarding the orthography of certain directional expressions e.g. *huistoe/huis toe* “(to go) home”), I will not take it to be indicative of underlying structure.

- (12) ...dat Jan rond_{AXPART}-/buite_{AXPART} om die huis stap.
 that Jan round outside around the house walks
 "...that Jan is walking around the outside of the house."

The elements marked AXPART in (11-12) are conceptually in line with what we expect from axial exponents, namely denoting vector spaces around parts of the Ground (=die laai/huis). For instance, *binne* in (11a) activates the vector space pointing inwards from the surface of the drawer, and the adposition *in* then locates the Figure (=die gogga) somewhere within that space; *bo* in (11a) activates the vector space at the top of the drawer and the adposition *in* again locates *die gogga* somewhere within that space (*vector spaces* are discussed again in Section 4.5). The fact that axial exponents precede any adpositions with which they occur also clearly distinguishes them from nouns, which must typically be preceded by adpositions. For example, where the axial part *binne* linearly precedes the adposition *in* (13a), *in* must in turn precede the noun (*die*) *binnekant* (13b).

- (13) (a) Daar was 'n gogga (*die) binne in die laai. AXPART
 there was a bug the inside in the drawer
- (b) Daar was 'n gogga in *(die) binnekant van die laai. NOUN
 there was a bug in the inside-side of the drawer

Expressions like *Die gogga lê binne in* (lit.: the bug lies inside in, "the bug is inside"), which incorporate an implicit Ground argument, are analysed here as intransitive complex adpositions. Section 4.4 provides the analysis of complex adpositions, and Section 4.6 the analysis of intransitive adposition.

4.2.2 Axial Parts vs. Adpositions in Afrikaans

Cooccurrence distinguishes axial exponents from adpositions, which cannot occur with other adpositions:

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- (14) (a) ...dat Jan die melk bo in die yskas sit.
that Jan the milk top in the fridge puts
“...that Jan is putting the milk in the top of the fridge.”
- (b) *...dat Jan die melk op in die yskas sit.
that Jan the milk up in the fridge puts

The fact that the ordering of axial part + adposition combinations is rigid (15) suggests that exponents expressing these categories correspond to fixed syntactic positions. Based on syncretism, it was established in Chapter 2 that these syntactic positions are base-ordered [P_{LOC} [AXPART [$\text{DP}_{\text{GROUND}}$]]], so the fact that the axial exponent always linearly precedes the adpositional exponent will be argued in Section 4.4 below to be the result of complex head formation (incorporation).

- (15) (a) ...dat Jan sy paspoort binne in die laai sit.
that Jan his passport inside in the drawer puts
“...that Jan is putting his passport inside the drawer.”
- (b) *... dat Jan sy paspoort in binne die laai sit.
that Jan his passport in inside the drawer puts

Though in (14a-15a), *bo* and *binne* are axial parts, it cannot simply be assumed that a given element belongs only to one category. In other words, it is not given that all the instances of *bo* and *binne* are axial parts. The fact that *bo* and *op* in (16) have the same distribution suggests they are categorially equivalent – i.e. that *bo* is an adposition and not an axial part.

- (16) (a) Daar is 'n gogga op jou kop.
there is a bug on your head
“There is a bug on your head.”
- (b) Daar is 'n gogga bo jou kop.
there is a bug above your head
“There is a bug above your head.”

To verify that axial exponents cannot occur distributionally in the position of *op* and *bo* in (16), consider expressions with na_1 (“near”) from FRaP Class A (cf. (1) above),

which has only [AXPART] in its FRaP. Cooccurrence, illustrated in (17), confirms the status of *na*₁ as an axial exponent, and (18) shows that this element cannot occur in the position occupied by adpositions: “bare” and pre-nominally like *bo* and *op* in (16).

- (17) (a) Jan woon *na*₁AXPART-by die wynplaas.
 Jan lives near -at the wine-farm
 “Jan lives near the wine farm.”
- (b) Die saak is *na*₁AXPART aan my hart.
 the case is near to my heart
 “The situation is important to me.”
- (18) (a) *Jan woon *na*₁ die wynplaas.
 Jan lives near the wine-farm

4.2.3 Stranding Adpositions vs. Axial Parts

The stranding patterns exhibited by what is argued here to be the adpositional exponent *bo* are moreover congruous with “uncontroversial” adpositions like *op*, which again supports the claim that Class B elements like *bo* are sometimes categorial adpositions. The expressions in (19) show that pied-piping in English is optional. The alternation of the pronoun (*where* vs. *what*) in (19a) and (19b) is taken to result from the fact that the pronoun in (19a) is coreferential with a locative PP and therefore takes the form of a locative pronoun, whereas in (19b) it is coreferential with a DP and therefore takes the form of a D pronoun.

- (19) (a) On the bookshelf is where John left his keys.
 (b) The bookshelf is what John left his keys on.

The expressions in (20a-b) show that adposition + axial part combinations in English may be pied-piped or stranded but, as shown in (20c), they cannot be separated. That is, it is not possible to pied-pipe the axial part and strand the adposition.

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- (20) (a) On top of the bookshelf is where John left his keys.
 (b) The bookshelf is what John left his keys on top of.
 (c) *Top of the bookshelf is what John left his keys on.

Although P stranding in Afrikaans is generally less acceptable in formal registers, it is optional in spoken Afrikaans. This is illustrated with (21d).

- (21) (a) Jan het sy sleutels op die boekrak gesit.
 Jan has his keys on the bookshelf put
 “Jan put his keys on the bookshelf.”
- (b) [Op die boekrak]_j is [waar_i]_j Jan sy sleutels *t_i* gesit het.
 on the bookshelf is where Jan his keys put has
 “On the bookshelf is where Jan put his keys.”
- (c) [Die boekrak]_i is [waar_i-op]_j Jan sy sleutels *t_j* gesit het.
 the bookshelf is where-on Jan his keys put has
 “The bookshelf is whereon Jan put his keys.”
- (d) [Die boekrak]_i is [waar/wat_i]_j Jan sy sleutels op *t_j* gesit het.
 the bookshelf is where/what Jan his keys on put has
 “The bookshelf is what Jan forgot his keys on.”

As Den Besten (2010:1) points out, “inanimate pronominal complements of prepositions do not have to surface as R-pronouns in Afrikaans – unlike such elements in Dutch.” This is evident in (21d) where the pronominal complement of *op* can surface as either the strong pronoun *wat* or the R-pronoun *waar*, which must surface to the left of the P.³⁷ R-pronouns in Dutch are identified by Van Riemsdijk (1978) as the pronominal complements of Ps that must always surface to the left of the P, even when that P is otherwise exclusively prepositional. On Koopman's (2000) account of

³⁷ R-pronouns, or R-words, are so named for the phonological /-r/ ending of the members of this class, i.e. *hier* (“here”), *daar* (“there”), and *waar* (“where”). The (lowest) position “to the left of the P” to which the R-pronoun moves is typically argued to be Spec-Place (or some equivalent) – cf. Van Riemsdijk (1978), Koopman (2000), and Den Dikken (2010) for discussion and analyses of R-pronouns in Dutch. Cf. Section 4.6.1 below for a (brief) discussion of R-pronouns in Afrikaans.

Dutch PPs, R-pronouns have a special landing site in spec-Place (amongst others),³⁸ to which such pronouns are obliged to move. This accounts for the special word order with R-pronouns in Dutch PPs. In Koopman's (2000) terms, the movement of pronominal complements to spec-Place (etc.) in Afrikaans thus appears to be optional, although it should be noted that in (21c) *waarop* cannot be substituted with *op wat*. This suggests that, although movement of the pronominal complement to spec-Place in Afrikaans is optional, the adposition cannot be pied-piped unless the pronoun moves through spec-Place.³⁹ The data in (22) illustrate that, when *bo* occurs "bare" (that is, does not cooccur with an adposition), it exhibits the same properties as the adposition *op* (21) with regard to stranding.

- (22) (a) Jan het sy sleutels *bo* die boekrak laat hang.
 Jan has his keys above the bookshelf let hang
 "Jan let his keys hang above the bookshelf."
- (b) [*Bo* die boekrak]_{*j*} is [*waar*]_{*i*} Jan sy sleutels *t_j* laat hang het.
 above the bookshelf is where Jan his keys let hang has
 "Above the bookshelf is where Jan let his keys hang."
- (c) [*Die boekrak*]_{*i*} is [*waar-bo*]_{*j*} Jan sy sleutels *t_j* laat hang het.
 the bookshelf is where-above Jan his keys lets hang has
 "The bookshelf is where above Jan lets his keys hang."
- (d) [*Die boekrak*]_{*i*} is [*waar/ wat*]_{*j*} Jan sy sleutels *bo t_j* laat hang het
 the bookshelf is where/what Jan his keys above let hang has
 "The bookshelf is what Jan let his keys hang above."

³⁸ Koopman's (2000) Place node is equivalent to P_{Loc} in this study, and is a pure lexical projection, analogous to (undecomposed) P. A (somewhat simplified) representation of Koopman's analysis of the structure underlying Dutch locative PPs is given in (i). The possible landing sites of the R-pronoun are indicated with [+R].

(i) [CP_(Place) Spec_[+R] [C_(Place) [DegP_(Place) MOD [Deg_(Place) [PlaceP Spec_[+R] [Place [PP P_{Loc} DP]]]]]]]

³⁹ But cf. expressions like (ii), which are treated in Du Plessis (1977) and Den Besten (2010), where the adposition can be pied-piped with the strong pronoun *wat* in wh-movement operations.

(ii) [Vir *wat*]_{*j*} dink julle werk ons *t_i*?
 for what think you work we
 "What do you think we are working for?"

The patterns in (21-22) again suggest that *bo* is categorially equivalent to *op* when it occurs bare. The axial exponent *bo*, analogous to the English axial element *top* in (20), cannot be separated from the adposition with which it cooccurs. In other words, though the axial part + adposition combination *bo-op* (lit.: top-on “on top of”), like the bare adpositions in (21) and (22), may be stranded or pied-piped as illustrated in (23b-c), the axial element *bo* cannot be separated from *op*. In other words, *op* cannot be stranded if *bo* is pied-piped. This is illustrated in (23d-e).

- (23) (a) Jan het sy sleutels bo-op die boekrak gelos.
 Jan has his keys top-on the bookshelf left
 “Jan left his keys on top of the bookshelf.”
- (b) [Bo-op die boekrak]_i is [waar_i]_j Jan sy sleutels t_j gelos het.
 top-on the bookshelf is where Jan his keys left has
 “On top of the bookshelf is where Jan left his keys.”
- (c) [Die boekrak]_i is [waar_i / wat_i]_j Jan sy sleutels bo-op t_j gelos het.
 the bookshelf is where what Jan his keys top-on left has
 “The bookshelf is what Jan left his keys on top of.”
- (d) *[Bo die boekrak]_i is [waar_i-<op>]_j Jan sy sleutels t_j <op> gelos het.
 top the bookshelf is where -on Jan his keys on left has
- (e) *[Die boekrak]_i is [waar_i -<bo>]_j Jan sy sleutels op t_j gelos het.
 the bookshelf is where top Jan his keys on left has

The expression (23c) shows that, unlike simplex adpositions, it appears axial part + adposition combinations must be stranded when they form part of relative pronouns. To see this, contrast (23c') below with (21-22c) above.

- (23) (c') ^{??/*}[Die boekrak]_i is [waar_i-bo-op]_j Jan sy sleutels t_j gelos het.
 the bookshelf is where-top-on Jan his keys left has
 “The bookshelf is where on top Jan left his keys.”

Though I will not seek to provide a proper explanation for this contrast, it seems possible that relative pronouns in Afrikaans are banned from being morphologically too complex. Whatever the formal explanation may be, the fact that Ps containing

axial parts must be stranded in expressions like (23c) could be taken as another distinguishing characteristic of axial parts vs. adpositions. To summarise, it has been shown that the P element *bo* exhibits the distributional properties of two distinct syntactic categories, namely *axial part* and *adposition*. These observations can be extended to all P elements belonging to FRaP Class B. Consider a few examples:

- (24) (a) (i) Jan bêre die kaggelhout agter die huis.
Jan keeps the fireplace-wood behind the house
“Jan keeps the wood for the fireplace behind the house.”
- (ii) Jan bêre die kaggelhout agter in die skuur.⁴⁰
Jan keeps the fireplace-wood back in the barn
“Jan keeps the wood for the fireplace in the back of the barn.”
- (b) (i) Jan se huis is langs die rivier.
Jan POS house is next.to the river
“Jan’s house is next to the river.”
- (ii) Jan se ouers het die plot langsaa sy huis gekoop.
Jan POS parents have the plot next.to-to his house bought
“Jan’s parents bought the plot next to his house.”
- (c) (i) Jan is van Stellenbosch.
Jan is of Stellenbosch
“Jan is of (the region) Stellenbosch.”
- (ii) Jan kom vanaf Stellenbosch.
Jan comes of-off Stellenbosch
“Jan comes from Stellenbosch.”

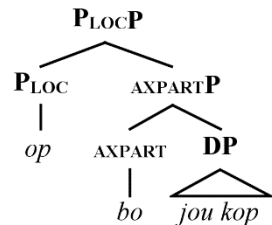
⁴⁰ This expression is in fact ambiguous, with the interpretational variant meaning “Jan keeps the firewood behind some implicit reference object, in the barn”. This interpretation corresponds to a structure in which *agter* functions as an intransitive adposition (as all FRaP Class B elements can) and *in die skuur* is an adjunct. This is illustrated in (i). A clear difference in the intonational pattern distinguishes (i) from (24a-ii). This is also indicated in (i).

- (i) Jan [_{VP} [_V bêre [die kaggelhout] [_{PP} AGTER]], [_{PP} in die skuur]].
Jan keeps the fireplace-wood behind in the barn
“Jan keeps the firewood behind some implicit reference object, in the barn”

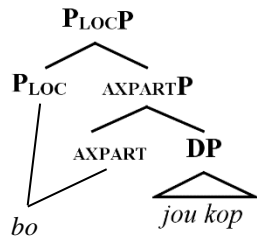
4.2.4 Summary: First Pass at an Analysis

Let us assume for now that the diagnostics in Sections 4.2.2 and 4.2.3 indicate that FRaP Class B elements like *bo* and *binne* should receive two (related, but separate) structural analyses, one that corresponds to a categorial axial part and one that corresponds to a categorial adposition. So, the structures that were given in (3) at the beginning of the chapter to illustrate the difference between P elements and exponents are repeated in (25) below as a first pass at a structural analysis of FRaP Class B elements. The FRaP Class A element *na₁* (“near”) in (17), since it is a non-syncretic axial element, will always receive the structural analysis given to axial *bo* in (25a), where another P element lexicalises P_{Loc}. The structural analysis of the adpositional function of *bo* (25b) is contrasted with that of *op* (25b').⁴¹

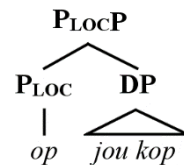
- (25) (a) Daar is 'n gogga *bo-op* jou kop.
 there is a bug top on your head
 “There is a bug on top of your head.”



- (b) Daar is 'n gogga *bo* jou kop.
 there is a bug above your head
 “There is a bug above your head.”



- (b') Daar is 'n gogga *op* jou kop.
 there is a bug on your head
 “There is a bug on your head.”



⁴¹ How the correct order *bo-op* (vs. the underlying *op > bo*) in (25a) is achieved is address in Section 4.4 below.

The structure in (25b) suggests that the adpositional use of *bo* structurally includes the AXPART node, but there is no a priori reason that such an adpositional exponent should not simply express P_{LOC}, as *op* does in (25b'). This issue is taken up again in Section 4.4.1, where it is argued that a structural distinction like (25b)/(25b') should underpin the difference between projective and non-projective adpositions. Section 4.4.2, however, shows that facts surrounding measure modification may present a challenge to a (25b)-type assessment of projective adpositions, raising the question whether *bo* and other FRaP Class B elements do ever in fact lexicalise P_{LOC}. First, however, Section 4.3 presents an analysis of complex adpositions in which AXPART is argued to be the distinguishing structural component.

4.3 A Note on Direction and Directed Motion

Before turning to a discussion and analysis of complex adpositions, it is necessary to offer some words on the topic of direction, as expressed by adpositions and verbs, and to investigate briefly the structure underlying such expressions.

It is well noted in the literature that a class of adpositions, sometimes referred to as *neutral* or *non-inherently directional*, in many so-called *satellite-framed* languages,⁴²

⁴² Talmy's (1985) categorisation of verb- vs. satellite-framed languages attempts to capture a parametric split between languages that allow directional interpretations to arise from manner of motion verbs combining with PPs (e.g. generally speaking, Germanic, Slavic, Finno-Ugric, and Bantu = *satellite framed*) and languages that don't (e.g. generally speaking, Romance, but also Japanese, Korean, and Chinese = *verb-framed*; cf. Svenonius 2006b for discussion). Carter (1988) discusses permissible interpretations with manner of motion verbs combining with "neutral" adpositions. He claims that languages like French, Italian, and Japanese (typically, verb-framed languages) do not permit directional interpretations on such combinations, whereas this is possible in languages like English (typically, satellite-framed languages). This is illustrated in (i-ii) below. Carter's (1988) observations form part of an extended argument for silent directional elements in languages like English that are lexicalised neither by the verb nor by the adposition and which make expressions like (ii) on a directional interpretation possible.

- (i) La bouteille flottera sous le pont.
 the bottle will.float under the bridge
 "The bottle will float under the bridge" LOCATIVE ONLY (Carter 1988:175)

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is frequently ambiguous between location and direction (cf. i.a. Biberauer & Folli 2004 and Oosthuizen 2009 for Afrikaans, Den Dikken 2010 for Dutch, Svenonius 2007 for English). Consider some examples:⁴³

- (26) *Afrikaans*
- (a) Hy spring in die water.
he jumps in the water
“He is jumping in/into the water.” LOCATIVE/DIRECTIONAL
- (b) Hy spring op die bank.
he jumps on the couch
“He is jumping on/onto the couch.” LOCATIVE/DIRECTIONAL
- (27) *Dutch*
- (a) Jan klom in de boom.
Jan climbed in the tree
“Jan climbed in(to) the tree.” LOCATIVE/DIRECTIONAL
- (b) Jan klom op de heuvel.
Jan climbed on the hill
“Jan climbed on(to) the hill.” LOCATIVE/DIRECTIONAL
- (c) Jan wandelde op de heuvel.
Jan walked on the hill
“Jan walked on(to) the hill.” LOCATIVE/DIRECTIONAL
(Den Dikken 2010:77-78)
- (28) *English*
- (a) Mary ran in the house. LOCATIVE/DIRECTIONAL
- (b) The bottle floated under the bridge. LOCATIVE/DIRECTIONAL
- (c) John danced behind the curtain. LOCATIVE/DIRECTIONAL
- (Svenonius 2006a:7)

-
- (ii) The bottle will float under the bridge.
“The bottle will float (to) under the bridge.” LOCATIVE/DIRECTIONAL

⁴³ What should be noted about all of the examples in (26-28) is that *only some* speakers accept these expressions on a directional reading (they are then ambiguous), whereas many speakers cannot get a directional reading in any of these cases (they are then unambiguously locative).

Such ambiguous/neutral/non-inherently directional adpositions are typically characterised as having an unmarked locative value, but are easily coerced into taking on a positive directional value, either from the verb or from context. Such coercion is illustrated with the sentence pair in (29).

- (29) (a) Hy loop in die bos.
 he walks in the bush
 “He is walking in the forest.” LOCATIVE ONLY
- (b) Hy spring in die bos.
 he jumps in the bush
 “He is jumping in(to) the forest.” LOCATIVE/DIRECTIONAL

Regarding pairs like (29), Biberauer & Folli (2004:22) remark as follows:

...that locative/directional semantics is exclusively expressed via satellites [in languages like Afrikaans; cf. note 42 above regarding Talmy’s (1985) verb- vs. satellite-framed language dichotomy – EP] would be to oversimplify the facts... Structures of the kind in [(29) – EP] pose a challenge to the conventional view that Germanic languages are exclusively satellite-framed; at least some motion verbs also appear to be able to contribute to the meaning of directed motion structures.⁴⁴

In (29a) the manner of motion (=non-directed motion) verb *loop* (“walk”) combines with a PP headed by *in* and the overall expression is locative. In (29b) *loop* is substituted with *spring*, which may be interpreted either as a manner of motion verb (e.g. jumping up and down) or as a directed motion verb (e.g. leaping forward). Here, the overall expression can be either locative or directional and it appears, as Biberauer & Folli (2004:22) suggest, that the directional reading on adpositional phrases headed by ambiguous/neutral/non-inherently directional adpositions like *in* and *op* are evoked by the positive directional value on directed motion verbs like *hardloop* (“run”), *spring* (“jump”), and *klim* (“climb”).

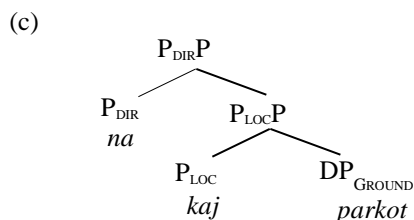
⁴⁴ Cf. also Fábregas 2007:175 for discussion of directional expressions in Spanish. Fábregas (2007) in fact challenges the Talmian dichotomy from the perspective of Romance languages, showing that various manner of motion verb classes in Spanish are compatible with directional PPs, contrary to what must be assumed following a strict Talmian dichotomy.

In keeping with the literature on the structure underlying directional P elements, I assume that directionality in P is structurally encoded such that a directional adposition lexicalises (at least) the structure [P_{DIR} [P_{LOC}]]. Since Jackendoff's (1983) proposal, it has become uncontroversially accepted that the structure underlying directional PPs crosslinguistically consists of two layers (cf. e.g. Koopman 2000, Van Riemsdijk & Huybregts 2002, Helmantel 2002, Biberauer & Folli 2004, Svenonius 2004; 2007a, Den Dikken 2010). Conceptually, the idea that direction embeds location can be understood in terms of paths being “constructed out of... nested sets or sequences of places” (Zwarts 2005:348; cf. also Bierwisch 1988 and Verkuyl & Zwarts 1992). Direct evidence comes from languages in which a morphological “nesting” can be observed in directional PPs. As an example, consider the expressions in (30). The relevant observation is that the directional expressions morphologically include the locative, with the presence of an additional element marking directionality. The two-layer structural analysis is illustrated with Macedonian in (31) below.

(30)		<u>Location</u>	<u>Direction</u>
	(a)	<u>English:</u> in the city	into the city
	(b)	<u>Norwegian:</u> i byen in city-DEF	inn i byen into in city-DEF

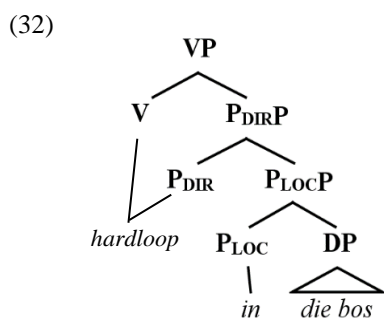
(From Zwarts 2010:983)

(31)	(a)	Kaj parkot sum. at park.DEF be.1SG “I am at the park”	LOCATIVE
	(b)	Odam na-kaj parkot. go.1SG to -at park “I am going to the park”	DIRECTIONAL



(From Pantcheva 2011:36-37)

Though P_{DIR} is frequently associated with directional adpositions, Biberauer & Folli's (2004) challenge to a strict Talmian dichotomy could be interpreted structurally as a directed motion verb giving expression to this node in directional expressions like (29b) above where the verb appears to be responsible for contributing directionality to the expression.⁴⁵ This is illustrated as follows:



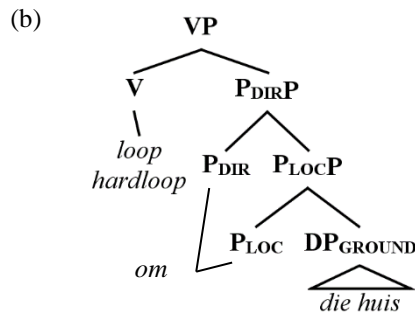
The proposal in (32) is analogous to what has been argued for typically verb-framed languages like Spanish (cf. Fábregas 2007).⁴⁶ The idea is that the structure underlying directional expressions is roughly equivalent crosslinguistically (but also intra-linguistically) with variation across languages (and across expressions within languages) residing in how the structure is partitioned by lexical material. I will not take up an ultimate position on whether directionality in V is (consistently) structurally or/and semantically encoded, and acknowledge (32) (or some notational variant) as a very plausible structural account of expressions like (26-27), where the

⁴⁵ The idea that an element from a “category” other than P (i.e. V) can lexicalise a node that is typically considered to be a P node is very much in line with the theoretical thesis of this study. Namely, syntactic categories correspond to syntactic zones that are lexicalised by elements exhibiting behaviour that is typical of that zone (cf. Chapter 2 for discussion of *category effects*). It is then expected that elements lexicalising neighbouring zones can “reach across” zone boundaries and lexicalise nodes that are typically associated with other categories. In this sense, P_{DIR} should probably be relabelled simply as “DIR”, reflecting the idea that labels here have a primarily expository value. Assuming, however, that labels are not important, I will continue to use the label “P_{DIR}”, with the understanding that elements typically associated with other categories may just as easily give expression to this node as adpositions can.

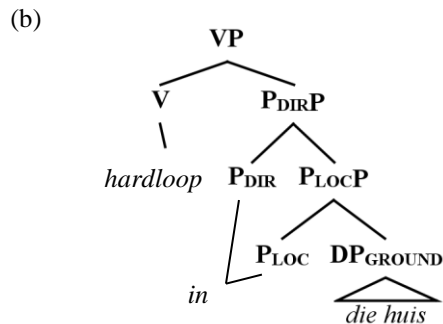
⁴⁶ For an analogous – though notationally different – proposal, cf. Koopman (2000) and Den Dikken (2010), where null PATH (=P_{DIR}) incorporates with the verb.

nature of the verb seems to play an important role in determining the directionality of the overall expression. Very importantly, however, I argue that an analysis like (32) should not be mutually exclusive to an analysis in which the adposition itself lexicalises P_{DIR} . In the present system, P elements that are elsewhere referred to as ambiguous/neutral/non-inherently directional adpositions all belong to FRaP Class E, and I take these adpositions to be specified for direction, which means they are fully capable of functioning like “inherently directional” adpositions – e.g. *om* (“around”) – from FRaP Class D (33). Based on the predictions made by (33), what I am tangibly arguing for – alongside the existence of structures like (32) – is the existence of directional expressions with the structure in (34).

- (33) (a) Jan loop/hardloop om die huis.
 Jan walks/ runs around the house
 “Jan is walking/running around the house.”



- (34) (a) Jan hardloop in die huis.
 Jan runs in the house
 “Jan is running into the house.”



If the structure in (34) is available for (languages like) Afrikaans, then we expect to find manner of (non-directed) motion verbs with FRaP Class E elements in directional expressions. Oosthuizen's (2009) study of dialectal variation in Afrikaans adpositional phrases reveals a general preference in Cape Afrikaans for such constructions with target directional meanings (35). Such expressions, though marked in the mainstream variety, do occur more widely in the spoken language and, to my best knowledge are neither limited to the Cape variety nor that spoken in any specific region.

- (35) *Cape Afrikaans*
- (a) Hy loop in die huis.
he walks in the house
Intended: "He is walking into the house."
LOCATIVE/DIRECTIONAL
- (b) Hy ry op die dak.
he drives on the roof
Intended: "He is driving onto the roof."
LOCATIVE/DIRECTIONAL

(Oosthuizen 2009:42; 60-61; my annotations)

Den Dikken (2010:77-78) in fact observes the same regarding the Dutch expression in (27c) above, repeated here as (36). The ambiguity of (27a-b) could be accounted for with an analysis like (32) in which the directed motion verb is responsible for the overall directionality of the expression. However, the fact that some speakers can get a directional reading for (27c/36) with the (non-directed) manner of motion verb *wandelen* ("walk") suggests that it is in fact the FRaP Class E adposition, and not the verb, that expresses P_{DIR} in such expressions.

- (36) Jan wandelde op de heuvel
Jan walked on the hill
"Jan walked on(to) the hill."
LOCATIVE/DIRECTIONAL

The facts presented in (35-36) suggest that the structure/lexicalisation pattern in (33) is available in Afrikaans and Dutch with FRaP Class E elements. This should not rule

out the availability of (32) in the same language or even in the same speaker's grammar. But precisely how these structures/lexicalisation patterns would compete in the same language and in one speaker's grammar is a topic that cannot be further pursued here. Such a topic should, however, be pursued in further research on the largely under-discussed topic of free variation/true optionality vs. structured variation.

I will offer one further piece of evidence in support of the availability of (33) before moving on to consider the structure underlying complex adpositions in Afrikaans. The fact that not all locative adpositions can be coerced into accepting directional interpretations seems to support an analysis in which the adposition itself must be specified for direction in order for the expression as a whole to be given a directional reading. If FRaP Class E were simply unspecified for direction, such that any directional interpretation arising with a FRaP Class E adposition must be contributed by the verb, then the straightforward expectation is that all locative adpositions should be compatible with a directional reading, provided it combines with a verb of directed motion. This is not what we find:

- (37) Jan hardloop/spring by die rivier.
 Jan runs /jumps at the river
 "Jan is running/jumping at the river."

The P element *by* presents a curious puzzle in the sense that, although it is classified as a FRaP Class E element, it is systematically unable to function as a directional adposition in mainstream Afrikaans. So the expression in (37) cannot mean "Jan is running/jumping to a place at the river". This means that, as an adposition, *by* in mainstream Afrikaans is locative only, meaning "at". It is, however, also a productive V-particle meaning "to with (accompaniment)", as illustrated in (37'a-b).

- (37') (a) Ons was eers twee, maar toe kom Marie by_{PRT}.
 we were first two but then came Marie to.with
 "We were two people at first, but then Marie joined."
 (b) As die pot al 'n uur lank op is, dan gooi mens sout by_{PRT}.
 if the pot already an hour long on is then throws one salt to.with
 "When the pot has been on for an hour, one adds salt."

If *by* in fact realises the non-contiguous functions of locative adposition and V-particle, this is problematic for the *ABA Principle discussed in Chapter 2. Data from Afrikaans varieties spoken in the regions of Graaff Reinet and Keimoes, however, suggest that *by* is in fact specified P_{DIR} since it functions as a directional adposition in those varieties (38a-b).⁴⁷

- (38) (a) ...loop mense so by_{PDIR} mekaar.
 walk people so past each.other
 "...people walk past each other." GRAAFF REINET AFRIKAANS
- (b) ...toe kom trek ons by_{PDIR} Skanskop.
 then came moved we to.at Skanskop
 "...then we moved to Skanskop." KEIMOES AFRIKAANS

Interestingly, *by* in (38a) expresses a route-path meaning “past” (not, as might be expected, a more neutral goal-path meaning “to at”, as in (38b)). I suggest, for the meaning (38a) at least, that *by* never surfaces as a route-directed adposition in mainstream Afrikaans due to competition with the (simplex) P element *verby* (“past”), which expresses the same meaning as route-directed *by*, but constitutes a better conceptual match for expressing the function of a directed adposition, since it is not also able to function as a locative adposition.

Returning to the discussion at hand regarding the inability of (37) to be interpreted as a directional expression in mainstream Afrikaans, *by* is strictly locative, despite the presence of the directed motion verbs. If we assumed only the structure in (32) in accounting for directional interpretations on expressions incorporating FRaP Class E adpositions, it is far from clear why (37) cannot receive a directional interpretation with directed motion verbs. If instead (33) accounts for such directional interpretations, then the locative-only interpretation of (37) can be explained through the fact that *by* is never inserted to express the P_{DIR} as a directional adposition. So, I argue that combining a verb that has a positive directional value with a non-directional PP like one headed by *by* in mainstream Afrikaans, is not enough to coerce a

⁴⁷ Thanks to Cath O’ Reilly for bringing this to my attention.

directional reading on the PP. I suggest this is one indication that the locus of directionality with event-types is not the same as with space-types, and that they carry independent values for directionality which may – but need not – coincide. I take the above discussion to justify the claim made in this study that FRaP Class E is specified for P_{DIR} .

4.4 Complex Adpositions

Section 4.2.3 established that axial exponents in Afrikaans typically cooccur with adpositional elements. If Afrikaans axials are taken never to occur “bare”, this behaviour is analogous to that of English axials like *top* which also obligatorily occur with adpositions (cf. e.g. *the lizard on top of the hat* vs **the lizard top the hat*). This section expands on the “first pass” analysis of Section 4.2.4 by analysing this axial part + adposition cooccurrence phenomenon in Afrikaans as complex head formation.

Afrikaans incorporates a large set of “official” complex adpositions, i.e. ones that are listed as words in dictionaries. For example, Die Afrikaanse Woordelys en Spelreëls (2009) (AWS) lists *naby* (lit.: near-at, “near”), *bo-op* (lit.: top-on, “(to) on top”), *binne-in* (lit.: inside-in, “inside/into”), *bo-oor* (lit.: top-over, “over (the top)”), *tussendeur* (lit.: between-through, “in between”), *onderdeur* (lit.: under-through, “(through) underneath”), amongst others. In addition, there are many combinations, e.g. *buite om* (lit.: outside around, “around the outside”), *na aan* (lit.: near on, “near”), *tot by* (lit.: up.to at “up to”), and *voor verby* (lit.: front past, “past in front”), that are not listed as orthographic words but which I will give the same treatment as the listed complex adpositions. That the latter class behaves syntactically like the former can be verified based on their inseparability in fronting. Section 4.2.3 showed that, although axial part + adposition combinations can be either stranded or pied-piped as a unit, the axial part cannot be separated from the adposition. The data in (39) illustrates the same pattern with the unlisted combination *agter in*:

- (39) (a) Jan het sy paspoort agter in die laai gelos.
 Jan has his passport back in the drawer left
 “Jan left his passport in the back of the drawer.”
- (b) [Agter in die laai]_i is [waar_i]_j Jan sy paspoort _{t_j} gelos het.
 back in the drawer is where Jan his passport left has
 “In the back of the drawer is where Jan left his passport.”
- (c) [Die laai]_i is [waar_i/wat_i]_j Jan sy paspoort agter in _{t_j} gelos het.⁴⁸
 the drawer is where what Jan his passport back in left has
 “The drawer is where in the back of Jan left his passport.”
- (d) *[Voor die laai]_i is [waar_i-<in>]_j Jan sy paspoort _{t_j} <in> gelos het.
 front the drawer is where in Jan his passport in left has
- (e) *[Die laai]_i is [waar_i -<voor>]_j Jan sy sleutels in _{t_j} gelos het.
 the drawer is where front Jan his keys in left has

The axial part + adposition combination *agter in* has no equivalent in English and must be translated in the nominal *in/at the back*. Recall from the discussion in 4.1.3 that *agter* in these Afrikaans expressions is verifiably not a noun since the nominal counterpart of *agter* requires the suffix *-kant* (“-side”) and takes a determiner, whereas this is not possible for the axial element. Furthermore, the nominal *agterkant* no longer refers to a space that is projected at the back of the drawer, but to the physical back part of the drawer. This is exactly the conceptual change we expect in a categorial shift from axial part to noun. The equivalent binominal expression in Afrikaans is given as follows, and analysed in Section 4.3.5:

- (40) Daar is ’n merk op die agterkant van die laai.
 there is a mark on the back-side of the drawer
 “There is a mark on the back of the drawer.”

⁴⁸ As noted in Section 4.2.3 above for the expression in (39c), axial part + adposition combinations must be stranded in expressions with relative pronouns. Contrast the grammaticality of (39c) with the badness of (i), and contrast this, moreover, with the grammatical pied-piping of simplex adpositions in equivalent expressions like (21-22c) above.

- (i) ^{??/8} [Die laai]_i is [waar; agter-in]_j Jan sy paspoort _{t_j} gelos het.
 the drawer is where back-in Jan his passport left has

The ungrammatical expressions in (39d-e) are subject to an interpretive garden path effect where *voor* is at first interpreted as an adposition meaning “before/in front of”. When the stranded adposition *in* is subsequently encountered, the result is ungrammaticality. So, there is reason to believe that the orthographically two-unit combinations should be treated as structurally equivalent to the orthographically single unit combinations, and I will henceforth utilise the term *complex adpositions* in referring to both.

Regarding functional meaning, complex adpositions can head both locative and directional PPs. The data in (40) illustrates expressions incorporating the only unambiguously locative complex adposition of Afrikaans.

- (40) (a) Jan hardloop na₁by die rivier.
 Jan runs near-at the river
 “Jan is running near the river.”
- (b) Jan gooi die bal na₂by die rivier.
 Jan throws the ball near-at the river
 “Jan is throwing the ball near the river.”

The P *naby* is strongly locative, as verified by the fact that it cannot take on a directional interpretation, even when combined with directed motion verbs like *hardloop* and *gooi*. The impossibility of eliciting a directional interpretation from (40) may be contrasted with the locative/directional alternation of the adpositions in (41).

- (41) (a) Jan hardloop tussenin die bome.
 Jan runs between-in the trees
 “Jan is running (to) in between the trees.”
 LOCATIVE/DIRECTIONAL
- (b) (i) Jan gooi die bal teenaan die muur.
 Jan throws the ball against-to the wall
 “Jan is throwing the ball against the wall.”
 DIRECTIONAL
- (ii) Jan hardloop teenaan die muur.
 Jan runs against-on the wall
 “Jan is running against (along) the wall”
 LOCATIVE

- (c) Jan spring bo-op sy bed.
Jan jumps top-on his bed
“Jan is jumping (to) on top of his bed.”
LOCATIVE/DIRECTIONAL
- (d) (i) Die mense loop bo-oor die gras.
the people walk top-over the grass
“The people are walking (right) over the grass.”
DIRECTIONAL
- (ii) Die vadoek hang bo-oor die wasbak.
the dish-rag hangs top-over the basin
“The dishcloth hangs over the basin.”
LOCATIVE

What the data in (42) shows is that the (non-) directedness of the verb does not seem to have a consistent effect on the (non-) directedness of the PP. For instance, the verbs *hardloop* and *gooi* in (42b) both denote directed motion, but in (42b-i) the PP itself is directional, denoting a goal-path, whereas in (42b-ii) the PP is locative, denoting a uniform spatial relation between Figure and Ground (i.e. Jan’s position relative to the wall does not change). The expressions in (42d) illustrate the opposite effect, where *bo-oor* combines with the non-directed motion verb *loop* (“walk”) to form a directional expression in (42d-i). If it is right that *loop* encodes no direction, then the P *bo-oor* must be the alternating source of (non-) directionality in (42d). The complex Ps in (43), however, are always directional.

- (43) (a) Jan loop tussendeur die bome.
Jan walks between-through the trees
“Jan is walking through the trees.”
- (b) Die hond kruip onderdeur die tafel.
the dog crawls under-through the table
“The dog is crawling underneath the table (to the other side).”
- (c) Die polisie loop rondom die huis.
the police walk round-around the house
“The police are walking around the house.”
- (d) Die perde jaag voor verby die skuur.
the horses rush front past the barn
“The horses race past the front of the barn.”
DIRECTIONAL

The analysis of complex adpositions proposed in this section builds on two key observations. The first observation, discussed in Section 4.4.1, is that all complex adpositions incorporate an axial component; the second, discussed in Section 4.4.3, is that surface composition of complex adpositions mirrors the underlying structure.

4.4.1 Axial-Initial Complex Adposition Generalisation

This section formulates a generalisation regarding the morphological composition of all complex adpositions in Afrikaans, which provides the key to the analysis of such adpositions. The observation leading to the generalisation is stated in (44) and schematically depicted in (45) below.

(44) All complex adpositions, whether locative or directional, are comprised of

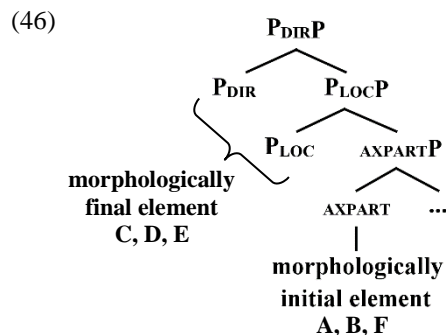
- (i) a morphologically initial element from FRaP Class A, B, or F
- (ii) a morphologically final element from FRaP Class C, D, or E

(45) *Schematic Anatomy of Complex Adpositions*

	Morphologically initial	Morphologically final	
	FRaP Class A, B, or F	FRaP Class C, D, or E	
(a)	<i>na-</i> (= A; lit.: near)	<i>-by</i> (= E; lit.: at)	“near”
(b)	<i>onder-</i> (= B; lit.: under)	<i>-deur</i> (=D; lit.: through)	“through”
(c)	<i>rond-</i> (= F; lit.: around)	<i>-om</i> (= D; lit.: around)	“around”
(d)	<i>agter-</i> (= B; lit.:back)	<i>-toe</i> (= C; lit.: to)	“backwards”

The “common denominator” unifying FRaP Classes A, B, and F is a lexical specification for *AXPART*. I therefore argue that the structure underlying complex adpositions is along the lines of (46), with the morphologically initial element

expressing the [AXPART], and the final element, depending on whether the adposition is locative or directional, lexicalising either [P_{LOC}], or [P_{DIR} [P_{LOC}]].



Based on the above, it is possible to formulate what I will refer to as the *Axial Initial Complex Adposition Generalisation*, stated in (47).

- (47) *Axial Initial Complex Adposition Generalisation*
All Afrikaans complex adpositions incorporate a morphologically initial element corresponding to AXPART.

Although the generalisation in (47) is formulated for Afrikaans, there is reasonable certainty that it also holds for other Germanic languages (e.g. Dutch). The next section addresses the spellout of structures like (46).

4.4.2 Spelling Out Complex Adpositions

This section attempts to model the insertion procedure deriving complex adpositions. The task is to show that competition between the FRaP Classes, which are lexically specified as indicated in (1) above, together with a notion of cyclic spellout delineated by *Spellout Domains* (SDs), turns out the pattern described by (44). As mentioned above, the substantive discussion surrounding the spellout procedure (=lexical access, matching, and insertion) and how this interacts with structural SDs is situated in

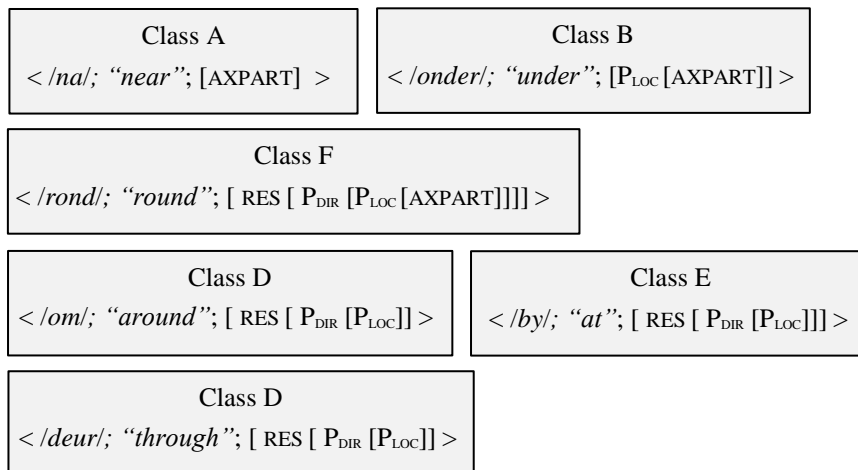
Chapter 5. There, prepositional, circumpositional, and doubling PPs are argued to arise from an interaction between matching, lexicalisation, and a fundamental headedness property which may differ between SDs.⁴⁹ The details surrounding that discussion are not immediately relevant to the analysis of complex adpositions developed here. For present purposes, all that needs to be assumed is that AXPARTP defines a spellout domain which will be referred to as SD_{AXPARTP} . As such, the projection of AXPARTP initiates a round of lexical access during which nodes within SD_{AXPARTP} are targeted for lexicalisation. Unless a degree head is merged above AXPART (as discussed in Section 4.5 below), SD_{AXPARTP} seems to incorporate just the AXPART node (assuming the DP_{GROUND} is lexicalised already, as part of a lower SD).

The first step in accounting for the distribution of the FRaP classes in complex adpositions is straightforward: AXPART requires morphological expression, so only lexical elements that are specified for AXPART qualify for insertion. This explains unproblematically why only FRaP Classes A, B, and F occur in this structural slot: only these classes are specified for AXPART. The spellout scenario is illustrated structurally in (48) overleaf with the first step in the derivation of the complex Ps *naby* (lit.: near-at, “near”), *onderdeur* (lit.: under-through, “through”), and *rondom* (lit.: round-around, “around”) from (45a-c) above. The LEXICON in (48) houses all the lexical elements – with their structural specifications in (1) represented between angled brackets (<...>) – that compete during the insertion procedure deriving (45a-c); the SYNTAX in (48) represents the structure targeted for lexicalisation when SD_{AXPARTP} is spelled out. The DP_{GROUND} in that structure is “whited out” because it will have been spelled out as part of a lower SD.

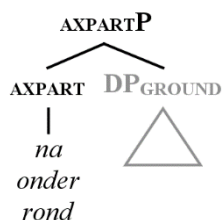
⁴⁹ Cf. specifically Section 5.4.3 regarding how the notion of SDs interacts with the notion of phases. Despite differing views about the nature of the precise mechanisms triggering Spellout, there is general consensus that defined syntactic domains become inaccessible to operations outside of that domain at some point in the derivation. Whatever the nature of the mechanism triggering such opacity in syntax, it is the SD itself that concerns us in this study. Thus, no particular version of the Phase Impenetrability Condition is adopted here.

(48)

LEXICON⁵⁰



SYNTAX

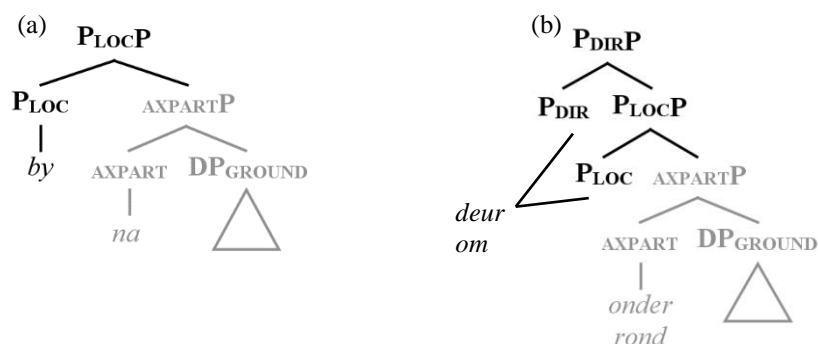


Though the FRaP Class B and F elements *onder* and *rond* are specified for lexicalising more structure than [AXPART] (the Class B element *onder* has the capacity to lexicalise [P_{LOC} [AXPART]], and the Class F element *rond* the entire span [RES [P_{DIR} [P_{LOC} [AXPART]]]]), such structure falls outside SD_{AXPART^P}. This means AXPART^P and the structure selecting AXPART^P are targeted for insertion at different points in the derivation. The result is that, under normal circumstances, AXPART will always be lexicalised by a separate element, even when that element has the capacity to

⁵⁰ Cf. the discussion in the previous section surrounding the data in (40) to understand why *by* is specified for P_{DIR} despite being patently unable to surface as a directional adposition in its own right in mainstream Afrikaans.

simultaneously express more structure.⁵¹ Next, we proceed to the insertion of the morphologically final element: that lexicalising (P_{DIR}-) P_{LOC}. In the format of (48), (49) represents the structure that is spelled out during the next round of lexical access.

(49)

SYNTAX

The structure in (49a) represents the locative complex adposition *naby* (lit.: near-at, “near”), and (49b) the directional ones *onderdeur* (lit.: under-through, “through”) and *rondom* (lit.: round-around, “around”). At this point in the derivation, [AXPART] has been lexicalised and is subsequently inaccessible to the procedure targeting [(P_{DIR})[P_{LOC}]]. This explains why P elements that are specified for AXPART (Classes A, B, and F) do not surface in this structural slot: they incorporate a (now) redundant feature, which would make an element that is *not* specified for AXPART a more economical match in (49) (cf. the *Elsewhere Condition*, Chapter 2). Importantly, because matching is regulated by the *Superset Principle*, Class B elements do *qualify* for insertion to (49a) (though not to (49b)), and Class F to both (49a) and (49b).⁵²

⁵¹ The idea that lexical items can “straddle” SD boundaries does, in fact, play an important role in the analysis of R-pronouns, *home*-class nouns, intransitive adpositions (Section 4.6), and in the analysis of directional *pre*-PPs (Chapter 5).

⁵² To be a match for the (part of the) structure subject to spellout, the *Superset Principle* requires a lexical entry to be specified for (at least) all the nodes to which it will give morphological expression. So, an entry may contain superfluous features and still constitute a match. Only, in the presence of an entry that contains fewer superfluous features, it will not constitute the *best* match and will not “win” insertion. If an entry with superfluous features constitutes the best

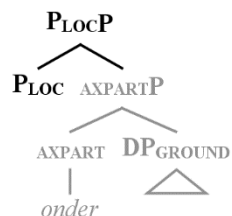
Regarding competition between P elements for lexicalising [P_{LOC}] in (49a), we expect a Class B element to “win” insertion over the Class E element *by* because the former incorporates only one superfluous feature, whereas the latter incorporates two. I suggest, however, that in the case of *naby*, no Class B element is a conceptual match for the unmarked “AT” meaning expressed by *by*. Thus, although *by* is not *structurally* the most economical insertion choice, it is the best *conceptually* appropriate one. A relevant conclusion here is that insertion is not “blind” to the conceptual appropriateness of a qualifying entry (cf. also Section 2.2.3 for discussion). Regarding competition between P elements for lexicalising [P_{DIR} [P_{LOC}]] in (49b), it is straightforward that the elements *deur* and *om* from Class D “win” insertion because they constitute the best match for this segment of the structure, incorporating only one superfluous feature, whereas the other classes incorporate at least two.

Before leaving the topic of matching and insertion regarding complex adpositions, I wish briefly to discuss two further interesting cases. The first concerns the non-attestation of Class B + Class B combinations in complex locative adpositions, e.g. **onder-binne* (lit.: under-inside) – that is, opposed to conceptually equivalent Class B + Class E combinations like *onder in* (lit.: under in, “at the bottom”). The second case concerns directional complex adpositions in which the morphologically final element is from Class C, e.g. *agtertoe* (lit.: back-to, “backwards”) in (45d) above.

The non-attestation of Class B + Class B combinations in the structural context of (49a = locative complex adpositions) is surprising from a blocking point of view because Class B is in fact best specified amongst all the FRaP Classes for lexicalising [P_{LOC}], since it incorporates only one superfluous feature, namely AXPART. Consider the illustration in (50):

match, such features will be ignored for the purpose of the derivation. Note that Class A simply does not qualify for insertion in (49) since it is specified *only* for AXPART.

- (50)
- Spelling Out Locative onder in (lit.: under in, “at the bottom”)*



In (50), AXPARTP is “whited out” because it has been lexicalised as a lower SD, the Class B element *onder* having been inserted as the best structural and conceptual match for [AXPART]. Up for lexicalisation in (50) is [P_{LOC}], and the relevant conceptual information is “*INTERIOR*”. There are two entries in the “*INTERIOR*” conceptual series (cf. Section 2.2.3 for discussion), namely the Class B element *binne* (specified as [P_{LOC} [AXPART]]) and the Class E element *in* (specified as [RES [P_{DIR} [P_{LOC}]]]). What is simultaneously obvious is that the Class B element *binne* is best specified for expressing [P_{LOC}] and, despite this, is never selected over the less economical choice *in* – cf. *onder in* (lit.: under in, “at the bottom”) and other combinations like *binne in* (lit.: inside in, “inside”), *bo op* (lit.: top on, “on top”) etc. as opposed to the unattested/ungrammatical (conceptually equivalent) combinations **onder binne* (lit.: under inside), **binne binne* (lit.: inside inside), and **bo bo* (lit.: top top). With reference to domain general principles of attraction and repulsion, in the spirit of Van Riemsdijk (2016), I speculate that the apparent ban on Class B + Class B combinations in complex adpositions may be a Spellout-related instantiation of grammatical repulsion. Van Riemsdijk (2016) argues that the effects of attraction and repulsion are observable as general guiding principles for an array of grammatical processes. For example, in phonology assimilation and dissimilation may be regarded as instances of attraction (to avoid repulsion), and the Obligatory Contour Principle (OCP) as repulsion. In morphology and syntax, haplological effects more generally are examples of repulsion (cf. Neeleman & Van de Koot (2005) for an overview of syntactic haplogy and its relation to the OCP).⁵³ Regarding repulsion in syntax, Van

⁵³ In fact, Van Riemsdijk (2016) suggests that attraction & repulsion are not even essentially grammatical principles, but rather general design features in various fields of science, like

Riemsdijk (2016) states that “the immediate syntactic environment in which maximal extended projections are tolerated are determined by a requirement of categorial non-identity” (cf. e.g. Longobardi's 1980 *VV, Vergnaud's [1977]/2006 *N-NP case filter, Hoekstra's (1984) *Unlike Category Constraint*, and Van Riemsdijk's (1988) “reformulation” of this as the *Unlike Feature Constraint*). Given the obvious wide ranging applicability of repulsion effects, it seems a distinct possibility that Spellout is subject to a constraint that bars the consecutive insertion of two lexical entries with precisely the same featural specifications. To capture this, I propose the following informal formulation:

- (51) *Consecutive Identity Insertion Constraint*
 Syntactic structure may not be lexicalised through two consecutive insertions of lexical items carrying identical formal feature specifications, regardless of whether such consecutive insertion takes place in distinct spellout domains.

It should be clear that the constraint in (51) targets the formal features of the lexical entry subject to insertion. As such, it is not a morpho-phonological haplological mechanism. This correctly predicts that even elements with distinct morpho-phonological identities are barred from consecutive insertion if they have identical feature specifications – the example under discussion *onder in* vs. **onder binne* is a case in point. It also cannot be a syntactic haplological mechanism because the identities of the structural nodes which the initial and final elements of the complex adposition expresses are necessarily distinct (i.e. [AXPART] vs. [P_{Loc}]). Thus, if a mechanism like (51) exists, it targets the actual insertion of lexical material into the structure, based on their formal featural specifications.

Finally, let us consider the structure underlying complex adpositions where the morphologically final element is from Class C, e.g. *toe* (“to”), which has the featural

biology and physics. I suggest, in line with Biberauer's (2016a) notion of *Maximise Minimal Means* (MMM) that it is the effect of a domain general economy principle for utilising as few as possible building blocks for creating the maximum number of notable contrasts.

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specification in (52). An example of a complex adposition incorporating *toe* is given in (53).⁵⁴

- (52)

Class C < / <i>toe</i> /; “ <i>to</i> ”; [RES [P _{DIR}]] >

- (53) Jan stoot die kar agtertoe.
Jan pushes the car back-to
“Jan is pushing the car backwards.”

The puzzle concerns the fact that *toe* is not specified for [P_{LOC}] when, in the cases considered up to this point, the morphologically final element has always given expression to this node. Thus, the initial element – in the case of (53), *agter* – must be lexicalising [P_{LOC}]. I will draw support for this claim from the fact that complex Ps incorporating Class C elements tend to be intransitive (54).⁵⁵ Though intransitive adpositions are only properly discussed in Section 4.6.3 below, suffice it here to

⁵⁴ The other Class C element, *af* (“down/off”), does not seem to productively form complex *spatial* adpositions. Rather, it seems to form idiomatic adpositions like *vooraf* (lit.: front-off, “up front”) and *agteraf* (lit.: back-off, “subversively”) which function adverbially (i). The one high-frequency complex spatial adposition with *af* is *vanaf* (lit.: from-off, “from”) (ii).

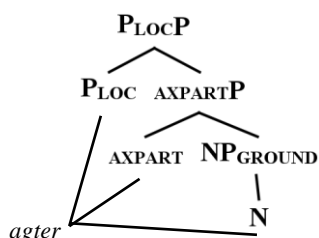
- (i) Mens moet gewoonlik vooraf betaal.
one must usually front-off pay
“One must usually pay up front.”
- (ii) Ons ry altyd vanaf die Kaap deur_{PRT}.
we drive always from-off the Cape through
“We always drive through from the Cape.”

⁵⁵ The complex adposition *vanaf* (lit.: from-off, “from”) – cf. note 54 above – is to my knowledge the only example of a transitive complex adposition incorporating a Class C element. Given that *van DP af* constitutes the one source-directed circumpositional structure in Afrikaans, and that in Chapter 5 I analyse circumpositional structures as arising from a *Spellout Repair* strategy, there is reason to believe that adpositions incorporating these P elements do require special treatment. It may be the case that *van* is not specified from nominal structure in the way that other Class B elements are argued to be (cf. Section 4.6.3 below). Further research is required to establish whether this is in fact the case.

mention that it will be argued that Class B elements, when “intransitive”, lexicalise (roughly) the structure represented in (55).

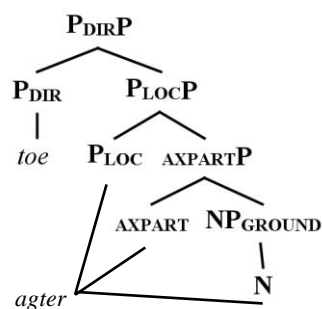
- (54) Jan stoot die kar agtertoe (*die uitrit).
 Jan pushes the car back-to the out-drive
 “Jan is pushing the car backwards.”

(55)



Thus, given that (i) complex adpositions in which the morphologically final element is a Class C element are always intransitive, and (ii) given an independently motivated structure like (55) for intransitive adpositions (cf. Section 4.6.3 below), it seems possible to motivate an analysis of complex adpositions like *agtertoe* along the lines represented in (56).

(56)



To summarise, this section modelled lexicalisation in the derivation of locative and directional complex adpositions. The discussion relied on the idea that AXPART falls within a spellout domain SD_{AXPART} that is distinct from that of P_{LOC} and P_{DIR} . This

accounted for the fact that these nodes are always lexicalised by separate P elements. The distribution of the FRaP Classes with respect to the morphological structure of complex adpositions was accounted for with morphological blocking. Furthermore, the observed ban on complex adpositions comprising Class B + Class B elements led to the formulation of the *Consecutive Identity Insertion Constraint*. The next section addresses the process of complex head formation.

4.4.3 Complex Heads

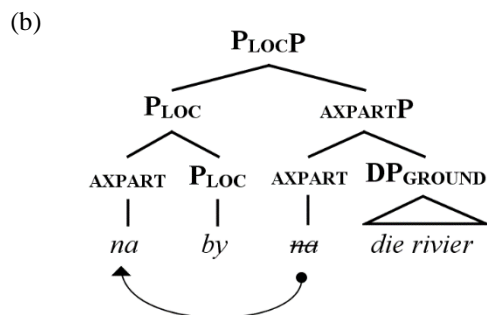
What may have been apparent to the reader in previous sections, but has not yet been addressed, is the fact that the morphological surface order in complex adpositions is the reverse of the underlying structural components. The element giving expression to the axial (=structurally, the most deeply embedded) component is morphologically initial, and the element giving expression to the adpositional nodes P_{DIR} and/or P_{LOC} is final. These ordering facts suggest that the axial and adpositional components form a complex head – cf. Baker's (1985;1989) *Mirror Principle* (MP). MP is often taken to be a condition on the relation between syntactic (=word external) and morphological (=word-internal) structure. As Embick & Noyer (2007:289) point out, however, in approaches where lexical insertion is post-syntactic “morphology is syntactic”. Such a statement obviously applies in the present study. Embick & Noyer continue:

As a consequence, ... in the simplest case, morphological structure and syntactic structure are the same. Because there is no Lexicon in which complex objects are assembled according to rules distinct from the rules of syntax, the generation of all complex forms must be performed in the syntax”

(Embick & Noyer 2007:289)

On such a view, MP is an observation more than a condition,⁵⁶ and the cross-linguistically robust pattern of inverse syntax-morphology is represented derivationally as complex head formation, through a syntactic process of head movement (Embick & Noyer 2007:300).⁵⁷ The derivation of the locative complex adposition *naby* in (41a) above, repeated here as (57a), is thus represented as in (57b).

- (57) (a) Jan hardloop *na*₂*by* die rivier.
 Jan runs near-at the river
 “Jan is running near the river.”

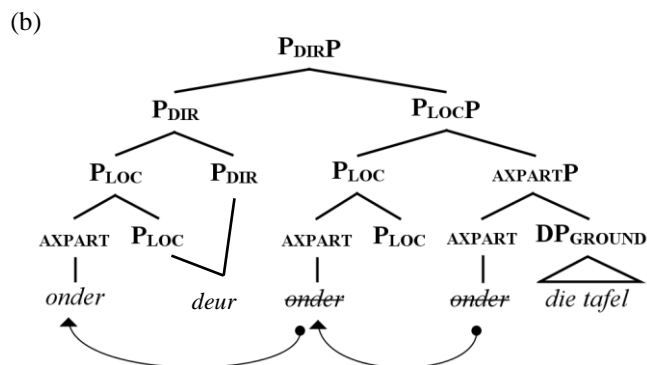


Furthermore, the derivation of the directional complex adposition *onderdeur* in (34b) above, repeated here as (58a), is represented as in (58b).

- (58) (a) Die hond kruip onderdeur die tafel.
 the dog crawls under-through the table
 “The dog is crawling underneath the table (to the other side).”

⁵⁶ Cf. Halle & Marantz (1993) for discussion of the conceptual advantages of accounting for the effects of MP with a post-syntactic insertion model of the grammar.

⁵⁷ Svenonius (2016) argues that syntactic word formation which is modelled on head movement predicts more parallels between head and phrasal movement than are observed. He proposes a theory of syntactic word formation that does not rely on (head) movement.



Reinterpreting Williams' (1981) *Right-hand Head Rule* (RHR) for the post-syntactic insertion model assumed here,⁵⁸ I argue that complex adpositions are formed in syntax through head movement, or some equivalent representation (cf. the discussion in Section 3.4).⁵⁹ What this predicts is that the complex adposition is functionally equivalent to a simplex element with the same category status as the morphologically final element of the complex P. That this bears out is evident firstly from the fact that complex adpositions do tend to be locative or directional in accordance with the specification of the morphologically final element. Recall, for instance, that *by*, as a

⁵⁸ The RHR states that the rightmost element supplies the complex head with its categorial status. It was originally formulated within a lexicalist paradigm where rules governing word formation processes applied in the Lexicon, and were conceived of as separate from syntactic processes. In a post-syntactic insertion paradigm, where complex head formation itself reduces to a syntactic process, it seems the RHR can be framed as an observation (rather than a rule) about the unitary nature of how moved syntactic objects (heads or phrases) re-attach in their higher position – i.e., specifiers do not project; neither do moved heads.

⁵⁹ The claim that complex adpositions are formed in syntax does not rule out the possibility that some of these syntactically (and hence morphologically) complex elements might become reanalysed over time as simplex. I suggest that the simplex directional adposition *verby* (“past”) in Afrikaans is a case in point, tracing its origins back to a morphologically complex element *voor-by* (lit.: front-near/at/past), as it exists in Dutch (cf. Den Dikken 2010:91). It seems eminently possible that input containing a complex terminal, like P_{DIR} in (58b), might be reduced to a simple(r) terminal during the acquisition process, especially if there are not enough *conceptual* clues as to the adposition’s complex status. A complex P like *onder+deur* (lit.: under-through), for example, incorporates two obviously distinct conceptual notions. It is far from obvious, by contrast, that *voor+by* (“past”) is conceptually complex. On a related topic, cf. Roy & Svenonius (2009) regarding the development of complex adpositions in French.

simplex adposition can only be locative in mainstream Afrikaans (cf. (40) above; repeated here as (59)), and that complex adpositions in which *by* is morphologically final can also only be locative (cf. (41) above, repeated here as (60)).

- (59) Jan hardloop/spring by die rivier.
 Jan runs /jumps at the river
 “Jan is running/jumping at the river.”
 LOCATIVE ONLY

- (60) Jan hardloop na₁by die rivier.
 Jan runs near-at the river
 “Jan is running near the river.”
 LOCATIVE ONLY

The alternating locative/directional adpositions from FRaP Class E (e.g. *in*; cf. (32b) above, repeated here as (61)) also form complex adpositions that alternate easily between expressing location and direction (cf. (42a) above, repeated here as (62)).⁶⁰

- (61) Hy hardloop in die bos.
 he runs in the bush
 “He is running in(to) the forest.”
 LOCATIVE/DIRECTIONAL

- (62) Jan hardloop tussenin die bome.
 Jan runs between-in the trees
 “Jan is running (to) in between the trees.”
 LOCATIVE/DIRECTIONAL

And the strictly directional adpositions from FRaP Class D (e.g. *deur*; (63)) also form complex adpositions that can only be directional (cf. (43a) above, repeated in (64)).

- (63) Jan loop deur die huis.
 Jan walks through the house
 “Jan is walking through the house.”
 DIRECTIONAL ONLY

⁶⁰ Cf. Section 4.3 regarding the verb’s contribution to directional interpretations with alternating adpositions

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- (64) Jan loop tussendeur die bome.
 Jan walks between-through the trees
 “Jan is walking through the trees.”

DIRECTIONAL ONLY

As shown by the sentence pairs in (59-64) above, locative/directional complex adpositions can always be substituted with simplex counterparts. This suggests that the respective complex-simplex locative/directional pairs are equivalent in their uppermost structural layer. We have seen furthermore in Section 4.2.3 that the complex adposition must be stranded or pied piped as a unit when the Ground is fronted. In other words, the complex behaves categorially as an adposition taking the Ground complement. Additionally, complex adpositions of which the morphologically final element, as a simplex adposition, can serve as input for particle verb formation (i.e. Classes C, D and E), are likewise able to serve as input to particle verb formation:

- (65) *Class D Adposition* → *V-particle*
- (a) ...dat Jan deur die werk lees.
 that Jan through the work reads
 “...that Jan is reading through the work.” ADPOSITION
- (b) ...dat Jan die handboek deur lees.
 that Jan the hand-book through-reads
 “...that Jan is reading through the textbook” V-PARTICLE
- (66) *Complex Class D Adposition* → *V-particle*
- (a) ...dat Jan die briewe onderdeur die deur stoot.
 that Jan the letters under-through the door pushes
 “...that Jan pushes the letter through underneath the door.” ADPOSITION
- (b) ...dat Jan die briewe onderdeurstoot.
 that Jan the letters under-through-pushes
 “...that Jan is pushing the letters through underneath.” V-PARTICLE

Other particle verbs formed from complex adpositions include *agternasit* (lit. behind-after-put, “to pursue”), *agteroorlê* (lit. behind-over-lie, “to lie back”), *agteruitgaan*

(lit. behind-out-go, “to deteriorate”), *tussendeurgaan* (lit. between-through-go, “to pass in between”), and *voorafgaan* (lit. before-off-go, “to precede”).

To summarise, this section demonstrated that complex adpositions conform to the *Mirror Principle* and the *Right-hand Head Rule*. These facts were taken to support an analysis of complex adpositions as complex heads that are formed in syntax.

4.4.4 Binominal Spatial Expressions and Silent Nouns

This section briefly explores an alternative analysis of complex adpositions, which is based on Terzi’s (2010) “binominal analysis” (67) of spatial expressions where the DP_{GROUND} is the possessor of silent noun NP_{PLACE} ,^{61, 62} and the spatial element which Svenonius (2006) designates an axial part (=functional head taking DP_{GROUND} complement (68)) is a modifier of NP_{PLACE} .⁶³

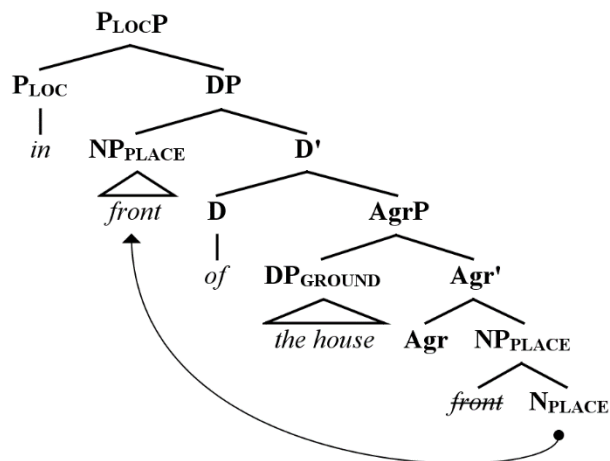
⁶¹ Terzi (2010) uses the term “PLACE” in referring to this abstract noun. Although PLACE is not utilised here as a label for any P node, I will refer instead to “ NP_{PLACE} ” to avoid possible terminological confusion with “Place” in e.g. Jackendoff (1996), Koopman (2000), and Den Dikken (2010), where it is a P node that is more or less equivalent to P_{LOC} in this study.

⁶² Cf. i.a. Kayne (2010) on silent elements in language.

⁶³ The conceptual symmetry between Svenonius’ (2006) Axial Part and Terzi’s (2010) NP_{PLACE} is rather striking. Terzi (2010:197) characterises the silent noun NP_{PLACE} as “denot[ing] the physical space surrounding the... [G]round argument of the locative. This physical space becomes narrower when [NP_{PLACE}] is modified by the locative, while it remains less precise when a locative modifier... is missing.” This symmetry could be one (among various) clue(s) suggesting that a unification between $AXPART$ and NP_{PLACE} should be pursued.

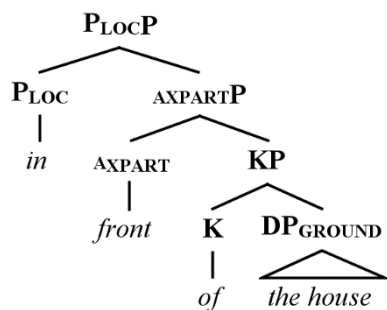
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(67)



(My interpretation of Terzi's 2010:212 structure)

(68)



(Adapted from Svenonius' 2006:51 structure)

On a binominal analysis like (67), the morphologically initial element of complex adpositions (which was analysed as an axial part in the previous section) is base merged as a modifier of the silent NP_{PLACE} and must raise up to P_{LOC} to form the complex adposition. Such an analysis is suggested by Guglielmo Cinque (p.c., but cf. also Cinque 2010) to Den Dikken (2010a:91), who observes that Dutch complex adpositions cannot straightforwardly be analysed as $P_{LOC}+P_{DIR}$ complexes. Particularly,

Den Dikken (2010:91) notes that with adpositions like *voorbij* (lit.: before-by, “past”) “neither [P element – EP] seems to be an obvious candidate for lexicalising Path^0 [= $\text{P}_{\text{DIR}} - \text{EP}$]... Both *voor* and *bij* seem to be places, not paths... So it seems that we should accommodate both *voor* and *bij* in the locative structural domain.” One way of phrasing the problem is to say that (barring the existence of a projection like AXPART), there is no “room” in the structure for two P elements when neither component corresponds to a directional node. To solve this problem, Den Dikken (2010:92) explores three possibilities:

- (i) *voor* spells out P_{LOC} [=a lexical projection where locative adpositions are base generated – EP] and *bij* lexicalises Place [=a functional projection that takes a P_{LOC} complement - EP], the two adpositional elements coming together via left-adjoining movement of $\text{P}_{\text{LOC}} = \text{voor}$ to $\text{Place} = \text{bij}$ (in keeping with antisymmetry; Kayne 1994); or (ii) (as Guglielmo Cinque, p.c., suggests) *bij* is itself a P_{LOC} taking a (probably nominal) complement containing *voor* (‘at (= *bij*) before (= *voor*) x’), with movement once again delivering surface *voorbij*; or (iii) *voor+bij* is treated as a complex P_{LOC} — [P *voor+bij*].

Den Dikken discards (i) (cf. Den Dikken 2010:91 for discussion),⁶⁴ and leaves the choice between (ii) and (iii) as a topic for future research.⁶⁵ As a potential challenge to (ii), he states that “raising... *voor* to *bij* [would be – EP] difficult if *voor* is indeed embedded in a noun phrase with an abstract [nominal – EP] head”. Option (ii) seems to be in line with (67), which Terzi (2010) proposes for Greek, Spanish, and English locatives. If the same analysis were given to Dutch expressions like (69), e.g. (70), the problem Den Dikken points out stands: it is not possible to raise *voor* to $\text{bij}_{\text{P}_{\text{LOC}}}$.

- (69) De auto rijdt voorbij de molen.
the car drives before-by (‘past’) the mill

(Den Dikken 2010:91)

⁶⁴ I also note that substantive elements – which, in Den Dikken’s (2010) system, includes P elements – cannot normally be base-generated as heads of functional projections. Since Place is a functional projection associated with P_{LOC} , it would not be possible to adopt such a solution unless the element that is base-generated there is argued to belong to a functional category.

⁶⁵ He does state that (iii) is unfalsifiable, which is indicative of its theoretical undesirability.

(70) [PP_{LOC} [P_{LOC} *by* [DP *voor* PLACE_i [D ∅ [AgrP *de molen* [QP/NP *t_i*]]]]]]

What this suggests is that a “binominal analysis” like (67) above is not good for “overtly mono-nominal” locative expressions in languages like Afrikaans and Dutch, where complex adposition formation requires a more deeply embedded P element to be able to raise to P_{LOC}. In this sense, an axial part analysis like (68) is better fit for the data, since it allows AXPART to raise unproblematically to P_{LOC}.

I will, however, adopt a binominal analysis like (67) for overtly binominal locative expressions like *in die voorkant van die laai* (lit.: in the front-side of the drawer), which were discussed briefly in Section 4.2.1, where NP_{PLACE} is realised by the nominal suffix *-kant* (“side”). According to Biggs (2014:109), there is substantial cross-linguistic evidence for the existence of an NP_{PLACE} (cf. e.g. Terzi 2008; 2010 for Greek, Botwinik-Rotem 2004 for Hebrew, Pantcheva 2008 for Persian, and Nchare & Terzi 2014 for Shupamem – as well as Biggs 2014 for Mandarin).⁶⁶ Importantly, and as illustrated in (67), this noun has a separate identity from the DP/NP_{GROUND}, and the DP/NP_{GROUND} is the possessor of NP_{PLACE}.⁶⁷ Though NP_{PLACE} is typically a silent element, Biggs (2014) suggests that in some languages it may be lexicalised by a small class of overt morphemes. She argues that in Mandarin localisers like *-tou* (“head”), *-bian* (“side”), and *-mian* (“face”) (71), as well as the *-r/* suffix on locative demonstratives are all expressions of NP_{PLACE}. Following Cinque (2010), Biggs (2014) puts the possessor NP_{GROUND} in the specifier of the NP_{PLACE} possessee. The structure in (72) is my interpretation of Biggs' (2014:113) analysis of the complex DP in (71).

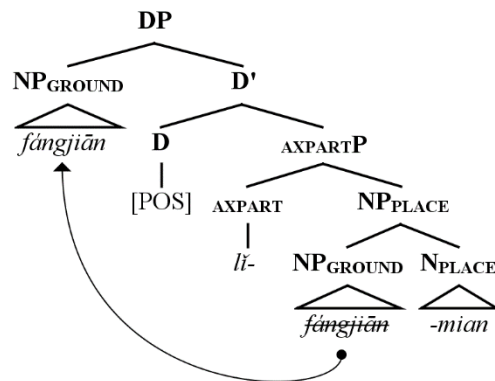
⁶⁶ Biggs (2014) utilises the term <PLACE>, after Kayne's (2010) abstract noun PLACE. Again, to avoid any terminological confusion, I replace all references to the noun PLACE with NP_{PLACE}.

⁶⁷ Support for this idea comes from the fact that it is crosslinguistically common for the genitive morpheme to surface in spatial expressions with an axial part (Svenonius 2006a) / NP_{PLACE} (Terzi 2010). Cf. e.g. *of* in the English expression *in front of the house*, *de* in the Mandarin expression *zài gōngòngqìchē lǐ de qiánmiàn* (lit. at bus inside GEN front, “in the front of the bus”) (cf. Potgieter 2016 for discussion of this expression in Mandarin).

- (71) Wǒ kàn-bù-jiàn fángjiān lǐ-mian.
I see-NEG-see room in-side
“I can’t see into the room.”

(Djamouri et al. 2013:79; from Biggs 2014:112)

(72)



I suggest that the suffix *-kant* in Afrikaans is roughly equivalent to the Mandarin localiser in (71), and follow Biggs (2014) in treating it as an exponent relating to NP_{PLACE} . I will keep to the general assumption that possession is the relation between NP_{GROUND} (possessor) and NP_{PLACE} (possessee). This seems accurate, given that complex DPs in binominal spatial expressions can alternate between the usual morpho-syntactic strategies for expressing possession. Namely, with the Saxon genitive marker *se* (i.e. [$NP_{POSSessor} SE NP_{POSSESsee}$]) and the possessive prepositional marker *van* (“of”) (i.e. [$NP_{POSSESsee} VAN NP_{POSSessor}$]). This alternation is illustrated in (73) with regular possession, and in (74) with a binominal spatial expression.

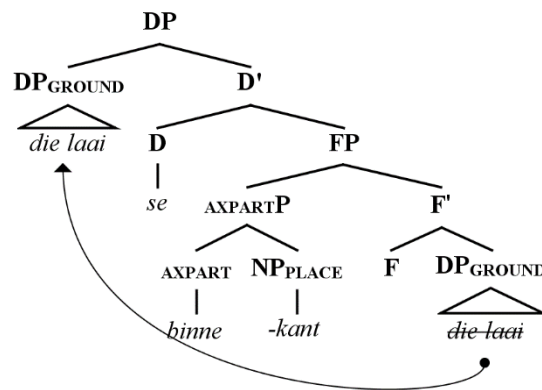
- (73) (a) Jan se vriend is ’n taalwetenskaplike.
Jan SE friend is a linguist
“Jan’s friend is a linguist.”
- (b) ’n Vriend van Jan is ’n taalwetenskaplike.
a friend of Jan is a linguist
“A friend of Jan is a linguist.”
- (74) (a) Jan verf die laai se binnekant.
Jan paints the drawer SE inside-side
“Jan is painting the drawer’s inside.”

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- (b) Jan verf die binnekant van die laai.
 Jan paints the inside-side of the drawer
 “Jan is painting the inside of the drawer.”

In (75-76) below I propose a tentative analysis of (74).

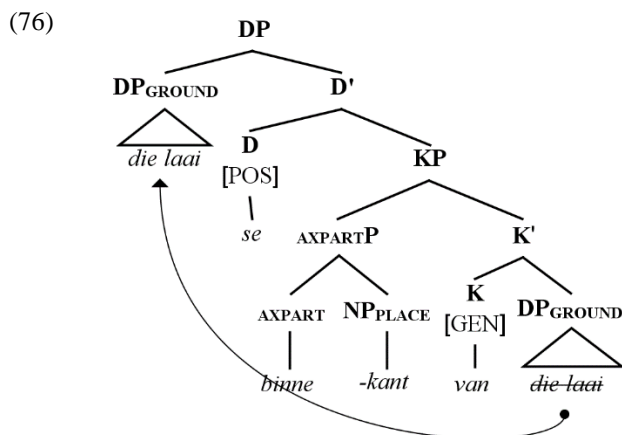
(75)



In keeping with Den Dikken (1998), the possessor (=DP_{GROUND}) in (75) is in a complement position and the possessee (=NP_{PLACE}) in a specifier.⁶⁸ The projection that I have labelled “F” Den Dikken (1998) argues to be a dative preposition forming the head of a DP-internal small clause predicate, and Terzi (2010) argues to be the head of an Agreement Phrase (cf. (67) above). This functional projection might equally be a GEN(itive)-valued K(ase) node along the lines of (68) above. Without ultimate

⁶⁸ The term “Ground” is sometimes used in a far more general sense than in the current spatial context, where it is understood somewhat in terms of a semantic role. Although such a conceptualisation is not inaccurate, it does stand to miss a broader generalisation based on a complement/specifier distinction in the current representational system. In the general sense, “Ground” arguments are distinguished from “Figure” arguments in that they are complements, rather than specifiers, as Figures are. When selected by the event structure subcomponent PROC, for instance, a complement DP/PP (=Grounds) is interpreted as an incremental theme or path, whereas DPs/PPs merged in spec-PROC (=Figures) enter a core predication relation with PROC. This is discussed in greater detail in Chapters 5 and 6.

commitment to the identity of this node, I label it accordingly and propose that it is morphologically expressed by the P element *van*, as indicated in (76).⁶⁹



Though (76) is a simplified version of what Den Dikken (1998) proposes, the idea is in line with his analysis. Surface orders in which the possessee precedes the possessor is a realisation of the base order, and the surface order in which the possessor precedes the possessee derives from movement of the DP_{GROUND} to a higher spec-position, which I have taken to be spec-D *se*. The details surrounding the non-realisation of K in the derived surface order is a topic which falls outside the scope of the present discussion.

One confounding aspect of the analysis in (75-76) is that the *Mirror Principle*, discussed in the previous section, seems to predict that *-kant* should represent a functional projection that becomes suffixed to *binne* through head movement. If *binne* is an axial element, it must be base merged above *-kant*, which makes it unclear how

⁶⁹ Whether this *van*, which is clearly a possessive morpheme, is equivalent to the *van* appearing in *N of N* predicate inversion nominals (e.g. in Afrikaans: *'n beer van 'n ou* – lit.: a bear of a guy) is unclear (cf. Bennis et al. 1998 for in depth discussion of this and other DP-internal predicate inversion structures in Dutch, and Backhouse 2014 for discussion of such structures in Afrikaans). As far as I am aware, nothing in the present analysis prevents analogous treatment of *van* in *N of N* predicate inversions and binominal spatial expressions. Importantly, though, *van* itself is sometimes a linking element (e.g. in *'n slang van drie meter lank*, lit.: a snake of three meters long”) – cf. Corver (2009) for discussion – in which case it receives a distinct analysis.

-kant surfaces as a suffix. (75-76) assumes cliticisation from base position, but it is not clear whether this is the best assessment. A potential solution entails analysing *binne* as a lexical noun that is selected by an n_{PLACE} -*kant*.⁷⁰ From such a configuration, binne_N could incorporate into *-kant* to form a complex n_{PLACE} *binnekant*. However, such an assessment has the drawback of losing its symmetry with Kayne (2010) et al.'s notion of a silent/overtly realised *lexical* noun NP_{PLACE} . Arriving at a precise analysis for binominal spatial expressions is a topic that must be left to future research.

What I hope to have shown in this section is that there is empirical evidence for the existence of binominal spatial expressions of the type *die binnekant van die laai* (“the inside of the drawer”) alongside mono-nominal expressions incorporating axial parts, e.g. *binne-in die laai* (“inside the drawer”). Complex adposition formation in the mono-nominal expressions in Afrikaans clearly shows that such expressions cannot be accounted for with an analysis assuming a covert binominal structure incorporating a silent NP_{PLACE} because the morphologically initial component of the complex adposition (= the more deeply embedded P element) cannot raise out of a structure in which it is embedded as a modifier of NP_{PLACE} .

4.5 (Non-) Projective Adpositions and Modification

This section attempts to establish a structural distinction between what in the literature is called *projective* and *non-projective* locative adpositions. The simplest conception of what locative adpositions denote is that they identify a relation between sets of points defining the spatial properties of the Ground and Figure entities. However, if locative adpositions are treated simply as relations between sets of points, they should not accept measure modification because simple points cannot define depth/distance.

⁷⁰ Section 4.4.2 above briefly discussed some evidence for the fact that Class B elements like *binne* are specified for expressing nominal structure. This is discussed more substantively in Section 4.6 below.

Many locative adpositions are, however, compatible with measure modification and this defines a dichotomy between *projective* and *non-projective adpositions* (cf. e.g. Lang 1991, Zwarts 1997, Zwarts & Winter 2000). According to Kracht (2002:185), “non-projective [adpositions – EP] need only the [Ground – EP] to determine the location, while projective ones need something else, typically the deictic centre or pivot” which, as we have seen, is conceptually compatible with axial part.

Svenonius (2010:128) lists the English adpositions *behind*, *in front of*, *inside*, *outside*, *above*, *below*, and *beyond* as projective, whereas adpositions like *in*, *on* and *at* are typically non-projective. The inability of Dutch non-projective adpositions to take measure phrases, as given by Zwarts (1997:78-79), is illustrated in (77).⁷¹

- (77) (a) Twee meter voor / achter / boven / onder / naast / buiten NP.
two meters in front of / behind / above / under / beside / outside NP.
PROJECTIVE
- (b) *Twee meter tussen / bij / in / op / binnen NP
two meters between / near / in / on / inside NP
NON-PROJECTIVE

The above observations concerning the distinction between projective and non-projective adpositions in English and Dutch holds also for Afrikaans (78-79), where the projective adpositions are listed in the (a) examples and their non-projective counterparts in the (b) examples.

- (78) (a) Die poskantoor is twee kilometer binne/ buite die dorp.
the post-office is two kilometers inside/outside the town
“The post office is two kilometers into/out of town.”
PROJECTIVE
- (b) * Die poskantoor is twee kilometer in/uit die dorp.
the post-office is two kilometers in/out the town
NON-PROJECTIVE
- (79) (a) Die gogga is twee sentimeter bo jou kop.
the bug is two centimeters above your head
“The bug is two centimeters above your head.”
PROJECTIVE

⁷¹ Zwarts (1997) lists *binnen* (“inside”) as being incompatible with measure modification in Dutch, whereas Afrikaans *binne* (“inside”) and English *inside* accept such modification.

- (b) *Die gogga is twee sentimeter op jou kop.
the bug is two centimeters on your head

NON-PROJECTIVE

Zwarts (1997) and Zwarts & Winter (2000) reconceptualise adpositions as denoting vectors, rather than simple points in space, which – since vectors denote both magnitude and *direction* – accounts for the ability of projective adpositions to accept measure modification. The question is whether all locative adpositions should be thought of as denoting vectors, or simply those that are compatible with measure modification. It seems theoretically desirable that the cross-linguistic distinction between (non-)projective adpositions be structurally reflected. Recall from Section 4.2 that axial parts are characterised as vector spaces and are diagnosable by their ability to accept measure modification. Given this, AXPART could be *the* structural locus of vector space.⁷² As a first hypothesis, I suggest that projective adpositions have the internal structure [P_{Loc} [AXPART]] and non-projective adpositions simply lexicalise [P_{Loc}].⁷³ In what follows, the hypothesis is tested against measure and degree modification facts, which shed light on these adpositions' internal structures. It is shown that the hypothesis requires some adjustment.

4.5.1 Measure Modification with Locatives

In this section, facts from measure modification with locatives are drawn from for evidence of a structural distinction between projective and non-projective adpositions. As discussed, projective adpositions accept measure modification (80a), whereas non-

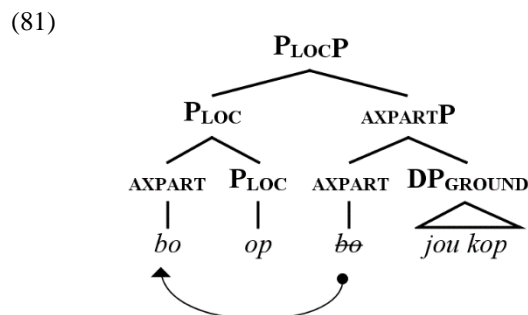
⁷² This is in line with what others have suggested – cf. e.g. Svenonius (2007), Kracht (2008), Dékány (2011).

⁷³ This was illustrated in Section 4.1, where the distinction between P elements and exponents was discussed.

projective adpositions reject it (80b). One key fact is that complex adpositions reject measure modification (80c).

- (80) (a) Daar is 'n gogga twee meter bo jou kop.
 there is a bug two meters above your head
 “There is a bug two meters above your head.”
- (b) *Daar is 'n gogga twee meter op jou kop.
 there is a bug two meters on your head
- (c) *Daar is 'n gogga twee meter bo-op jou kop.
 there is a bug two meters top-on your head

If the felicity of measure modification relied simply on the *presence* of the vector-projecting node AXPART, we would expect *bo-op* in (80c) to be compatible with such modification because, as Section 4.4.3 discussed, complex adpositions transparently realise the structure [P_{Loc} [AXPART]]. This is illustrated in (81).

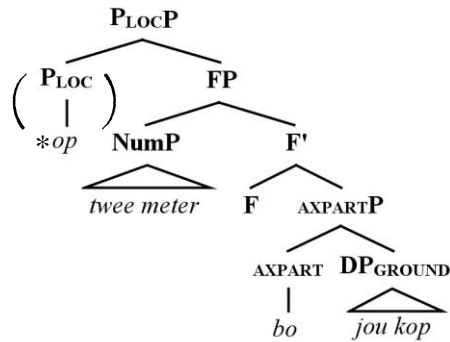


I propose to account for the facts in (80) by postulating a functional projection above AXPART that introduces a NumP in its specifier. Since this projection scopes over AXPART and under P_{Loc} , there is a structural explanation as to why only elements that are merged below this projection can be felicitously modified by phrases in its specifier. For now, this projection is simply labelled “F” and we return to the question of its identity in the next section. The structure in (82) illustrates the structural configuration that would give rise to grammatical expressions like (80a) and ungrammatical expressions like (80b). That is, the functional projection “F”

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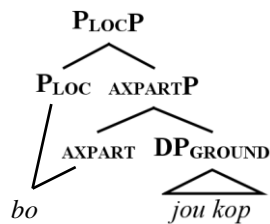
introducing the measure phrase in its specifier scopes over AXPART but under P_{Loc}. So Ps expressing AXPART accept measure modification but those expressing P_{Loc} do not.

(82)



Such a configuration also accounts for the fact that measure modification is infelicitous with complex adpositions, though such adpositions incorporate a vector-projecting AXPART component, where complex adposition formation entails AXPART raising to P_{Loc}. That is, the functional projection introducing the modifier should scope over *both* the components comprising the complex adposition, or the result is infelicitous. These facts suggest that the initial hypothesis about the internal structure of projective adpositions must be adjusted. That is, I initially proposed that projective adpositions like *bo* lexicalise [P_{Loc} [AXPART]], as illustrated:

(83)



Such an analysis, however, faces the same problem facing complex adpositions. Namely, the functional projection hosting measure phrases does not scope over both components comprising the adposition. If such a scenario results in ungrammaticality with complex adpositions comprising [P_{Loc} [AXPART]], then we expect it to result in

ungrammaticality with simplex adpositions comprising the same structure. The conclusion we are forced to make is that non-projective adpositions lexicalise [P_{Loc}] whereas projective adpositions lexicalise only [AXPART] (and not P_{Loc} at all).

Though this is confounding in the sense that exponents like *bo* and *op* in expressions like *Daar is 'n gogga op jou kop* (“there is a bug on your head”) and *Daar is 'n gogga bo jou kop* (“there is a bug above your head”) seem to have the same category status (cf. especially Section 4.2.3 above), the measure modification facts suggest that such exponents may in fact belong to different categories (adposition vs. axial part) which share most (but not all) of their distributional properties.⁷⁴ This in turn means that FRaP Class B elements may in fact correspond solely to the category axial part after all (contra the caveat stated in Section 4.1). Although the general point made in Section 4.1 above stands, it just so happens that, regarding locative adpositions (=non-projective adpositions) and axial parts (=projective adpositions), these categories can be distinguished by their forms. The next section establishes the identity of “F” by separating out measure modification from degree modification.

4.5.2 Separating MEAS(ure) from DEG(ree)

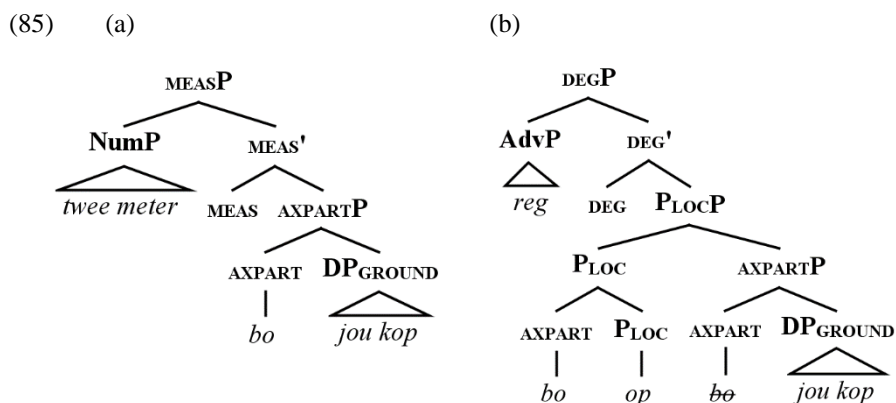
Patterns for measure and degree modification with (non-projective) adpositions differ. To see this, contrast the data in (80) – where measure modification is only felicitous with projective adpositions – with (84) – where degree modification is felicitous with projective, non-projective, and complex adpositions.

⁷⁴ Cf. Section 4.2 which shows that both locative adpositions and axial parts (to use the newly established category labels for the exponents *bo* and *op*) occur prepositionally and take a DP_{GROUND} complement. These categories also exhibit the same P-stranding properties. The fact that the axial parts can comprise the initial element of complex adpositions, whereas the (non-projective) locative adpositions cannot, is the only point of difference regarding the distribution of these categories.

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- (84) (a) Daar is 'n gogga reg bo jou kop.
 there is a bug right above your head
 “There is a bug right above your head.”
- (b) Daar is 'n gogga reg op jou kop.
 there is a bug right on your head
 “There is a bug right on your head.”
- (c) Daar is 'n gogga reg bo-op jou kop.
 there is a bug right top-on your head
 “There is a bug right on top of your head.”

To capture these facts, I propose there is another functional head above P_{LOC} which introduces degree adverbs in its specifier. Suppose then that the functional projection labelled “F” in the previous section is a MEAS(ure) head and the one responsible for degree modification is a DEG(ree) head:

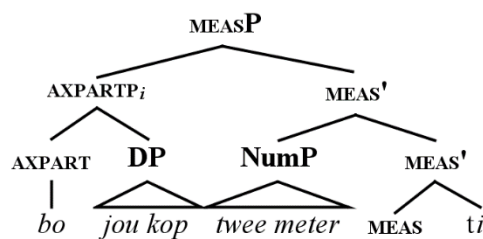


What (85) shows is that DEG scopes over both AXPART and P_{LOC} , which accurately predicts that modifiers in spec-DEG can felicitously combine with [AXPART]-expressing projective elements like *bo* (84a), with [P_{LOC}]-expressing non-projective adpositions like *op* (84b), and with [P_{LOC} [AXPART]]-expressing complex adpositions like *bo-op* (84c).

The idea that the measure phrases discussed here are introduced by a MEAS head, instead of in the specifier of another projection like AXPART or P_{LOC} (=external

merge),⁷⁵ seems to be in line with what Corver (2009) argues, namely that measure phrases are predicates.^{76,77} Recall from Chapter 3 that core predication in the present system is captured in a head-spec configuration. So, although the representational system in this study differs from that of Corver, the predicate-status of the measure phrase is indicated firstly by the fact that the measure phrase is headed by MEAS, which projects into the main spine.⁷⁸ Secondly, since predicates accommodate their subjects in spec-position, taking the predicate-status of the measure phrase seriously means that AXPARTP *bo jou kop* in expressions like (80a/85a) must move into spec-MEAS:

(86)



⁷⁵ Cf. Chomsky (1995) for the notion *external merge*; cf. Jackendoff (1977) for a proposal along external merge lines.

⁷⁶ Cf. Corver (2009:70-76) for discussion and diagnostics regarding the predicate status of measure phrases. Cf. also Schwarzschild (2005).

⁷⁷ Corver (2009) notes external merge as a possibility for deriving nominal and adjectival expressions incorporating measure phrases, but argues instead for a “displaced predicate” analysis in which the measure phrase “starts out to the right of its ‘subject’ (i.e., the element over which it predicates) and ends up in a pre-subject position as a result of predicate movement” (Corver 2009:69). Corver shows that the presence of a linking element is crosslinguistically common in expressions with measure phrases. The presence of such elements is widely considered to be a grammatical reflex of predicate inversion, which is argued to be an essential process in the derivation of nominal and adjectival expressions incorporating measure phrases (cf. Bennis et al. (1998) for in depth discussion of linking elements in the Dutch *N van een N* (=N of a N, e.g. *een beer van een kerel*, “a bear of a guy”), and *wat-voor* (e.g. *wat voor een kerel*, “what kind of guy”) predicate inversion constructions, as well as the *wat-een* (e.g. *wat een kerel*, “what a guy!”) exclamative. Cf. also Den Dikken (2006) for broad-ranging discussion of linking elements across languages, domains, and constructions).

⁷⁸ The issue of predication in Afrikaans PPs is discussed in detail in Chapter 5 and, to a lesser extent, in Chapter 6.

Although the movement represented in (86) appears to destroy the configuration for the correct word order *twee meter bo jou kop* (cf. 80a/85a), it in fact *creates* a configuration that is reminiscent of Corver's (2009) base-generated structure. Consider, for instance, the French and Spanish adjectival measure expressions in (87). Corver's (2009) derivation for (87a) is given in (88) below.

- (87) (a) La voiture est [longue de deux mètres].
the car is long of two meters
"The car is two meters long."
SPANISH
- (b) La mesa es [ancha de un metro].
the table is wide of one meter
"The table is one meter wide."
FRENCH
(Corver 2009:78; my translations)
- (88) (a) Base pattern
[_{XP} *longue* <_{1,I}> [_{X'} *X* *deux mètres*]]
- (b) Predicate inversion of the MP (=measure phrase – EP) and spell out of the nominal copula *de*
[_{FP} *deux mètres*_i [_{F'} *F* (= *de*)+*X*_j [_{XP} *longue* [_{X'} *t*_j *t*_i]]]]
- (c) After merger of Deg, *de* moves to Deg-head and the remnant XP (i.e., [*long t_j t_i*]) is moved into [Spec,DegP]
[_{DegP} [_{XP} *longue* [_{X'} *t*_j *t*_i]]_k [_{Deg'} *Deg*+ [_F *F*(=*de*)+*X*_j]_l [_{FP} *deux mètres*_i [_{F'} *t*_j [_{XP} *t*_k]]]]]
- (Corver 2009:81)

As indicated in (88b), *de* in (87) is taken to be a nominal copula (=linking element) appearing as a reflex of predicate inversion (cf. note 77 above).⁷⁹ Crudely described, the first movement in (88) (=88b) sees the appearance of *de* along with the derived order MP > A, and the second movement of the remnant small clause XP to spec-Deg (=88c) sees the order A > MP restored. In cases where the surface linear order is MP > A, no remnant movement (=88c) is taken to occur. Due to the scope of the present

⁷⁹ In Germanic, the linking morpheme *-s* in e.g. *a week's vacation* and Dutch/Afrikaans degree predicates like *hemelsbreed* (lit.: heaven-*s*-wide) is analysed as structurally equivalent to *F(=de)* in (87-88) above. Importantly, Corver (2009) argues that this *-s* has a null allomorph $-\emptyset$ which occurs in equivalent expressions without an overt linking element, e.g. Dutch *drie dagen oud* (lit.: three days old) and Afrikaans *drie meter breed* (lit.: three meters wide) – cf. Corver (2009:91) and related discussion.

study, the full derivation involving measure phrases in adpositional expressions – and how their representation in the present system relates to the work of e.g. Corver (2009) – must be left to future research. I hope to have shown, however, that the proposed configuration for measure modification with projective P elements is in line with what has been proposed in the literature.

To summarise, this section distinguished the functional projections introducing measure and degree modification. It was argued that these functional projections are heads and that they scope over different parts of the structure, accounting for the differences in the felicity of such modification with (non-)projective and complex adpositions. The next section briefly examines measure modification with directional adpositions.

4.5.3 Measure Modification with Directionals

In this section, an observation of Den Dikken (2010) regarding the felicity and interpretation of measure modification with directional adpositions is taken as a starting point for postulating another measure projection above P_{DIR} (that is, in addition to the one above $XPART$). What Den Dikken (2010:92-96) observes regarding (89) is that the locative adposition *achter/onder* (which we know to be an axial part) is incompatible with measure modification if it raises to the directional adposition *langs/door*.

(89)(a) %de rivier loopt tien meter (*tien meter) {achterlangs} het huis {achterlangs}
 the river runs ten metre ten metre behind-along the house behind-along

(b) de jongen rende tien meter (*tien meter) {*onderdoor} de luifel {onderdoor}
 the boy ran ten metre ten metre under the awning through

(Den Dikken 2010:92; my translations)

In each expression, the second – disallowed – measure phrase *tien meter* attempts to modify the axial part *achter/onder*. That such modification is ungrammatical/

infelicitous is consistent with the findings of Section 4.5.1, where it was shown that the measure phrase scoping over AXPART cannot modify complex adpositions because such elements are formed by raising AXPART either to P_{LOC} or P_{DIR} which causes scope issues for the measure phrase. What (89) also shows, however, is that (complex) directional adpositions accept measure modification. Den Dikken (2010: 96) observes that

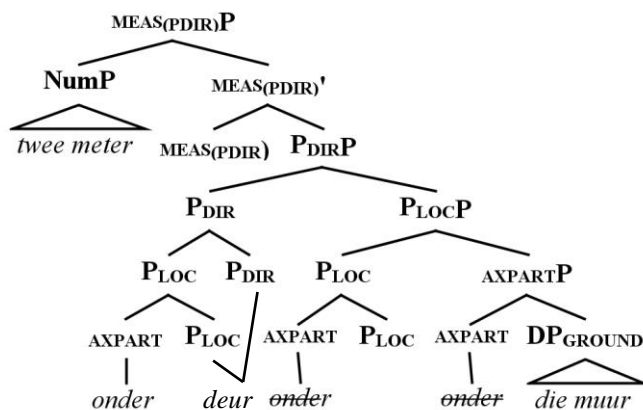
In [(89a)- EP], *tien meter* can only specify the length of the stretch over which the river flows behind the house...; it cannot quantify the (constant) distance between the house and the river. Similarly, in [(89b)], *tien meter* tells us about the length of distance covered by the boy underneath the awning; it does not say anything about the proximity of the boy to the awning...

We observe similar facts for the Afrikaans data:

- (90) (a) Die boom se wortels het 2m onderdeur die muur gegroei.
 the tree POS roots have 2m under-through the wall grown
 “The tree’s roots grew two meters into the other side of the wall.”
- (b) Die man het die bal 10m voor verby die huis geskop.
 the man has the ball 10m before past the house kicked
 “The man kicked the ball ten meters past the front of the house.”

In (90a), the measure phrase can only modify the length of the path *deur* (i.e. how far through/past the wall the roots grew) and cannot modify *onder* – that is, the measure phrase cannot convey any information about the distance between the roots and the wall (i.e. how far under the wall the roots grew). Likewise, the only reading available for (90b) is one in which the ball is kicked a distance of ten meters, not where the distance between the ball and the house is ten meters (i.e. modifying *verby* and not *voor*). So, the fact that the measure phrases in (90) felicitously co-occur with complex Ps, in addition to the fact that only the path-related reading is available on such modification, suggests that the measure phrases in these expressions are not hosted in a projection above AXPART, but in a projection that scopes over P_{DIR} . Analogously with Den Dikken (2010), who postulates a Deg(Path) head above Path (=his P_{DIR}), I postulate another measure head above P_{DIR} , as illustrated in (91) for (90a), which I label $MEAS_{(P_{DIR})}$ to distinguish it from the lower measure head $MEAS_{(AXPART)}$.

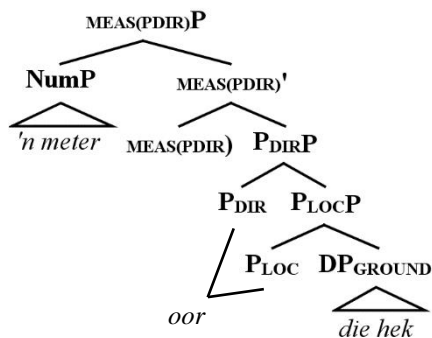
(91)



The analysis in (91) thus also accounts for expressions like (92), where a simplex directional adposition takes a measure phrase. In each case, the modifier specifies the length of the path defined by the adposition, which is analogous to the way in which the measure phrase associated with MEAS_(AXPART) specifies the length of the vectors denoted by AXPART.

- (92) (a) Die man hardloop tien meter deur /om /verby die huis.
 the man runs ten meters through / around / past the house
 “The man is running ten meters through/around/part the house.”
- (b) Die perd spring ’n meter oor die hek.
 the horse jumps a meter over the gate
 “The horse is jumping a meter over the gate.”

(93)



To summarise, this section established – parallel to Den Dikken’s (2010) Deg(Place) and Deg(Path) – that there are two functional projections in the P domain that host measure phrases. One scopes over AXPART (=MEAS_(AXPART)) and accounts for the *twee meter bo/*op/*bo-op* contrast (Section 4.5.1); the other scopes over P_{DIR} (=MEAS_(P_{DIR})) and accounts for the fact that directional (complex and simplex) adpositions accept measure modification, and that only P_{DIR} is accessible to such modification. The following section investigates covert structure underlying so-called “intransitive adpositions”, and argues that R-pronouns and *home*-class nouns identify the same underlying structure.

4.6 Dispelling “Intransitive” Adpositions

The overall aim of this section is arguing that so-called *intransitive adpositions* (94) are not underlyingly intransitive.

- (94) Jan speel gereeld agter/ binne/ bo/ buite/ onder/voor.
 Jan plays often behind/inside/above/outside/under/ front
 “Jan often plays at the back/inside/upstairs/outside/downstairs/ at the front.”

Parallels in the distribution of such “intransitive adpositions” with R-pronouns and a class of locative noun termed the *home*-class will provide evidence that adpositions such as those in (94) lexicalise both nominal and adpositional structure, effectively spelling out a “covert object” as well as the localising structure of the P domain. The appeal of the proposed analysis lies in the structural symmetry between the adpositional elements in (94) and other classes of nouns and pronouns. Designating an adposition *intransitive* – where “intransitive” refers to an axiomatic property of not taking a DP_{GROUND} complement – essentially reduces to a stipulation. The theoretically desirable approach to such intransitivity would be resolving it as some kind of epiphenomenon, if that is at all possible. That is the task undertaken in this section.

4.6.1 R-pronouns and *Home*-class Nouns

In Afrikaans, a class of pronoun – whose members may be designated *R-pronouns*⁸⁰ – consists of *hier* (“this/here”), *daar* (“that/there”), and *waar* (“what/where”). As will be discussed below, this class alternates between locative demonstrative/ interrogative (=“here/ there/ where”) and “ordinary” demonstrative/ interrogative (=“this/ that/ what”) pronouns. Den Dikken (2010:77) states that R-pronouns are “pronominal arguments of P that obligatorily surface to the left of P (even when the P in question is otherwise strictly prepositional)”. In Afrikaans, unlike in Dutch, it is not obligatory for a pronominal complement of P to surface to P’s left.⁸¹ Accordingly, a form alternation is observable with pre- vs. post-P placement of the pronoun (95-97): the R-form surfaces when the pronoun is left-adjacent to the P element; otherwise, it surfaces as a strong in situ pronoun *dit* (“it/that”) / *wat* (“what”).

- (95) (a) (i) Jan loop deur dit.
 Jan walks through that
 “Jan is walking through that (=thing).”
 REGULAR PRONOUN
- (ii) Jan loop hier/ daar deur.
 Jan walks here/there through
 “Jan is walking through this/that / here/there (=thing/place).”
 R-PRONOUN
- (b) (i) Deur wat loop Jan?
 through what walks Jan
 “Through what (=thing) is Jan walking?”
 REGULAR PRONOUN
- (ii) Waardeer loop Jan?
 where-through walks Jan
 “Through what/where (=thing/place) is Jan walking?”
 R-PRONOUN
- (96) (a) (i) Jan loop oor dit.
 Jan walks over that
 “Jan is walking over that (=thing).”
 REGULAR PRONOUN

⁸⁰ This term was introduced by Van Riemsdijk (1978), who identifies such a class for Dutch. Cf. also Noonan (2005) and Kayne (2010) for R-pronouns in German and English.

⁸¹ Cf. Den Besten (2010), as well Section 4.2.3 above for discussion.

- (ii) Jan loop hier/ daar oor
Jan walks here/ there over
“Jan is walking over this/that / here/there (=thing/place).”
R-PRONOUN
- (b) (i) Oor wat loop Jan?
over what walks Jan
“What (=thing) is Jan walking over?”
REGULAR PRONOUN
- (ii) Waaroor loop Jan?
where-over walks Jan
“Over what/where (=thing/place) is Jan walking?”
R-PRONOUN
- (97) (a) (i) Jan staan in dit.
Jan stands in that
“Jan is standing in that (=thing).”
REGULAR PRONOUN
- (ii) Jan staan hier-/daarin
Jan stands here-/there-in
“Jan is standing in this/that / here/there (=thing/place)”
R-PRONOUN
- (b) (i) In wat staan Jan?
in what stands Jan
“What is Jan standing in?”
REGULAR PRONOUN
- (ii) Waarin staan Jan?
where-in stands Jan
“In what/where (=thing/place) is Jan standing?”
R-PRONOUN

A first thing to note is that the *in situ* pronoun (the (i) examples in (95-97)) can only be interpreted as “regular” demonstrative/interrogative pronouns and not as locative pronouns.⁸² By contrast, the R-pronouns in the (ii) examples are always ambiguous: *hier* can be interpreted as a proximal demonstrative (“this”) or locative (“here”) pronoun, *daar* can be interpreted as a distal demonstrative (“that”) or locative (“there”) pronoun, and *waar* can be interpreted as an regular interrogative (“what”) or locative interrogative pronoun (“where”). Based on (95-97), it seems reasonable to conclude that R-pronouns can identify *places*. In the present system, let us tentatively say they are P_{LOC}-expressing elements. Note furthermore that bare R-pronouns can

⁸² They can also be interpreted as neuter pronouns (e.g. “Jan is standing in it”), but that is not an interpretation that interests us here.

substitute full locative PPs (98), but not full directional PPs. The data in (99) show that directional interpretations with R-pronouns are only possible when the directional adposition is overtly present.

- (98) (a) Jan bou sy boomhuis [bo die sandpit].
Jan builds his tree-house above the sandpit
“Jan is building his treehouse above the sandpit.”
FULL LOCATIVE PP
- (b) Jan bou sy boomhuis [daar/hier].
Jan builds his treehouse there/here
“Jan is playing there/here.”
DEMONSTRATIVE SUBSTITUTION
- (c) [Waar] bou Jan sy boomhuis?
where builds Jan his treehouse
“Where is Jan building his treehouse?”
INTERROGATIVE SUBSTITUTION
- (99) (a) Jan loop [deur die tuin].
Jan walks through the garden
“Jan is walking through the garden.”
FULL DIRECTIONAL PP
- (b) Jan loop [daar/hier] #(deur)
Jan walks there/here through
“Jan is walking through here/there.”
DEMONSTRATIVE SUBSTITUTION
- (c) [Waar] #(deur) loop Jan?
where through walks Jan
“Where is walking through?”
INTERROGATIVE SUBSTITUTION

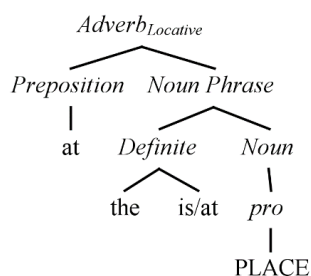
The expressions in (99b-c) only retain their intended directional meanings when the directional adposition *deur* is present. Based on (98-99) it seems furthermore reasonable to conclude that R-pronouns cannot denote *paths*. In the present system, this indicates that they are *not* P_{DIR}-expressing elements.

In line with what is being proposed here, Kayne (2010) argues that R-pronouns have more complex internal structure than common nouns which, in many cross-linguistic cases, seems to be supported by the morphological makeup of such locative demonstratives. Biggs (2014:111), for instance, identifies a class of locative demonstratives in Mandarin, *zhèr* (“here”), *nàr* (“there”), *nǎr* (“where”), which she categorises as R-pronouns. The composition in Mandarin suggests they are formed

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from the the proximal and distal demonstratives *zhè* (“this”) and *nà* (“that”) plus a suffix /-r/, which Biggs (2014:110) argues to be a phonological realisation of NP_{PLACE}. Katz & Postal (1964) first proposed a silent noun PLACE in the underlying structure of English adverbials (only the locative adverbials will be of concern here). Their observation is that elements like *here*, *there* and *where* have the same distribution as full locative prepositional phrases like *at this/that/what place* (cf. also (98) above) and they consequently postulate that the pronominal locative adverbials have the underlying structure in (100), which incorporates a null preposition AT and a null noun PLACE:

(100)



(Katz & Postal 1964; from Pantcheva 2008:307)

Based on non-standard English expressions like *this here place* and *that there place*, Kayne (2004) builds on Katz & Postal (1964), and argues that the locative demonstratives *here* and *there* in standard English also incorporate a null demonstrative THIS/THAT. I will adopt a version of these analyses and argue that the R-pronouns functioning as fully locative demonstrative/interrogative pronouns (i.e. those that are interpreted as “here/there/where” in the (ii) examples of (95-97)) lexicalise the structure [P_{LOC} [XPART [DP_{GROUND}]]]. Since the scope of this dissertation does not permit a proper investigation of the DP-internal anatomy of the Ground, I represent that part of the structure non-atomically and simply assume that the difference between a DP_{GROUND} incorporating pro-forms vs. non-pro nominals lies more deeply embedded in the DP than that part of the structure which concerns us here. Furthermore, it seems possible that in the present system, XPART might

accommodate the proximal/distal component of these pronouns, since we have seen in much of the preceding discussion (e.g. Sections 4.2 4.4, and 4.5) that this component acts as a type of deictic centre point or pivot. Here, however, this comment must remain at the level of speculation, due to the limited scope of the present study.

As far as structure in the “P domain” is concerned, the difference between “regular” DP_{GROUND} complements and R-pronouns is that the R-pronoun in its fully locative demonstrative sense, lexicalises relevant structure in the “D domain” as well as AXPART and P_{LOC}. This follows from the fact that the locative demonstrative R-forms substitute full locative PPs (cf. (98) above), but not directional PPs (cf. (99) above), which suggests they do not ever lexicalise P_{DIR}. I suggest that the difference in interpretation between the fully locative R-pronouns and those that are interpreted as “regular” demonstratives/interrogatives is the result of how much structure the pronoun lexicalises. In particular, whereas the locative pronouns (=the “here/ there/ where” interpretation on the R-pronouns *hier/ daar/ waar*) are argued to lexicalise the structure [P_{LOC} [AXPART [DP_{GROUND}]]], I suggest that the regular demonstratives/interrogatives (=the “this/ that/ what” interpretation of the R-pronouns *hier/ daar/ waar*) lexicalise only [AXPART [DP_{GROUND}]] and that the strong in-situ pronouns (cf. the (i) examples in (95-97)) then lexicalise only [DP_{GROUND}]. One abstract assumption that I will make about the DP-internal structure of the R-demonstratives vs. the strong in-situ pronouns is that the strong pronouns are “larger” (in the sense of having “more” DP-internal structure, not in the sense of lexicalising more structure in the “P domain”) whereas the R-demonstratives are structurally deficient in some sense, forcing them to incorporate with AXPART, etc.

Moving on from the structure lexicalised by R-pronouns to a class of nouns which Biggs (2014) designates *home-class*, it will be argued that this class lexicalises the same “P domain” structure as the locative R-pronouns. Such an argument is in line with what others – notably Collins (2007) – have argued. *Home-class* nouns in Afrikaans constitute referential nouns that include place names (e.g. *Stellenbosch*, *Kaapstad*) and “highly-frequented” or public spaces such as *huis* (“home”), *skool* (“school”), *winkels* (“shops”), *universiteit* (“university”), *biblioteek* (“library”), *stasie*

(“station”), *kerk* (“church”), *hof* (“court”), *strand* (“beach”), *plaas* (“farm”), *stad* (“city”), *dorp* (“town”), *see* (“sea”), *straat* (“street”), *apteek* (“pharmacy”), *doktor* (“doctor”), and *hospitaal* (“hospital”). The most reliable diagnostic for nouns of this class is preposition and determiner drop in the context of the goal- or route-directed circumpositions *na...toe* (“to”) and *met...langs* (“via”). This is illustrated in (101), where the (a) example incorporates regular nouns and all the other examples incorporate nouns from the *home*-class.

- (101) (a) Jan gaan na die restaurant/kampterrein/ konsert toe.
Jan goes after the restaurant/camp-ground/concert to
“Jan is going to the restaurant/camping ground/concert.”
- (b) Jan gaan Stellenbosch/Kaapstad toe/langs.
Jan goes Stellenbosch/Cape Town to/along
“Jan is going to/via Stellenbosch.”
- (c) Jan gaan strand/plaas toe/langs.
Jan goes beach/farm to/along
“Jan is going to/via the beach/farm.”
- (d) Jan gaan stad/dorp toe/langs.
Jan goes city/town to/along
“Jan is going to/via the city/town.”

Home-class nouns that are not place names all appear to have “regular” variants, so that it is possible to say *Jan gaan na die strand toe* (lit.: Jan goes after the beach to “Jan is going to the beach”), where the prepositional element and the determiner are both present. With the “regular” variant, it is not possible to drop either the preposition or the determiner (cf. **Jan gaan die strand toe* (lit.: Jan goes the beach to) and **Jan gaan na strand toe* (lit.: Jan goes after beach to)). The *home*-class thus appears to lexicalise the same structure as that argued by Katz & Postal (1964) to underlie English locative adverbs (cf. (100) above) and I will accordingly argue that they express the same “P domain” structure as R-pronouns.

Biggs (2014:129-141) observes that, in Mandarin PPs, an overt axial element is obligatory with common nouns like *car* or *table*. Consider, for example, the

expressions in (102) where *shàng* and *bèihòu* are the axial parts. An overt axial element is optional, however, with referential nouns (e.g. place names like *Beijing* (103)), locative demonstratives (like *here*, *there*, and *where* (104)), and *home*-class nouns, which in Mandarin include *school*, *restaurant*, *library*, and of course *home* (105).

- (102) (a) Chēzi*(-shàng) pā-zhe yī zhī māo.
Car -on lie-DUR one CLF cat
“On the car lies a cat.”
(Djamouri et al. 2013:83)
- (b) Shū zài zhuōzi *(shàng).
Book at table on
“The books are on the table top.”
- (c) Wǒ qù dào chē *(bèihòu).
I go to car behind
“I’m going behind the car.”
(Biggs 2014:126)
- (103) Wǒ qù Běijīng.
I go Beijing
“I’m going to Beijing.”
(Biggs 2014:129)
- (104) Nǐ zài nǎ-r?
you at where
“Where are you?”
(Biggs 2014:130)
- (105) Wǒ huí jiā.
I return home
“I’m going home.”
(Biggs 2014:135)

The fact that neither *home*-class nouns nor R-pronouns are obliged to take an axial element in Mandarin suggests they could be structurally equivalent, and “larger” than regular nouns, actually lexicalising the AXPART node. The equivalence of R-pronouns and *home*-class nouns has also been noted by e.g. Collins (2007) who suggests that English R-pronouns might be members of the *home*-class, since they pattern together distributionally. Biggs (2014:136) argues that the *home*-class is a syntactic class (rather than a semantic- or discourse-related one) since a tendency for preposition drop with this class has been cross-linguistically observed by Kayne (2004) and Collins (2007) for English, Longobardi (2001) for French *chez* and Italian dialects,

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and Kurdish, German, Greek, Afrikaans, and Bedford and North London English, elicited through personal communication (cf. Biggs 2014:136). Preposition drop with *home*-class nouns in Bedford English is illustrated as follows:

- (106) (a) I'm going Tesco's / the Box of Delights.
 (b) Shall we go the rec?
 (c) I'm going the library.
 (d) *Shall we go the library in Bedford?
 (e) *Shall we go the British Library?

(Biggs 2014:137, Sheehan, p.c.)

In Bedford English, the nouns participating in preposition drop must refer to a local landmark (*Tesco's* and *Box of Delights* in (106a), for instance, are local stores and *the rec* in (106b) is a local recreation area). In (106c), the library has to refer to the local library and (106d-e) are ungrammatical because those libraries do not represent a shared reference point. Biggs points out that the *home*-class is productive in Bedford English where any nouns representing shared reference points appear to be admissible. This usually is not the case for the *home*-class in other languages, which tends to constitute a closed class that exhibits relevant syntactic properties, regardless of whether the entity is a shared reference point; moreover, shared reference points are normally not admissible to the *home*-class simply by being shared reference points. Although the *home*-class is large in Afrikaans, it also appears to be a closed class with no semantic- or discourse-related basis. The utterance in (107) is grammatical, even if for the speaker the nouns do not denote either a highly frequented space or a common reference point:

- (107) Ek gaan môre doktor / hospital / hof toe.
 I go tomorrow doctor / hospital / court to
 "I'm going to the doctor/the hospital/court tomorrow."

One salient difference between the *home*-class and R-pronouns is that the former never incorporates with (=appears left-adjacent to) selecting P elements. In fact, the only P elements with which the *home*-class is even compatible are the postpositional

components of circumpositions. In other words, *...toe* and *...langs* of the circumpositions *na...toe* and *met...langs* appear to be the only P elements that are systematically compatible with members of the *home*-class (cf. (108a)). Though a null locative preposition AT might thus be postulated in such structures, I will in fact argue that the *home*-class noun itself lexicalises P_{LOC}, blocking the insertion of a P element. Given a suitable Ground, the postpositional component of the source-directed circumposition *by...af* (lit. at...down “down”) is also felicitous (108b).

- (108) (a) Jan loop huis toe/langs.
 Jan walks home to/along
 “Jan is walking (via) home.”
- (b) Jan hardloop straat af.
 Jan runs street down
 “Jan is running down the street.”
- (c) *Jan loop in/deur/ verby huis.
 Jan walks in/through/past house

As shown in (108c), however, no canonically *prepositional* element is ever felicitous with the *home*-class. These facts will be properly dealt with in an analysis of circumpositional expressions in Chapter 5, where it is argued that the postpositional element of circumpositions patently expresses only P_{DIR} and that this makes it compatible with the *home*-class which expresses structure up to and including P_{LOC} – i.e. [P_{LOC} [AXPART [DP_{GROUND}]]], analogously to locative R-pronouns.

This section has argued that locative R-pronouns and *home*-class nouns are structurally congruous, lexicalising both the nominal and the localising components of the structure. In other words, though such elements are clearly nominal in nature, they also incorporate locative spatial information which, in line with what has frequently been argued in the literature, I have proposed is contributed by P_{LOC}. The next section argues that so-called “intransitive” adpositions lexicalise the same structure. Thus, though obviously spatial in nature, it is argued that they clearly incorporate nominal structure and hence are not intransitive, as they appear.

4.6.2 Intransitive Adpositions

Traditionally, adpositions from FRaP Class B occurring in expressions like (94) above – repeated here in (109) – are designated *intransitive adpositions* since they do not select an overt DP_{GROUND} like their transitive counterparts in (110) do. Moreover, (111) shows that P elements that are not members of FRaP Class B do not have intransitive incarnations.

- (109) Jan speel gereeld agter/ binne/ bo/ buite/ onder/voor.
 Jan plays often behind/inside/above/outside/under/ front
 “Jan often plays at the back/inside/upstairs/outside/downstairs/ at the front.”
 FRAP CLASS B

- (110) Jan speel agter /binne /buite die skuur.
 Jan plays behind/inside/outside the barn
 “Jan is playing behind/inside/outside the barn.”
 FRAP CLASS B

- (111) *Jan speel gereeld in/op/by/af/om/ teen.
 Jan plays often in/on/at/off/ around/against
 FRAP CLASS C, D, E, F

Though V-particles are typically also referred to as “intransitive adpositions”, it seems clear that adpositions and V-particles exhibit distinct categorial properties. Broekhuis 2013:35-46, for instance, discusses various diagnostics for distinguishing adpositions and V-particles. The contrast in (112) shows that intransitive adpositions can be freely coordinated whereas V-particles cannot be.⁸³ Furthermore, (113) shows that

⁸³ It is possible to coordinate V-particles that form a contrastive cognitive pair, e.g. *oop en toemaak* (lit. open and closed-make, “open and close”), *in en uitgaan* (lit.: in and out-go, “go in and out”). Cf. Zeller (2001:88-99) for discussion. It seems clear, nevertheless, though V-particles can be coordinated under restricted circumstances (as when the elided verb of the coordinated V+particle combination is recoverable from context or comparison with the overtly expressed V+particle combination in the coordinated pair), that they do not permit this as freely as intransitive adpositions do.

intransitive adpositions cannot form the basis for derived [P + V] nominals whereas particles can.

- (112) (a) Jan speel gereeld bo en buite.
Jan plays often above and outside
“Jan often plays upstairs and outside.”
ADPOSITIONS
- (b) *Jan staan op en in.
Jan stands up and in
V-PARTICLES
- (113) (a) *Jan se bospelery/buitespelery.
Jan POS above-playing/outside/playing
ADPOSITIONS
- (b) Jan is ’n opstaner / instaner.
Jan is a up-stander / in-stander
“Jan is a fighter / substitute.”
V-PARTICLES

As noted by Van Riemsdijk (1978:55), the clearest indicator of the fact that “intransitive” adpositions and V-particles are categorially distinct is perhaps the fact that V-particles can raise into the verb cluster, whereas adpositions cannot:

- (114) (a) ...dat Jan {*wil} binne/ buite/ bo/ onder/ voor {wil} woon.
that Jan wants inside outside above below front wants live
ADPOSITIONS
- (b) ...dat Jan {?in} wil {in-}bly.
that Jan in wants in -stay
“...that Jan wants to stay in.”
V-PARTICLE

Another striking distinction is the fact that “intransitive” adpositions like those in (109) are always locative, whereas V-particles are always directional, when conveying spatial meaning. V-particles and particle verbs are the focus of Chapter 6, so they will not receive further attention in this section (cf. especially Section 6.1.2 for more discussion on the present issue). But it seems that a categorial distinction between “intransitive” incarnations of FRaP Class B elements and V-particles is well motivated by the contrasts in (109-114). The members of Class B that cannot occur

as intransitive adpositions are *tussen* (“between”), *langs* (“beside”), and *van* (“of”). Of these, *tussen* and *langs* can function as intransitive adpositions when they form the morphologically initial component of a locative complex adposition:

- (115) (a) Hier is die meisies se kamers, en Jan slaap in die kamer tussenin.
 here are the girls POS rooms and Jan sleeps in the room between-in
 “Here are the girls’ rooms, and Jan sleeps in the room between (them).”
- (b) Jan speel gereeld langsaa.
 Jan plays often beside-on
 “Jan often plays next door.”

Intransitive adpositions pattern distributionally with R-pronouns in that, although R-pronouns and intransitive adpositions can substitute full locative PPs (116a), they cannot substitute directional PPs (116b). Instead, eliciting a directional interpretation with an R-pronoun + intransitive adposition combination requires the combination to occur left-adjacent to a directional adposition (116c).

- (116) (a) Jan speel [in die tuin]_{P_{LOC}} / [buite] / [daar].
 Jan plays in the garden / outside / there
 “Jan is playing in the garden/outside/there.”
 LOCATIVE
- (b) Jan loop [deur die tuin]_{P_{DIRP}}.
 Jan walks through the garden
 “Jan is walking through the garden.”
 DIRECTIONAL
- (c) (i) Jan loop [buite] / [daar].
 Jan walks outside there
 “Jan is walking outside/there.”
 LOCATIVE
- (ii) Jan loop [buite] / [daar] **deur**.
 Jan walks outside/ there through
 “Jan is walking through outside/over there.”
 DIRECTIONAL

These data suggest that the uppermost node in the structure underlying intransitive adpositions is P_{LOC}. That is, because (i) P_{LOC} is the uppermost node lexicalised by the locative R-pronouns, and the intransitive adpositions pattern with them, both distributionally and interpretationally, and (ii) because intransitive adpositions are all

members of FRaP Class B, which we know are capable of lexicalising [P_{LOC} [AXPART]] as transitive adpositions. So far, it seems clear that intransitive adpositions lexicalise AXPART and P_{LOC} . The remaining question is whether they also lexicalise the DP_{GROUND} or whether, as traditionally argued, the DP_{GROUND} is absent from the structure.

I suggest that in fact the DP_{GROUND} is “covertly” present in the sense that that part of the structure is also lexicalised by the “intransitive adposition”, which means it is not in fact intransitive. Support for this comes from the fact that, in goal- and route-directed circumpositions, the intransitive adposition patterns distributionally not only with R-pronouns, but also with *home*-class nouns, which have both been argued to incorporate some version of a DP_{GROUND} . The data in (117) illustrates this with the goal-directed circumposition *na...toe*, and (118) with the route-directed *met...langs*.

- (117) (a) Jan gaan na die winkels toe.
Jan goes after the shops to
“Jan is going to the shops.”
REGULAR DP_{GROUND}
- (b) Jan gaan winkels toe.
Jan goes shops to
“Jan is going to the shops.”
HOME-CLASS NOUN
- (c) Jan gaan daar⁹(-na-)toe.
Jan goes there-after-to
“Jan is going there/ coming here.”
R-PRONOUN
- (d) Jan gaan vorentoe /boontoe /buitentoe /agtertoe /binnetoe.
Jan goes front- Θ N-to/above-N-to/outside-N-to /back-to /inside-to
“Jan is going to the front/upstairs/outside/to the back/inside.”
INTRANSITIVE ADPOSITION
- (118) (a) Jan draf met die pad langs.
Jan jogs with the road along
“Jan is jogging along the road.”
REGULAR DP_{GROUND}
- (b) Jan draf pad langs.
Jan jogs road along
“Jan is jogging along the road.”
HOME-CLASS NOUN

- (c) Jan draf daar langs.
Jan jogs there along
“Jan is jogging along over there.”
- R-PRONOUN
- (d) Jan draf bo /buite /agter/binne langs.
Jan jogs above/outside/back/inside along
“Jan is jogging along the top/outside/back/inside.”
- INTRANSITIVE ADPOSITION

It is interesting to note that *na* seems to be varyingly omissible in (117c-d). Only some speakers accept the omission of *na* in (117c), indicated with %, yielding *daar toe* instead of *daarnatoe*, *hier toe* (lit.: here to “to here”) instead of *hiernatoe*, and *waar toe* (lit.: where to “to where”) instead of *waarnatoe*. In (117c-d), the morphological form *na* can also surface as /-ən-/ or /-n-/ that between the directional and the pronominal/intransitive adpositional components. In (117d), for instance, *vorentoe*, *boontoe* and *buitentoe* can probably be separated into *voor/bo/buite* + *NA* + *toe*. It is also my observation that some speakers produce *agte-N-toe* and *binne-N-toe*, instead of *agtertoe* and *binnetoe*, as indicated in (117d). It is not clear whether the omissibility of *na* is a phonological or morpho-syntactic phenomenon. The latter seems a plausible possibility, given the tendency of R-pronouns to lexicalise P_{LOC} in expressions where they are fully locative but then to allow another element to lexicalise P_{LOC} in expressions where they are functioning as non-locative demonstratives (cf. Section 4.6.1). I will leave this question unanswered, pointing out only that *na* can never be present with *home*-class nouns (cf. (117a))⁸⁴ and that these nouns obligatorily express P_{LOC} , suggesting that the issue with intransitive adpositions and R-pronouns may in fact be morpho-syntactic and not (merely) phonological. Nevertheless, it appears speakers do differ in terms of whether their grammars require P_{LOC} to be expressed by the R-pronoun/intransitive adposition or by the prepositional component *na* of the circumposition. Finally, note that with the goal-directed circumposition *na...toe* (117d), it is not obligatory for the intransitive adposition to

⁸⁴ This constitutes a major difference from Dutch, which incorporates expressions like *Ik ga naar huis* (lit. I go to house, “I am going home”), which are ungrammatical in Afrikaans.

surface left-adjacent to the prepositional component, i.e. it may remain in-situ between the pre- and post-positional components of the circumposition, just like a “regular” DP_{GROUND}, yielding *na voor toe* (lit.: after front to), *na bo toe* (lit.: after above to), *na buite toe* (lit.: after outside to):

- (119) Jan skuif al die kinders se speelgoed na bo /binne/ buite toe.
 Jan moves all the kids POS play-things after upstairs/inside/outside to
 “Jan is moving all the kids’ toys upstairs/inside/outside.”

What follows from the above is that intransitive adpositions are not underlyingly intransitive in the sense that the DP_{GROUND} is missing from the structure. Instead, I suggest it is lexicalised by the adposition. This is strikingly in line with what Den Dikken (1996:29, fn.) observes regarding a proposal by Koopman (1993):

Another question arising in the context of intransitive Ps like *boven* is whether these really are intransitive, or whether, instead, they should be analysed as transitive Ps taking a null (pro) complement (cf. Koopman 1993:13). The latter approach seems plausible in light of the fact that in an example like *De wagen staat voor* (“the car stands in front”) there is always an understood location in front of which the car is situated.

I thus argue that the FRaP of the P elements that function as intransitive adpositions – essentially, Class B – extends beyond the syntactic “P domain” and down into the nominal domain. This also follows from the observation in Section 4.3 that FRaP Class B elements generally supply the language with its inventory of projective locative adpositions, and that such adpositions are analysed as crucially incorporating the AXPART node. The emphasis on adjacency in how syncretism is modelled in this study (cf. Chapter 2) means that any P element that cannot lexicalise AXPART should not be able to lexicalise any structure below AXPART either. This prediction is correct, given that no P elements from FRaP Classes other than B can function as intransitive adpositions.

4.7 Concluding Summary

This chapter offered a characterisation of the P-internal syntactic landscape of Afrikaans. An important thread running throughout the chapter is the distinction between P elements, which are lexical entries, and exponents, which have been inserted to express syntactic structure and hence have category status. This distinction allows us to maintain a keen sensitivity to category shifts that exponents deriving from the same lexical entry undergo in giving expression to various structures. It was, for instance, found that FRaP Class B elements, which frequently form the morphologically initial component of complex adpositions, also supply the language with its inventory of projective locative and so-called “intransitive” adpositions. These functions were argued to be located on contiguous structural nodes (i.e. [AXPART] in complex and projective adpositions, and [P_{LOC} [AXPART [DP_{GROUND}]]] in intransitive adpositions). This idea, if applied as a lense through which to view syntactic category, offers an explanatory approach firstly to understanding minor inconsistencies in the behaviour of elements with one morpho-phonological form (the hypothesis is that such discrepancies arise because the same morpho-phonological form can embody exponents belonging to different micro-categories, in accordance with differing syntactic insertion contexts). Secondly, by the same principle, it offers an approach to understanding similarities in the behaviour of elements that are typically considered to belong to different categories.

CHAPTER 5

Word Order, Spellout Domains & Lexicalisation

5.0 Introduction

This chapter casts word order in the PP as an interaction between the internal syntax of P, Spellout, and lexicalisation. The data in (1-4) provide an overview of the “landscape” of Afrikaans PPs.

- (1) *Prepositional Phrases (Pre-PPs)*
- | | |
|--|---|
| <p>(a) Jan sit in die stoel.
Jan sits in the chair
“Jan is sitting in the chair.”</p> | <p>(b) Die boek lê op die tafel.
the book lies on the table
“The book is lying on the table.”</p> |
| <p>(c) Jan stap deur die park.
Jan strolls through the park
“Jan is strolling through the park.”</p> | <p>(d) Die koeie loop om die hek.
the cows walk around the gate
“The cows are walking around the gate.”</p> |
- (2) *Circumpositional Phrases (Circum-PPs)*
- | | |
|---|--|
| <p>(a) Jan loop na sy huis toe.
Jan walks to his house to
“Jan is walking to his house.”</p> | <p>(b) Hulle ry van die Kaap af.
they drive of the Cape from
“They are driving from the Cape.”</p> |
| <p>(c) Jan draf met die rivier langs.
Jan jogs with the river along
“Jan is jogging along the river.”</p> | |

- (3) *“Postpositional” Phrases (Post-PPs)*
- | | |
|---|--|
| (a) Jan loop huis toe.
Jan walks home to
“Jan is walking home.” | (b) Jan klim die berg uit.
Jan climbs the mountain out
“Jan is climbing the mountain.” |
|---|--|
- (4) *Doubling Adpositional Phrases (Doubling PPs)*
- Die hond wat in my gesig in asemhaal.
the dog what in my face in breath-takes
“The dog that is breathing into my face.”

Pre-PPs can be either locative (1a-b) or directional (1c-d), whereas circum-PPs are always directional (2). The expressions in (3) are labelled “post”-PPs (with scare quotes) because they are in fact spurious – (3a) incorporates a circum-PP with a suppressed prepositional element, and (3b) incorporates a semi-idiomatic transitive particle verb *uitklim*.⁸⁵ As such, it will be argued that postpositional structures are not productive in contemporary spoken Afrikaans. Finally, doubling PPs (4) in mainstream Afrikaans are also always directional. Locative doubling PPs, illustrated in (5), occur in some varieties (notably, but not limited to, Cape Afrikaans) but will not be treated here.⁸⁶

- (5) Jan bly in die Kaap in.
Jan lives in the Cape in
“Jan lives in the Cape.”

The chapter commences with a discussion of locative and directional pre-PPs, laying the groundwork for discussing circum-PPs and doubling PPs later in the chapter. The structures of locative and directional pre-PPs will be discussed in Sections 5.1 and 5.2 respectively, with special reference to their (non-) predicative status, and to little-*p* as the structural locus of that status. It is shown that both locative and directional pre-PPs can be either predicative or non-predicative, and that there is a positive correlation

⁸⁵ Semi-idiomatic, in the sense that the particle loses some of its spatial meaning.

⁸⁶ Cf. Oosthuizen (2009) for a survey of (non-)directional P doubling structures in Cape and mainstream Afrikaans.

between a PP's status as non-predicative and its extrapositionability. It is found furthermore that there is an interesting interaction between verb event structure and a directional PP's (non-) predicative status. Specifically, predicative directional PPs only seem to occur with verbs that culminate in a resultant state (= RES verbs, to use Ramchand's 2008 terms), whereas non-predicative directional PPs occur with verbs of process (= PROC verbs). These facts are later drawn upon in the analysis of doubling PPs. Section 5.3 gives an interim summary, providing an overview of the attested combinatorial possibilities with regard to the structural building blocks of the system.

Bearing this in mind, the discussion on circum-PPs in Section 5.4 first establishes that circumpositional structures arise both in the presence and absence of a little-*p* projection (as verified by extraposition) again suggesting that little-*p* does not regulate word order. The point of departure for the analysis is the observation that circum-PPs form a closed class in which the postpositional element is patently deficient, unable to lexicalise relevant structure at P_{LOC}. An operation called *Spellout Repair* is proposed to account for the presence of two P elements in these structures (as opposed to just one as in pre-PPs), where the prepositional component is a type of "spellout auxiliary" to the substantive postpositional element. Finally, with reference to a fundamental headedness property that is delineated by (and may differ between) *Spellout Domains* (SDs), circumpositional word order is derived from the interaction between structure, Spellout, and lexicalisation.

In the last substantive section of this chapter, doubling PPs are examined against the background of the discussion in the rest of the chapter. A distinction between "true" and spurious doubling PPs comes to light, and it is found that true doubling arises under two conditions: (i) with PROC-verbs only, and (ii) with FRaP (=Formal Range Potential) Class E elements only. It is shown that the structural analysis given to circum-PPs in Section 5.5 is a good fit for doubling PPs, and that it is the lexical specification of FRaP Class E elements – taken together with the Spellout procedure and lexicalisation process – that produces the double insertion that is typical of doubling PPs. Section 5.6 concludes the chapter.

5.1 Locative Prepositional Phrases

This section explores two faces of locative pre-PPs – that is, following Zwarts (2014), their predicative vs. non-predicative status – with reference to the presence of a “predicate-rendering” functional projection, little-*p*. As non-predicates, on the one hand, locative pre-PPs are referential entities denoting *places* (Jackendoff 1983), and may function either as arguments or modifiers. That modifiers are claimed to be non-predicates may require some clarification. It is of course the case that some modifiers can be considered predicates – cf. *by die stasie* (“at the station”) in (6a) below. In that expression, the PP is ascribing a property to the argument *die man* (“the man”). So, within the nominal *die man by die stasie* (“the man at the station”), the PP is a predicate that takes *die man* as its subject. Such “modifying predicates” of the nominal domain are *not* a focus of this study. In contrast to (6a), the PP *by die stasie* in (6b) is an event modifier which is typically considered to be VP-adjoined. Such PP modifiers are not generally considered to be predicates in the sense of ascribing a property to a referential entity. It is thus non-predicative PPs of the (6b) kind that are the designated “modifiers” under discussion in this chapter. Furthermore, the PP *by die stasie* in (6c) – which has been taken from an equivalent Dutch expression in Zwarts (2014:228) – is an argument: referential but non-predicative, because there is no Figure.⁸⁷

- (6) (a) Jan is die man [PP by die stasie].
 Jan is the man at the station
 “Jan is the man at the station.” PP = MODIFYING PREDICATE
- (b) Jan eet [PP by die stasie] middagete.
 Jan eats at the station lunch
 “Jan is eating lunch at the station.” PP = EVENT MODIFIER

⁸⁷ A topic that seems to recommend itself in a discussion on non-predicative PPs is the argument/adjunct distinction. This distinction will not, however, receive any formal treatment, since lighting on a satisfactory characterisation of these notions, and a method by which tokens of each can be reliably identified remains an unresolved challenge. Cf. Forker (2014) and Hole (2015) for recent discussion.

- (c) [PP By die stasie] lyk soos die beste plek om mekaar te ontmoet.
 at the station seems like the best place C each.other to meet
 “At the station seems like the best place to meet each another.”

PP = ARGUMENT

On the other hand, predicative locative PPs – as the term *predicative* is used in this chapter – are functions denoting a locative spatial relation between two entities, a Figure and Ground. In the Dutch expression (6'), *by het station* is predicated of a Figure *Ada* in an absolutive *met*-construction. The presence of a Figure constitutes the crucial difference between (6') and the non-predicative PPs in (6b-c).

- (6') Met Ada bij het station is alles goed geregeld.
 with Ada at the station is everything well organised
 “With Ada at the station, everything is on track.”

(Zwarts 2014:228; my glosses)

In the discussion that follows, the key difference between predicative and non-predicative PPs is thus taken to be the respective presence vs. absence of a Figure of which the PP is predicated. It will be argued that predicative PPs are structurally distinguished from non-predicative PPs by the functional head that introduces the Figure. This functional head is argued to project into the clausal spine in such a way that the PP becomes integrated with the verb's argument structure; non-predicative PPs (arguments and modifiers) by contrast lack this functional projection and hence do not penetrate the clausal spine (*pace* Cinque (1999 et seq.)). Other examples of predicative PPs are attributive expressions (7a), copular expressions (7b), and expressions incorporating posture verbs (7c):

- (7) (a) Ada is het meisje bij het station.
 Ada is the girl at the station
 “Ada is the girl at the station.”
 (Dutch, Zwarts 2014:231; my glosses)
- (b) Ada is bij het station.
 Ada is at the station
 “Ada is at the station.”
 (Dutch, Zwarts 2014:225; my glosses)

- (c) Het boek staat naast de encyclopedie.
the book stands beside the encyclopaedia
“The book is beside the encyclopaedia.”

(Dutch, Zwarts 2014:232; my glosses)

In predicative PPs, the relation between Figure and Ground is frequently modelled in terms of a nuclear predicational unit called a *small clause* (SC).

5.1.1 Small Clauses and Little-*p*

A *small clause* (SC) is a verb-less structure capturing a basic subject-predicate relation: a property (= the predicate) is ascribed to an entity (= the subject). Such basic predications are most transparent in copular constructions and verb-less predications embedded under verbs such as *consider*. This is illustrated in (8), where *John* is the subject and *a fool* the predicate.

- (8) (a) John is a fool.
(b) They consider John a fool.

(Den Dikken 1996:24-25)

Although subject-predicate relations surface in various guises, the strong hypothesis concerning all such relations has long been that they derive from an underlying SC configuration – cf. i.a. Stowell (1981), Hoekstra (1984), and Kayne (1984). Despite the fact some notion of SCs is widely accepted, the structural implementation frequently differs. Here, Den Dikken's (1996) notion is taken to be most reconcilable with the analytical system. Den Dikken argues that, because small clause predicates undergo movement in their own right (e.g. *a fool John is!* Where the predicate in (8) has been topicalised), their structure cannot be that represented in (9), since only heads and maximal projections can undergo movement – and not, as would have to be the case in (9), X'-level projections.

- (9) [_{XP} SUBJECT [_{X'} PREDICATE]] (where X is {A, N, P, V})

(Den Dikken 1996:25-26)

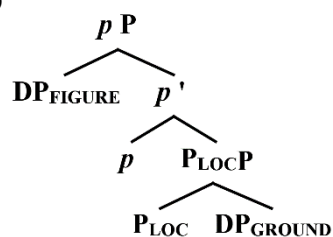
Since the type of movement undergone by small clause predicates is not incorporation (that is, in the sense of Baker (1988) – cf. Den Dikken 1996:26), it must be phrasal movement. This suggests that small clause predicates are encapsulated in their own phrases, distinct from the phrase in which the subject resides. Thus, the structure Den Dikken (1996) proposes for small clauses is that in (10).

(10) $[_{FP} \text{SUBJECT } [_{F'} F [_{XP} \text{PREDICATE}]]]$

(Den Dikken 1996:25-26)

According to Den Dikken (1996), the head of the small clause (F) is categorially non-distinct from the lexical head of the small clause (X), where X is {A, N, P, V}. So it stands to reason that the functional category F in fact represents one of various “light” functional categories. The fact that verbs select certain categories as their complements is thus reconcilable with the idea that the label “small clause” is just a placeholder for whatever category X belongs to, which in turn is selected by the verb. It follows that a structure like (11), which I will argue to represent that underlying a locative PP with predicate status, may be considered straightforwardly analogous with the idea of an SC.

(11)



Since not all PPs are predicative, however, and since the SC is taken to be the nuclear unit of predication, it cannot be taken for granted that all adpositions form such a configurational unit.

5.1.2 What it Means to be a Predicative PP

Since PPs are frequently non-predicative, Zwarts (2014) argues that adpositions are not inherently predicative, as suggested by a configuration such as (12a) in which *Ada* is the Figure and *bij het station* (lit.: at the station) is the predicate. Rather, he suggests that predicate status is afforded the PP by an additional structural layer, which he conceptualises as a silent predicate BE that takes the (thus far non-predicative) [P + DP_{GROUND}] combination complement, as in (12b).

- | | | | |
|------|-----|--------------------------|---|
| (12) | (a) | BIJ(ADA,HET-STATION) | X |
| | (b) | BE(ADA,BIJ(HET-STATION)) | ✓ |
- (Zwarts 2014:229)

Zwarts (2014) thus suggests that predicative PPs are built in two steps, the first of which is equivalent to the first (and only) step involved in building non-predicative PPs: namely, applying the place-function BIJ to HET-STATION. The second step involves applying the general location-function BE to the product of the first function, thus establishing the predicative relation between the Figure and the [P+DP_{GROUND}] *place*. Zwarts (2014) follows Jackendoff (1983) in giving this silent predicate three “flavours”, BE with locatives, and EXT(end) and GO with directionals.⁸⁸ Zwarts (2014:230) stresses that BE is not the verb *zijn* (“to be”) since, as we know from the literature on SCs, a nuclear predication such as that instantiated by the relation between Figure and Ground requires no verb.⁸⁹ The application of BE is thus a silent

⁸⁸ In Jackendoff’s (1983:161-168) terms, a [PLACE]-function is equivalent to Zwarts’ (2014) silent BE predicate; a [PATH]-function, such that a [THING] *traverses* a [PATH], is equivalent to Zwarts’ GO; a [PATH]-function such that a [THING] *extends* over a [PATH], is equivalent to Zwarts’ EXT(end), and a [PATH]-function, such that a [THING] is *oriented* along a [PATH], is a function for which Zwarts states no equivalent.

⁸⁹ There has been a recent proliferation of silent elements in syntax (of the kind that is represented by small caps, e.g. GO, PLACE, etc.); cf. i.a. Van Riemsdijk (2002); Kayne (2004; 2005; 2010; 2012); Den Dikken (2010a), as well as Section 4.6 of this dissertation. Her & Tsai (2015:576) note that, although the notion of silent elements in syntax is not new (in terms of e.g. null morphemes or ellipsis), the “slight but significant twist of the Kaynian silent elements is that they often have a semantic function, much like regular lexical items, often evidenced by the phonological realization of their counterparts in the same language or a related language.”

working operation that brings about a “type shift” in the PP, from being referential to being also predicative. Zwarts (2014: 230) suggests that BE might be embodied as a syntactic relation introduced by a functional category heading the SC (e.g. Pred of Bowers 1993 or the RELATOR of Den Dikken 2006) such that [_{SC} *Ada* [BE [_{PP} *bij het station*]]], but ultimately remains agnostic as to its identity. I have taken this projection to be little-*p*. Importantly, in designating little-*p* “predicate-rendering”, it is not being assigned any special (in the sense of stipulated) status.

In the present system, any head accommodating referential material in its specifier is by default considered a “Pred-head” of some kind. This follows from the assumption that spec-head represents core predication, as a basic structural relation (following the representational system of i.a. Ramchand (2008); cf. Chapter 3 for discussion), and so the distinction between (non-)Pred heads simply comes down to whether or not a head accommodates referential material in its specifier. The “content” of the predication should be contingent on the head’s own conceptual contribution to the spine. Thus, for instance, the low heads of a particular domain may be involved in what is ultimately observed to be thematic predication, whereas the high heads with what is perceived to be predication that is more “grammatical” in nature. But this clearly does not amount to any difference in the nature of predication itself.⁹⁰ To be maximally clear, then, referring to little-*p* as “predicate-rendering” with respect to the PP is not to say that other “thematic” predication (established in the same spec-head configuration) lower in the P domain is in any way ruled out. Rather, what is observed concerning so-called “predicative” PPs is that they are predicated of a *Figure*. Little-*p* is thus “predicate-rendering” in the sense that it introduces the Figure in its specifier, yielding what is conventionally called “a predicative PP” and “linking” that PP to the rest of the clausal spine. It remains to be seen what precisely the formal nature of this

In this sense, such (small capped) silent elements are never identical to their overtly realised counterparts.

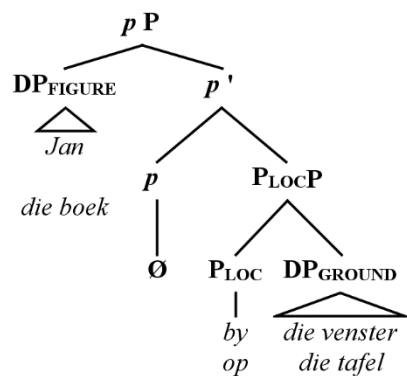
⁹⁰ What is in fact being proposed is a somewhat “radical” implementation of the SC configuration, where any/every head in the clausal spine potentially heads an “SC”. Further research is required to establish to what extent this bears out. Cf. e.g. Áfarli & Eide (2001) for discussion along similar lines.

linking might be, but I suggest (and this will become clear in the analyses below) that one mechanism facilitating such a “link” is movement of the Figure from its base position in spec-little-*p* to become integrated with the verb’s argument structure.

5.1.3 Deriving Locative Predicative PPs

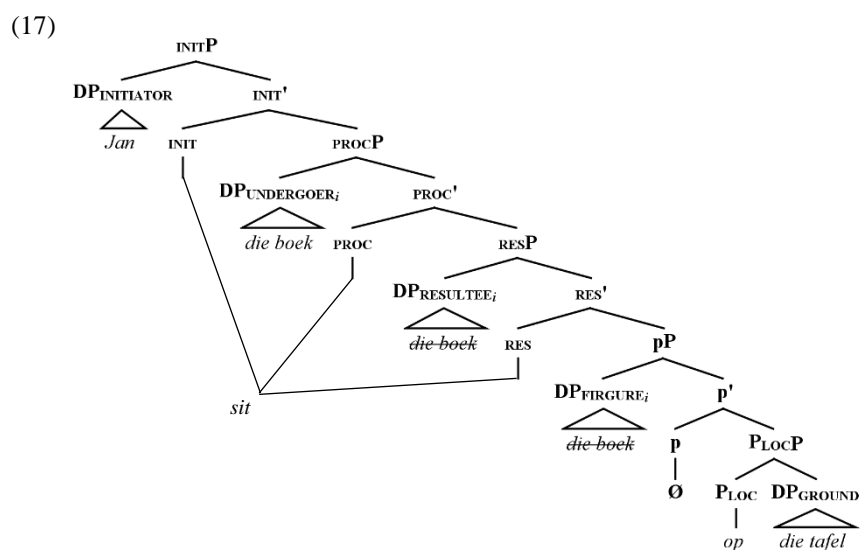
Implementing the above, the relation between Figure and Ground in copular expressions like (13), predicative expressions with posture verbs like *lê* (“lie”) (14), and secondary predicates (15) alike is established in a *pP* configuration such as that represented in (16).

- (13) Jan is by die venster.
 Jan is at the window
 “Jan is at the window.”
- (14) Die boek lê op die tafel.
 the book lies on the table
 “The book is lying on the table.”
- (15) Jan sit die boek op die tafel.
 Jan puts the book on the table
 “Jan is putting the book on the table.”
- (16)



It seems to be the case that, whenever the *pP* in (16) is selected by the verb, the Figure raises to become integrated with the argument structure of the verb. Although the aim

here is not to provide a complete derivation of all the constructions in (13-15), the raising of the Figure into the verb's argument structure is illustrated in (17) with the expression in (15).



On Ramchand's (2008) decomposition of verb event structure, *sit* ("put") is a RES-verb (such that it identifies the event structure subcomponents [INIT [PROC [RES]]]), since it denotes an event that culminates in a resultant state. This state can be said to hold of the Resultee, a predication that is established in a spec-head relation between RES and the $DP_{RESULTEE}$. In (15/17), *die boek* is thus both the Figure (a role that is assigned by predication in a spec-head relation between little-*p* and the DP_{FIGURE}) and the Resultee. Such "co-indexation" necessitates the raising of the DP_{FIGURE} to spec-RES. The Resultee of the verb *sit* ("put") is also co-indexed with the Undergoer, which means that *die boek* will raise again to saturate spec-PROC.

The compositional argument for raising the Figure into the verb's argument structure is supported by constituency: the contrast between the ungrammatical expression in (18a) and the grammatical expression in (18b) suggests that the Figure and the PP do not surface as a constituent that excludes the verb. That is, it is not possible to front

the “SC”/pP to the exclusion of the verb, so the Figure can only be fronted with the PP if the verb is also fronted.

- (18) (a) *[Die boek op die tafel] het ek gesit.
the book on the table have I put
- (b) [Die boek op die tafel gesit] het ek.
the book on the table put have I
“Put the book on the table have I.”

On the other hand, right node raising constructions like (18') – where two “SCs”/pPs *die boek op die tafel* (“the book on the table”) and *die tydskrif in die boks* (“the magazine in the box”) appear to share a single verb *sit* – may provide support for the idea that at some point the Figure and the PP form a constituent that excludes the verb.

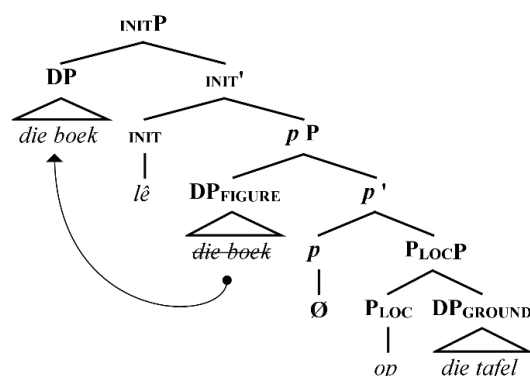
- (18') ...dat Jan [die boek op die tafel] en [die tydskrif in die boks] sit.
that Jan the book on the table and the magazine in the box puts
“...that Jan is putting the book on the table and the magazine in the box.”

These seemingly conflicting facts might support an analysis in which the Figure of ditransitive expressions like (15/17) is both the “external argument” of the adposition and the internal argument of the verb. Such an assessment of the data is roughly in line with what is argued on many SC analyses (cf. e.g. Hoekstra 1999 and Neeleman & Van de Koot 2002). This system predicts that the Figure in (13) and (14) should raise analogously to (15/17).

Ramchand (2008:55-56) argues that stative verbs like *fear* and *sit* comprise only the INIT event structure subcomponent, which seems to extend unproblematically to *lê* (“lie”) in (14) above. With INIT-verbs, the only position in the verb’s argument structure is spec-INIT and the argument saturating that position is interpreted as the holder of the state (Ramchand 2008:56). In (14), *die boek* (“the book”) is both the Figure and the holder of the state, so it seems accurate on a compositional semantics that *die boek* should first saturate spec-p, and then raise to saturate spec-INIT. Raising

the Figure to spec-INIT reflects the fact that *lê* in (14) is unaccusative.⁹¹ This is a nice result since, in her discussion of stative predicates, Ramchand (2008:56, note 5) leaves open the structural distinction between unergative and unaccusative stative predicates, base-merging all arguments of such verbs in spec-INIT, possibly due to the fact that spec-INIT is the only argument position in the structure of a stative predicate.⁹² The analysis that seems to recommend itself for (14), is thus represented in (20).

(20)

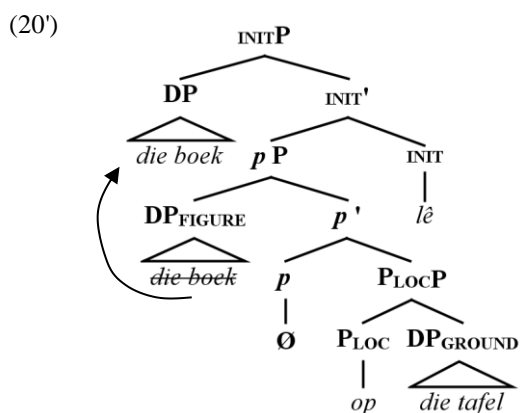


⁹¹ Levin & Rappaport-Hovav (1995), in arguing that the stative/eventive distinction is not exhaustively linked to unaccusativity/unergativity, show that posture verbs with animate arguments are unergative, whereas posture verbs with inanimate arguments are unaccusative. In support of the claim that the posture verb *lê* in (14) is unaccusative, consider the fact that it cannot undergo causative alternation (i), permits locative inversion (ii), and *daar*- (“there”) insertion (iii) – cf. Shardl (2010) for discussion of these diagnostics in relation to unaccusativity.

- (i) *Jan lê die boek op die tafel.
Jan lies the book on the table
- (ii) Op die tafel lê die boek.
on the table lies the book
- (iii) Daar lê ’n boek op die tafel.
there lies a book on the table

⁹² Importantly, the analysis proposed here for *lê* (“lie”) + PP does not definitively answer the question of how the structural distinction between unergative/ unaccusative stative predicates should be represented in Ramchand’s system. That is, because raising the DP into spec-INIT in (20) relies on the PP supplying the “lower” argument position. It remains a question where the argument of an unaccusative stative predicate might be base merged in the absence of a PP out of which that argument might be raised.

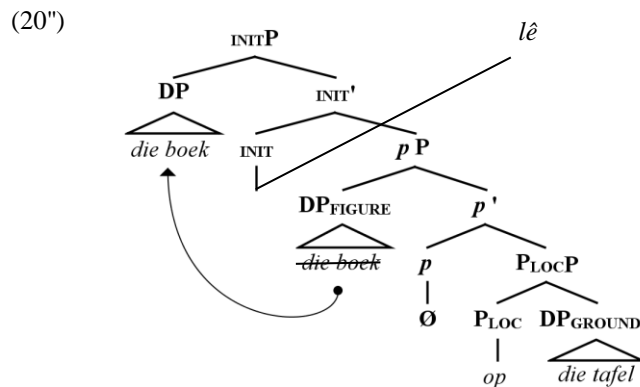
What will become more pertinent from Section 5.5.3, and throughout Chapter 6, is how this proposal (and the analyses within this system more generally) accommodates the fact that the unmarked order for this structure in OV sentences is ...*dat die boek op die tafel lê* (lit.: that the book on the table lies) – that is, how P_{Loc}P comes to surface preverbally. Basically, in line with what is argued by i.a. Richards (2004; 2008; 2009) and Sheehan (2013) I subscribe to the idea that head-finality is an interface phenomenon and does not rely foremost on syntactic movement. Instead, I assume a fundamental head-final spellout requirement is delineated by *Spellout Domains* (SDs).⁹³ In practice, this means that lexical material corresponding to heads in a head-final SD is linearised to the right of all the material contained in the complement-structure of that SD. I take it to be uncontroversial that the SD corresponding to the syntactic V-domain of Afrikaans (being a West Germanic OV language) is head final. Thus, upon spellout, (20) would be prepared for linearisation as indicated in (20')



Importantly, as hinted at above, (20') does not represent a structure in the core syntax, but one that has been spelled out so that the head-finality of the verbal SD applies to

⁹³ For detailed discussion of *Spellout Domains*, as they are understood here, cf. Section 5.5.3 below. Basically, the term refers to a fixed “chunk” of structure that is given lexical access – i.e. subject to spellout and lexicalisation – at a given point in the derivation. Importantly, I remain agnostic about what mechanism *triggers* lexical access, and hence about the particular version of Chomsky’s (2000; 2001) *Phase Impenetrability Condition* (PIC) that should apply.

INIT=*lê*. To keep this important information from being forgotten, head-final SDs like the V domain in Afrikaans will henceforth be represented as in (20"). The diagram in (20") ought to be understood as representing a head-initial-structure-only in the core syntax (or perhaps even that word order does not matter in the core syntax), with the head-finality of the verbal SD applying at spellout such that (20") will be linearised with *lê* following all the lexical material in *pP*, as ...*die boek of die tafel lê*. This results in the pre-verbal order of P_{Loc}P in the OV sentence.



To summarise, this section has argued that little-*p* is “predicate rendering” in the sense that, when it combines with a (locative) PP, that PP is predicated of a Figure. In this sense, little-*p* is basically a small clause head, in the sense of Den Dikken (1996).⁹⁴ It was argued that locative expressions incorporating predicative PPs are congruous in *pP*, after which point in the derivation raising the Figure into the argument structure of the verb begins to distinguish various types of constructions.

⁹⁴ But cf. Section 5.1.2, and especially note 90, on the non-uniqueness of such heads in the context of the present system.

5.1.4 On Non-predicative PPs

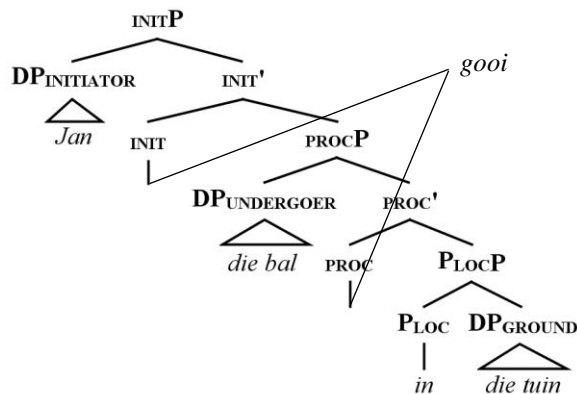
In previous sections, it was established that a predicative PP can be identified based on the presence of a Figure over which the PP predicates. By contrast, non-predicative PPs incorporate no Figure, merely referring to *places*. This is illustrated in (21), where (21a) = (6a) from above.

- (21) (a) [_{PP} By die stasie] lyk soos die beste plek om mekaar te ontmoet.
 at the station seems like the best place C each.other to meet
 “At the station seems like the best place to meet each another.”
- (b) (i) Jan gooi die bal [_{PP} in die tuin].
 Jan throws the ball in the garden
 “Jan is throwing the ball in the garden.”
- (ii) ...dat Jan die bal [_{PP} in die tuin] gooi.
 that Jan the ball in the garden throws
 “...that Jan is throwing the ball in the garden.”

Note that the expressions in (21b) are actually ambiguous: on one interpretation (that with which we *are* concerned here), the PP *in die tuin* is a modifier of the ball-throwing event; the second interpretation (that with which we are *not* concerned here – cf. the introductory paragraph of Section 5.1), the PP forms a constituent with *die bal* in an NP *die bal in die tuin*. On the second interpretation, it is possible, in answer to the question *Wat gooi Jan?* (lit.: what throws Jan?), to answer *die bal in die tuin* (lit. the ball in the garden, i.e. “the garden ball/the ball that belongs in the garden”)/ However, on the first interpretation – that which concerns us here – the object and the PP belong to separate constituents such that the only possible answer to the question *Wat gooi Jan?* (lit.: what throws Jan?) is *die bal* (lit. the ball); the PP must be questioned separately: *Waar gooi Jan die bal?* (lit.: where throws Jan the ball?), the relevant answer being the PP constituent *in die tuin* (“in the garden”).

Thus, following from the discussion in the previous sections, the PPs in (21) should all lack a little-*p* projection, since they are non-predicative and lack a Figure. The expression in (21b) is given the analysis in (22):

(22)



In X-bar based models, PP modifiers are VP-adjoined whereas arguments are V-complements. On such models, the fact that PP secondary predicates are also treated as complements seems potentially problematic. The question arises whether arguments and predicates *should* saturate the same structural position. Regardless of the assessment, the present system requires arguments to saturate specifier positions. Moreover, I will not take VP-adjunction to be the defining structural characteristic of modifying PPs, although it is important to note that nothing in the system developed here prevents adjunction.⁹⁵ So both the modifier and the argument status of PPs are modelled differently here. I suggest that the absence of little-*p* from structures like

⁹⁵ Some systems (e.g. Cinque 1999 *et seq.*) ban VP-adjunction, admitting no exceptions to the spec-head-comp architecture put forth in Kayne (1994). In such systems, PP adjuncts would have to be reanalysed as occupying spec-positions of (functional) heads; it is not immediately clear what the consequences of a ban on VP-adjunction might be in the context of the present system. Since it seems, especially in the case of “adjunct” PPs, that (some equivalent to) VP-adjunction may turn out to be unavoidable (e.g. given word order facts in OV systems, the possibility of multiple PP adjuncts, etc.) I will not place a ban on VP-adjunction in this system.

Importantly, however, given evidence that P, in the Afrikaans grammar at least, is a “grammatically active” head that can and does project into the main clausal spine, it seems an important generalisation may go missing if unification is not sought in relation to the base-generated position of (non-)modifying PPs. This leaves the nature of the distinction between modifying PPs in complement vs. VP-adjoined positions open as a question warranting further research, but cf. Section 5.3.1 below for evidence of a distinction between *path*-modifiers (argued to be in V-complement) and “true” adjuncts (which may be VP-adjoined).

(22) provides the means for a structural and interpretational distinction between modifying and predicative PPs. The absence of little-*p* also means that the verb's internal argument never forms a constituent with the PP in the way that a Figure (in its base position) does, and the locality of the verb and the PP (i.e. the absence of intervening "functional" structure like little-*p*) may therefore also result in what is interpreted as VP modification.

5.1.5 Little-*p* and Extraposition

This section introduces extraposition as a diagnostic for the presence of little-*p*, following Biberauer (2016b) who argues that PP extraposition is sensitive to functional structure. In previous sections, it was independently argued that certain PPs contain the little-*p* projection whereas other PPs lack it. The data in (23-24) show that the PPs which were argued above to contain this functional projection (23-i) resist extraposition (23-ii), whereas PPs of the type that were argued to lack this projection (24-i) may be felicitously extraposed (24-ii).⁹⁶ The relevant phrases in (23) are thus labelled "*pP*", and those in (24) "*PP*".

⁹⁶ Differing assumptions about the nature of little-*p* lead me to conclude that phrases containing this projection may not be extraposed, where Biberauer (2016b) in fact argues that phrases from which this projection is absent are defective and subsequently may not be extraposed. In proposing this, Biberauer's primary data set contrasts "full" (= extraposable) PPs (cf. (iii)) with defective (= non-extraposable) PPs incorporating particles (cf. (ii)).

- (i) Hulle het by/in die bos in geloop.
 they have by in the bush in walked
 "They walked into the bush."
 (ii) *Hulle het geloop [_{PP} by/in die bos in].
 they have walked by in the bush in
 (iii) Hulle het in_{PRT}geloop [_{PP} by/in die bos].
 they have in.walked by in the bush
 "They walked into the bush."

(Biberauer 2016b:25; my brackets)

The data in (i-iii) show that the string *by/in die bos in* is not underlyingly a circumposition (= "full", extraposable PP) but a [pre-PP + V-particle] combination, of which the pre-PP is by hypothesis non-deficient and may therefore be felicitously extraposed (iii), given that the V-particle incorporates with the verb. Biberauer (2016b) suggests that V-particles are defective in

- (23) (a) (i) ...dat Jan [_{PP} by die venster] is.
that Jan at the window] is
“that Jan is at the window.”
- (ii) *...dat Jan is [_{PP} by die venster].
that Jan is at the window
- (b) (i) Die boek het [_{PP} op die tafel] gelê.
the book has on the table lay
“The book lay on the table.”
- (ii) *Die boek het gelê [_{PP} op die tafel].
the book has lay on the table
- (c) (i) Jan het die boek [_{PP} op die tafel] gesit.
Jan has the book on the table put
“Jan put the book on the table.”
- (ii) *Jan het die boek gesit [_{PP} op die tafel].
Jan has the book put on the table
- (24) (a) (i) Hulle het [_{PP} in die bos] geloop.
they have in the bush walked
“They walked (around) in the bush.”
- (ii) Hulle het geloop [_{PP} in die bos].
They have walked in the bush
“They walked (around) in the bush.”
(Biberauer 2016b:20)
- (b) (i) Jan het [_{PP} op die tafel] gelê.⁹⁷
Jan has on the table lay
“Jan lay on the table.”

lacking the functional structure associated with “full” PPs (cf. Aelbrecht & Den Dikken 2013 for a similar proposal regarding doubling PPs in dialects of Dutch). The particles’ need to incorporate with the verb, taking on board Sheehan & Van der Wal’s (2016) notion of *Extend* (iv), is accounted for by their need to become part of the *vP* phase.

- (iv) Extend: All categories must be part of a phase (where phases include *vP*, *CP*, *nP*, *DP*, *pP*, and its *CP*-/upper-phase counterpart – *MTB*).

(From Biberauer 2016b:26)

⁹⁷ The contrast between (23b) and (24b) was registered in note 91 above, with reference to the unergative-unaccusative alternation exhibited by posture verbs taking animate/inanimate arguments, respectively, as argued by Levin & Rappaport-Hovav (1995).

- (ii) Jan het gelê [_{PP} op die tafel].
 Jan has lay on the table
 “Jan lay on the table.”

As suggested in previous sections, *pP*'s resistance to extraposition may lie in the fact that the Figure, introduced in *spec-p*, systematically raises from its base position to be integrated in the verb's argument structure. Little-*p* in this system thus acts like a “linker” with the thematic V-domain, meaning it facilitates integration of PP with V as something “more than just a modifier”. This happens through what appears to be a type of “argument sharing”. It is therefore not expected that *pPs* should be extraposable. For Biberauer (2016b), little-*p* is basically phasal functional structure that allows an XP to be fully independently spelled out, and thus extraposed. Since, in this study, I have chosen to remain agnostic on the topic of phases (cf. note 93 above, but especially Section 5.5.3 below), I will not comment on the phasal status of little-*p* here and note again that the conceptualisation of little-*p* in this study versus that in Biberauer (2016b) necessarily differs.

What is relevant in terms of the present system is the fact that a phrase out of which an argument has been raised appears not to permit the type of clausal dislocation that arguably occurs under extraposition. The ability of $P_{(LOC)}P$ to undergo extraposition then follows from the fact that there is no argument chain linking the PP to the clausal spine. The key is thus to view extraposable $P_{(LOC)}Ps$ as “non-deficient” in the sense of being “independent” of the verbal structure, not relying on the presence of a higher head to license it. So, the parallel between little-*p* and little-*v* concerns the fact that a *vP*, just like a *pP*, must be “licensed” by higher structure: the external argument introduced by little-*v* needs a higher functional head to license its Case feature; the Figure introduced by little-*p* needs the higher V-structure to “round off” its thematic specification as Resultee and/or Undergoer and/or Initiator in the verb's argument structure. Whatever the case may be, I take the extraposition facts in (23-24) to be indicative, in the present system, of the fact that *pP* may not be targeted for extraposition whereas $P_{(LOC)}P$ may (though not, obviously, for reasons relating to phasal domains). Henceforth, the inability of an adpositional phrase to undergo

extraposition is taken to diagnose the presence of little-*p* in the structure of that phrase, and the extraposability of an adpositional phrase it taken to diagnose the absence of little-*p*.

5.1.6 Summary

This section has argued that predicative PPs – so characterised for introducing the Figure – are Den Dikken (1996)-style SC structures, headed by a little-*p* projection. Following Zwarts (2014), who argues that predicative PPs incorporate a structural layer that is absent from non-predicative PPs – so characterised for *not* introducing a Figure – the latter were argued to lack little-*p*. It was established that non-predicative PPs can be felicitously extraposed, whereas predicative PPs resist extraposition. Following Biberauer (2016b), who argues that extraposition is sensitive to the presence of functional structure, a PP's resistance to extraposition was established as a diagnostic for the presence of little-*p* in a given structure.

5.2. Directional Prepositional Phrases

This section builds on the analysis developed for (non-)predicative locative PPs in Section 5.1. It basically shows that, as with locative PPs, directional PPs can also be either non-predicative (event modifiers) and predicative (argument introducers). As with locative PPs, this can be verified on the basis of the extraposition test, where the predicative type may not be extraposed whereas the non-predicative type do not resist extraposition. What this means overall is that the little-*p* projection can combine with either P_{LOC} or P_{DIR} and tangibly affects how the PP intergrates with the clausal spine.

5.2.1 (Non-) Predicative Directional PPs

Similarities in the observations and argumentation of Hoekstra (1999) – amongst others – for Dutch shows that the presence of little-*p* in directional PPs can be diagnosed on the basis of the extraposition test.

Based on auxiliary selection facts in Dutch (Hoekstra 1999), Gehrke (2008) proposes that all goal- and source-PPs (two sub-classes of directional PP – cf. the Section 2.2.3) should be analysed as verbal complements. Though she states that the data don't necessarily call for an SC configuration, such PPs are often treated as such (e.g. Hoekstra 1988, 1999; Den Dikken 1996; Neeleman & van de Koot 2002). In Hoekstra (1988), directional expressions of the type in (25-i) are analysed as SCs, as indicated in the (25-ii) examples:

- (25) (a) (i) Ada is naar Groningen gereden.
Ada is to Groningen driven
(ii) [_{SC} Ada [_{PDIRP} naar Groningen]]
- (b) (i) Bob heeft de auto over de brug gereden.
Bob has the car over the bridge driven
(ii) [_{SC} de auto [_{PDIRP} over de brug]]
- (c) (i) De kogel floot door de kamer.
the bullet whistled through the room
(ii) [_{SC} de kogel [_{PDIRP} door de kamer]]

(Adapted from Zwarts 2014:272)

Zwarts (2014:272), however, basically argues that the PPs in (25) are not predicative and therefore should not be analysed as SC-type configurations. He points out that the verbs in (25) describe processes that are modified by the *paths*, and that the PPs hence introduce no Figure of which the *path* is predicated. He argues that the predicative SC-type configurations are compositionally compatible only with verbs that denote the culmination of a state. Before exploring the validity and implications of Zwarts' argument in the context of Afrikaans directional PPs, consider two diagnostics of

Hoekstra (1999) for distinguishing modifying (= for Hoekstra, VP-adjoined) PPs from complement (= SC-type) PPs in Dutch.

In line with what is established in the previous section about the extraposition of Afrikaans PP event modifiers vs. the non-extraposition of PPs that introduce Figures, Hoekstra (1999) shows that Dutch modifying PPs (=adjuncts) can be extraposed, whereas “complements” cannot. Thus, the extraposed PPs in (26a-b) must be modifiers, whereas the PPs in pre-verbal position could be either complements or modifiers. By contrast, the non-extrapositionable PPs in (26c-d) must be complements.

- (26) (a) ...dat Jan zijn vriend {in Amsterdam} ontmoette {in Amsterdam}.
 that J his friend in A met in A
 “...that Jan met his friend in Amsterdam.”
- (b) ...dat Jan {naar Groningen} wandelde {naar Groningen}.
 that J to G walked to G
 “...that Jan walked to Groningen.”
- (c) ...dat Jan de plant in de vensterbank zette (*in de vensterbank).
 that J the plant in the window-sill puts in the window-sill
 “...that Jan put the plant in the windowsill.”
- (d) ...dat Jan in de tuin is (*in die tuin).
 that Jan in the garden is in the garden
 “...that Jan is in the garden.”

(Hoekstra 1999:77)

Setting aside the issue of whether a predicative PP (= an SC-type configuration typically taken to occur in V-complement, e.g. (26c-d) above) should rightly be considered an argument of the verb, (26) suggests that such PPs resist extraposition in Dutch (this is also the case in Afrikaans – cf. Section 5.2.5). Furthermore, regarding the ambiguous complement/modifier PPs in (26a-b), one way in which they might be distinguished in pre-verbal position is stress placement: modifiers are independently accented (27a) whereas complements receive integrative accenting (27b).

- (27) (a) naar GROningen WANdelen
 to Groningen walked
 “...walked to Groningen.”

- (b) naar GRoningen wandelen
to Groningen walked
“...walked to Groningen.”

(Hoekstra 1999:78)

The data in (28-i) provide equivalent Afrikaans expressions for the Dutch in (25) above, which Zwarts (2014) argues should not be analysed as SC-type structures. The corresponding (28-ii) examples show that the PPs in these expressions can indeed undergo extraposition, providing support for the claim that they should not be analysed as SC-type configurations. In the present system, this means these structures should lack a little-*p* projection.

- (28) (a) (i) ...dat Jan [PP Kaap toe] gery het.
that Jan Cape to driven has
“...that Jan drove to the Cape.”
- (ii) ...dat Jan gery het [PP Kaap toe].
that Jan driven has Cape to
“...that Jan drove to the Cape.”
- (b) (i) ...dat Jan sy fiets [PP oor die brug] gestoot het.
that Jan his bike over the bridge pushed has
“...that Jan pushed his bike over the bridge.”
- (ii) ...dat Jan sy fiets gestoot het [PP oor die brug].
that Jan his bike pushed has over the bridge
“...that Jan pushed his bike over the bridge.”
- (c) (i) ...dat die koeël [PP deur die kamer] fluit.
that the bullet through the room whistles
“...that the bullet is whistling through the room.”
- (ii) ...dat die koeël fluit [PP deur die kamer].
that the bullet whistles through the room
“...that the bullet is whistling through the room.”

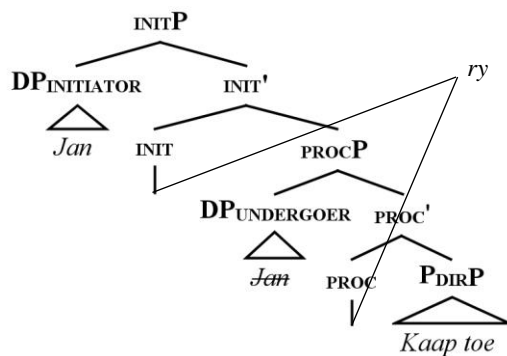
Having established that the adpositional phrases in (28) incorporate no little-*p* projection – that they are non-predicative – what is interesting about (28) is a subtle interpretational difference between the (28-i) and the (28-ii) examples, and a corresponding difference in stress placement (29) which seems equivalent to that

noted by Hoekstra (1999) for the Dutch in (27). The PPs in the (28-i) examples are most naturally interpreted as homomorphic paths (the unfolding of the event is mapped onto the traversal of the path), whereas the PPs in the (28-ii) examples seem to convey “*how*” information regarding the unfolding of the event. For example, (28a-i) means something like “Jan’s driving traversed a path to the Cape, and progression along the path tended towards the end point in proportion to the progression of the driving event”; (28a-ii) means something like “Jan drove and the driving happened in such a way that it took Jan to the Cape.” Stress placement on the (28-i) examples are what Hoekstra (1999) describes as “integrative” (29a), and that on the (28-ii) examples is “independent” (29b).

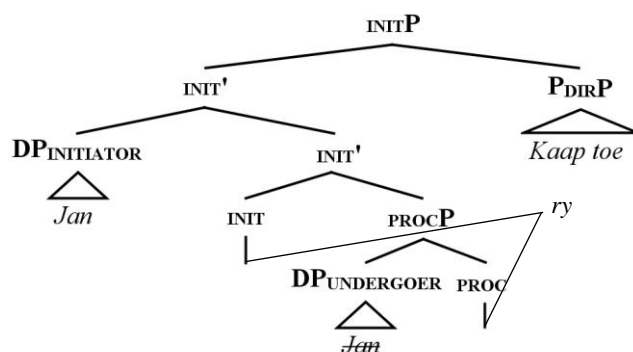
- (29) (a) ...dat Jan KAAP toe gery het.
that Jan Cape to driven has
“...that Jan drove to the Cape.”
- (b) ...dat Jan geRY het KAAP toe.
that Jan driven has Cape to
“...that Jan drove to the Cape.”

I propose that the PPs in the (28-i) examples (those that receive integrative stress placement (29a)) occupy complement positions, and those in the (28-ii) examples (the ones that receive independent stress placement (29b)) might be VP-adjoined. This is illustrated with the structures in (28') below, with discussion following.

- (28') (a) ...dat Jan [_{PP} KAAP toe] gery het.
that Jan Cape to driven has
“...that Jan drove to the Cape.”



- (b) ...dat Jan geRY het [PP KAAP toe].
 that Jan driven has Cape to
 “...that Jan drove to the Cape.”



The idea that the PPs in the (28-i) examples are in V-complement position makes the correct compositional/interpretational predication within this system. Namely, they are interpreted as homomorphic paths/rhemes (cf. Section 3.3.3 for discussion of how thematic vs. rhematic material is represented in this system), where progression along the path is proportional to the progression of the event;⁹⁸ this also explains their ability to receive integrated stress placement. Likewise, the fact that the PPs in the (28-ii) examples are VP-adjoined lends itself to an explanation of the “*how*” modification interpretation of the PP on the event, as well as the fact that the PP in such expressions receives independent (non-integrated) stress placement. Since, in line with Zwarts (2014), none of the PPs in (28) are predicative, the verbal structure takes a “bare” P_{DIRP} complement, i.e. the PPs are *not* SCs/pPs. This is verified by the fact that they can be extraposed. In (28'b), the adjunction is base-generated, but I restate my intention not to take up a position on the permissibility of such adjunction structures in the broader theoretical debate on the issue (cf. note 87 above).

⁹⁸ Cf. Chapter 3 for the notion of rhematic material as discussed in Ramchand (2008); cf. also Chapter 6 where rhematic material/paths/incremental themes play an important role in the analysis of particle verbs.

The analysis in (28') is very much in line with Hoekstra's (1999) observation about the complement/adjunct distinction in Dutch, and I have proposed precisely such a structural distinction in the present system. An important difference, however, is that the *relation* established in the V-complement position differs on Hoekstra's account from that in the present system, where V-complement is *not* an argument position. Thus, what is at play here is *not* an argument/adjunct distinction, but rather a path/event modifier distinction. Due to considerations of scope in the present chapter, I must leave this topic as it lies, pointing out only that it is interesting to contemplate the consequences of modelling the facts as proposed: structurally, PP *paths* are neither arguments nor event modifiers (in the way that PP adjuncts are).

In further support of the argument that SC-type configurations are not compatible with verbs denoting process (=PROC-verbs), and only with verbs denoting events that culminate in states (=RES-verbs), Zwarts (2014:168-169) argues that interpretations involving physical motion along a path denoted by a PP involves verbal – not adpositional – predication. To see this, consider the fact that directional PPs cannot function as predicates when a motion-based interpretation is required:

- (31) (a) *'n Man Kaapstad toe het ek raakgeloop.
a man Cape Town to have I touch-walked
- (b) *'n Vliegtuig deur die storm het verlore gegaan.
a aircraft through the storm has lost gone
- (c) *'n Bus van Kaapstad af is in 'n ongeluk afgeskryf.
a bus from Cape Town off was in an accident off-written
- (31') (a) Die man wat Kaapstad toe **gegaan** het is my vriend.
the man that Cape Town to went has is my friend
“The man who was going to Cape Town is my friend.”
- (b) Die vliegtuig wat deur die storm **gevlieg** het het verlore gegaan.
the aircraft that through the storm flew has has lost gone
“The airplane that went through the storm has disappeared.”
- (c) 'n Bus wat van die Kaap af **vertrek** het is in 'n ongeluk afgeskryf.
a bus that from the Cape off departed has was in an accident off-written
“A bus that departed from the Cape was written off in an accident.”

On a motion-based interpretation, the PPs in (31) cannot be predicated of the subjects *'n man* (“a man”), *'n vliegtuig* (“an airplane”), and *'n bus* (“a bus”) and it is necessary for them to be relativised as illustrated in (31'). This shows two important things. Firstly, physical displacement along the path denoted by a directional PP is not inherent to the meaning of the PP, and thus setting up a dichotomy between locative and directional PPs on the basis of their denoting physical displacement is inaccurate. Secondly, in order for a directional PP to express motion, it must combine with a motion verb capable of contributing that meaning to the expression (cf. the bolded verbs in (31')). In contrast to such motion-denoting expressions, the expressions in (32) denote resultant states.

- (32) (a) Jan is na sy ouma toe.
 Jan is to his grandmother to
 “Jan is in a state of having gone to his grandma’s.”
 “Jan is in a state of having set out to his grandma’s.”
- (b) Die trein is deur die tunnel.
 the train is through the tunnel
 “The train is in a state of having passed through the tunnel.”
 “The train is in a state of having set out through the tunnel.”
- (c) Die vliegtuig is oor die grens.
 the aircraft is over the border
 “The airplane is in a state of heading towards/ having crossed the border (and is still there).”

The expressions in (32) are subtly ambiguous, though stative on both counts. The difference seems to be related to an R(esultant)-state vs. T(arget)-state reading,⁹⁹ and has no consequence for the present discussion. Zwarts (2014:71) thus argues that expressions of the type in (25) and (28) above are importantly different from the resultatives in (32). As discussed, the former are non-predicative and thus should not receive SC-type treatment, whereas the latter are argued to be predicative and thus

⁹⁹ R(esultant)-state and T(arget)-state participles form a major topic of discussion in Chapter 6, in relation to particle verbs.

constitute SC-type configurations. The fact that the PPs in (32) resist extraposition provides support for this:

- (33) (a) ...dat Jan {_{PP} na sy ouma toe} is {*na sy ouma toe}.
 that Jan to his grandmother to is to his grandmother to
- (b) ...dat die trein {_{PP} deur die tonnel} is {*deur die tonnel}.
 that the train through the tunnel is through the tunnel
- (c) ...dat die vliegtuig {_{PP} oor die grens} is {*oor die grens}.
 that the aircraft over the border is over the border

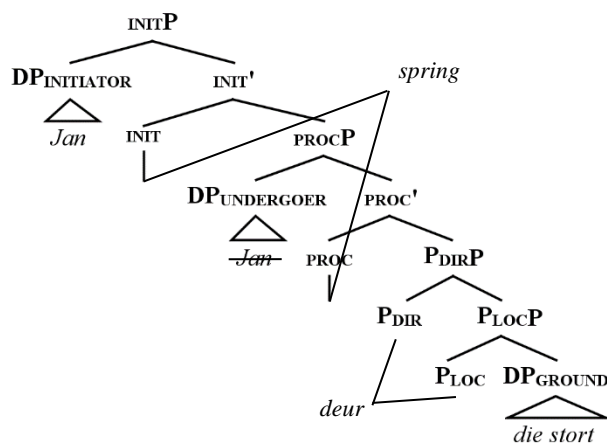
If it is right that non-predicative PPs of the type in (25) and (28) are only compatible with PROC-verbs, then we expect such PPs to coerce a process reading with verbs like *jump*, which are compatible with both PROC- and RES-type event structures. This is indeed the case (34): The semi-idiomatic expression *om deur die stort te spring* (lit.: through the shower to jump, “to take a quick shower”) loses its resultative interpretation when the PP is extraposed (34a), and the verb can only be interpreted as a process denoting manner of motion (with multiple jumps) - making the expression odd for real-world reasons. By contrast, the most salient interpretation for the expression with the non-extraposed PP (34b) is a resultative one (with a single jump), which is probably what contributes the speed aspect of the idiom.

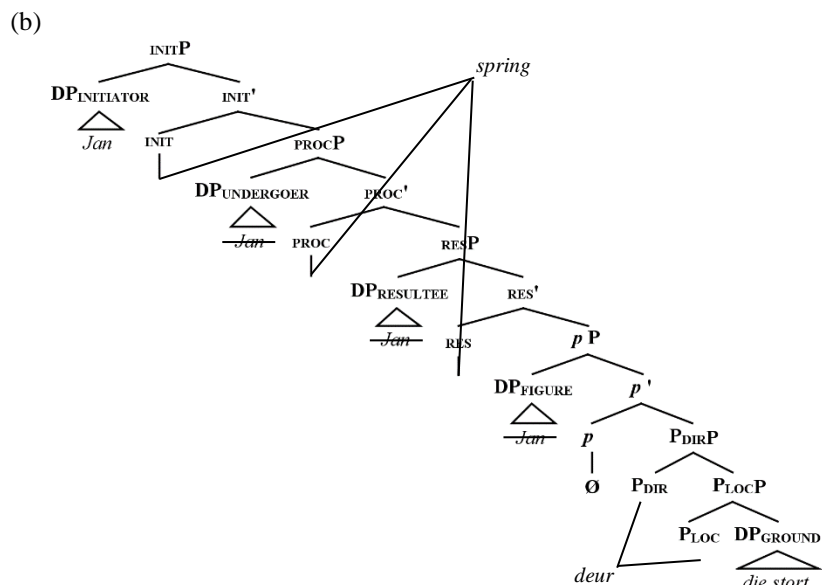
- (34) (a) #/?? ...dat Jan spring deur die stort.
 that Jan jumps through the shower
 “...that Jan is jumping through shower (literally).”
- (b) ...dat Jan (vinnig) deur die stort spring.
 that Jan quickly through the shower jumps
 “...that Jan is taking a quick shower.”

These results are in line with what is expected. The fact that the structure in (34a) forces a process reading on a verb that otherwise has a salient resultative interpretation provides more evidence for the claim that extraposable PPs are non-predicative, and compatible only with PROC-verbs. The resultative reading on (34b) is only available

with RES-verbs like *jump* (on a single jump interpretation), *break*, *push*, etc. Recall that PROC-verbs express the underlying structure [INIT [PROC]]; and RES-verbs an underlying structure [INIT [PROC [RES]]]. In keeping with the general theoretical assumptions of the study, I take verb event structure to be a matter of over-specification, where a given V element may have exponents aligning with various event structure types, depending on the syntactic context of insertion. It therefore follows naturally that an “overspecified” V element like *jump* may be inserted to express either result-denoting (= [INIT [PROC [RES]]]) or process-denoting (= [INIT [PROC]]) event structure. The structure underlying (34a) thus corresponds to (35a), and that underlying (34b) to (35b).

(35) (a)





The fact that the RES-verb in (34-35b) co-occurs with a predicative PP means that the expression incorporates a Figure, and that the PP *deur die stort* is predicated directly of the Figure *Jan*, through little-*p*. Zwarts (2014:71-75) shows that such an SC-type analysis of the PROC-verb + non-predicative PP in (34-35a) is not possible on a compositional semantics. He observes that the intuition to an SC assessment of such expressions is probably based on the strong intuition that the directional PP expresses information regarding how the UNDERGOER of the process becomes displaced in space as the event unfolds. However, this intuition need not – indeed, as Zwarts (2014:71-75) argues, *cannot* – be captured by an SC analysis. Instead, Zwarts (2005) suggests that such directional PPs are base merged as verbal modifiers, becoming associated with the UNDERGOER foremost by describing how the event unfolds in space, which has consequences for the UNDERGOER's spatial properties – but through the *process*, and not through direct predication. I suggest that the modifier status of the PP is structurally encoded by (i) the absence of little-*p* (i.e. the PP is not a predicate) and (ii) the fact that the PP is not in a specifier position (i.e. the PP is not an argument). It should be noted that nothing in this system prevents the modifier PP from moving into a VP-adjoined position at a later stage in the derivation.

5.2.2 Silent Adpositional Predicates \approx Little-*p*

The analysis Zwarts (2014) proposes for non-predicative PPs like (34-35a) is the same as the one he proposes for nominals taking an attributive path-PP modifier, such as the Dutch expressions *een vakantie naar een warm land* (“a vacation to a warm country”), *de laatste bus richting huis* (“the last bus towards home”), and *elke pad naar Rome* (“every road to Rome”). The analysis proposed for such attributive PP + nominal combinations is given in (36) with Dutch:

- (36) (a) $\lambda e.VAKANTIE(e) \ \& \ EXT(e, NAAR(EEN-WARM-LAND))$
 vacation to a warm country
- (b) $\lambda x.BUS(x) \ \& \ EXT(ROUTE(x), RICHTING(HUIS))$
 bus towards home
- (c) $\lambda x.WEG(x) \ \& \ EXT(x, NAAR(ROME))$
 way to Rome

(Adapted from Zwarts 2014:266)

As briefly mentioned in the previous section, the function $EXT(end)$ is a silent predicate which, for Zwarts (2014), occurs with path-PPs that are licensed in the absence of motion, e.g. *pebbles along the beach*. The motion-compatible counterpart of EXT is GO , which cannot be licenced in the absence of a main verb denoting motion. It is crucial to note that EXT and GO , in Zwarts’ (2014) system, are not *verbal* predicates, and GO is neither equivalent to nor a silent counterpart of overt predicates like *go*. GO and EXT , for Zwarts (2014), are predicates belonging to the *adpositional* domain, and their function lies in rendering referential *paths* predicative. I take these silent adpositional predicates to be directly equivalent to little-*p*, and suggest that the interpretive effects of Zwarts’ (2014) BE , EXT , and GO can be rendered in this system by (i) the complement of little-*p* in combination with (ii) the event structure taking little-*p* complement. That is, a $P_{LOC}P$ complement produces the effects of BE , whereas a $P_{DIR}P$ complement produces the effects of either GO or EXT ; then, when $PROC$ selects

[*p* [P_{DIR}]], the effect is analogous to GO, whereas when RES or a non-verbal node selects [*p* [P_{DIR}]], the effect is analogous to EXT.

5.2.2 Silent Verbal Predicates

Silent *verbal* predicates, on the other hand, have been proposed in accounting for directional expressions lacking overt motion verbs, such as those in (33) above, repeated here in (37) (cf. Van Riemsdijk 2002 and Aelbrecht & Den Dikken 2013 for Dutch, and Biberauer & Oosthuizen 2011 and Biberauer 2016b for Afrikaans).

- (37) (a) Jan is na sy ouma toe.
 Jan is to his grandmother to
 “Jan is in a state of having gone to his grandma’s.”
 “Jan is in a state of having set out to his grandma’s.”
- (b) Die trein is deur die tunnel.
 the train is through the tunnel
 “The train is in a state of having passed through the tunnel.”
 “The train is in a state of having set out through the tunnel.”
- (c) Die vliegtuig is oor die grens.
 the aircraft is over the border
 “The airplane is in a state of heading towards/ having crossed the border (and is still there).”

The idea is that, although such expressions denote states, these states are interpreted as having resulted from a motion event and so cannot lack a motion verb altogether. Biberauer & Oosthuizen (2011) and Biberauer (2016b) argue for the existence of a silent verb GAAN in Afrikaans, as illustrated:

- (38) Hy is/*het biblioteek toe [GEGAAN].
 he is has library to gone
 “He has gone to the library”

(Adapted from Biberauer & Oosthuizen 2011:5)

The silent verb *GAAN* is systematically incompatible with the auxiliary *HAVE* and seems to be the only Afrikaans verb that selects for the auxiliary *BE*. As noted in Biberauer & Folli (2004:22) and Biberauer (2008:108; forthcoming:57), Afrikaans lacks auxiliary selection in compound tenses. Biberauer (2016b:23, note 38) points out that, whereas it may at first seem implausible to then postulate a silent verb which *does* select for the *BE*-auxiliary, it is a trait frequently associated with silent elements in language that their formal properties systematically differ from those of their overt counterparts (cf. i.a. Kayne 2005; Kayne 2010; Biggs 2014; Biberauer 2016b).

I adopt this notion of a silent verb in expressions like (37-38) and suggest furthermore that this verb's argument structure is such that it may be classified a RES-verb.¹⁰⁰ Support for this comes from the fact that the PPs in expressions like (37-38) are necessarily predicative (as verified by the extraposition facts in (33)) and, following from the discussion in previous sections, we know that predicative directional PPs only occur with RES-verbs. This in turn lends further plausibility to the existence of this silent verb since Afrikaans has no neutral lexical RES-verb corresponding to the PROC-verb *gaan* in the way that English *get* – or even Dutch *raak* – might be considered the RES counterpart of the PROC-verb *go* in English.¹⁰¹ As noted above, it

¹⁰⁰ I have tried to restrict the use of silent elements in this study, due to the theoretical possibilities afforded by a system incorporating non-terminal spellout. In Chapter 4, for instance, postulating a silent noun *PLACE* was theoretically equivalent to allowing P elements from Class B to lexicalise nominal structure, consistent with the model of syncretism developed in Chapter 2. It is not clear, however, how non-terminal spellout can account for the understood motion in expressions like (37-38). It would be unusual, for instance, to claim that any P element is expressing structure typically related to the process-denoting structural component of the V domain. It also cannot be argued that the structure typically corresponding with an overt main verb is simply absent, since the presence of temporal and modal auxiliaries is contingent upon the presence of a main verb.

¹⁰¹ The lexical verbs *kry* (“get”) and *raak* (“get/become”) in Afrikaans do not function like the GET operator under discussion in this section since they necessarily lack a causation component (i.e. *INIT*). As shown in (iii), *kry/raak* could therefore not occur in English expressions like (i) where *get* is felicitous, or Dutch expressions like (ii) where *raak* is felicitous.

- | | | |
|------|--|---------|
| (i) | John is getting into the house / through the tunnel. | ENGLISH |
| (ii) | Hij raakte in het huis / in de sloot
he becomes in the house / in the ditch
“He got (=ended up) in the house/the ditch.” | DUTCH |

is typical for the properties of silent elements in language to differ systematically from those of their overt counterparts.

The findings of this section – establishing the existence of a silent RES-verb in Afrikaans – will play an important role in the discussion of doubling PPs later in the chapter.

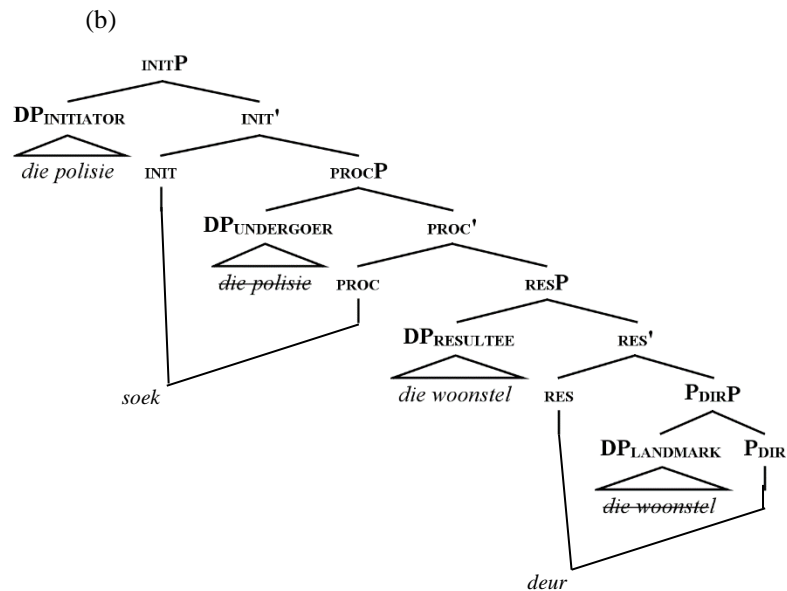
5.3 Interim Consolidation: The Significance of What Has Not Been Found

As we have seen from the preceding discussion, fine grained systems in which both the “V” and the “P” domains of syntax are comprised of various structural subcomponents offer an array of combinatorial possibilities, many of which are attested. For instance, a “bare” (in the sense of lacking a little-*p* projection) P_{LOC} that is selected by any verb event structure (i.e. [$“V” [P_{LOC} [DP_{GROUND}]]]$) yields a locative event modifier. A “bare” P_{DIR} structure that is selected by a PROC-verb (i.e. [$\dots PROC [P_{DIR} [P_{LOC} [DP_{GROUND}]]]$]) yields a directional event modifier. Little-*p* can select either P_{LOC} or P_{DIR} with the result being a predicative locative or directional PP. What is striking with regard to the [verb event structure] + [(non-)predicative PP] combinations that have emerged from the discussion thus far is that RES-verbs do not seem to occur with non-predicative directional PPs. That is, non-predicative directional PPs seem to occur with only with PROC-verbs (i.e. [$\dots PROC [P_{DIR} [P_{LOC} [DP_{GROUND}]]]$]), and predicative PPs (=pPs) with RES-verbs (i.e. [$\dots PROC [RES [p [P_{DIR} [P_{LOC} [DP_{GROUND}]]]]]$]). Structurally speaking, this means the absence of little-*p* coincides with the absence of RES (= [PROC-verb + non-predicative PP]), and the presence of little-*p* coincides with the presence of RES (= [RES-verb + predicative PP]). If these observations are accurate, the question – naturally – is why RES-verbs and non-predicative PPs do not co-occur.

(iii) *Jan kry/raak in die huis in / deur die tunnel.
Jan gets/becomes in the house in / through the tunnel AFRIKAANS

In fact, it will be argued at length in Chapter 6 that structures in which the presence of RES coincides with the absence of little-*p* are well attested and are embodied by particle verbs. The fact that the system, when presented with a structure in which RES coincides with the absence of little-*p* lexicalises it as a particle verb is a consequence of insertion economy, and provides a ready account for why expressions in which RES-verbs occur with non-predicative PPs never seem to surface. An example of the structure that will be argued in Chapter 6 to underlie particle verbs is given in (39) below. Importantly, the base order of particle verb expressions is derived from movement of RESP to spec-INIT. I will not, however, provide further discussion on this topic in the present chapter. The interested reader is advised to skip ahead to Chapter 6, where the syntax of particle verbs is discussed at length.

- (39) (a) ...dat die polisie die woonstel deursoek.
 that the police the flat through-search
 "...that the police are searching the flat."



V-particles are thus argued to be characterised by their giving expression to (at least) the RES subcomponent of the verb event structure. Until this point, the caveat that no

P elements are specified for little-*p* has not been explicitly justified.¹⁰² With some investigation into the nature of little-*p* – and the structural and interpretational effects of its (non-)presence – in place, this can be explained entirely with reference to economy in lexicalising the structure that surfaces as a particle verb. That is, general economy principles (e.g. *Minimise Exponence*, cf. Siddiqi 2006; 2009) would force P elements that are specified for the sequence P_{DIR}-RES (= FRaP Classes C-F) to lexicalise both nodes together whenever they are adjacent. And P_{DIR} and RES would always be adjacent when both nodes are present, were it not for some notion of a “boundary-demarcating” node like little-*p* which separates the verb event structure from the rest of the P domain whenever it is present in the structure. One prediction at play in a system where P elements have the capacity to lexicalise a V-node like RES is that, without a node like little-*p*, which no P element *can* lexicalise, the combination [RES-verb + directional PP] is predicted never to surface. That is, because the corresponding structure would always be lexicalised as a particle verb. Tangibly, this incorrectly predicts that RES-verbs like *gooi* (“throw”) and *pak* (“arrange”) should never occur with a directional PP like *om die potte* (40b), and that only particle verbs like (40a) would arise.

- (40) (a) ...dat Jan die potte omgooi.
 that Jan the pots around-throws
 “...that Jan is upending the pots.”
- (b) ...dat Jan klippe om die potte pak
 that Jan stones around the pots arrange
 “...that Jan is arranging stones around the pots.”

In a system without a “boundary-demarcating” little-*p*, the fact that *om* is able to express P_{DIR}-RES, as it does in (40a) as a V-particle, predicts that it should do so whenever it can. The expression in (40b) shows that there must be circumstances under which an appropriately specified P element is prevented from lexicalising both nodes together: *om* clearly forms the head of a directional PP *om die potte* co-

¹⁰² Although note that such predicates of the adpositional domain are silent elements by Zwarts’ (2014) account too, so it may not have been absolutely necessary to justify such a “caveat”.

occurring with the RES-verb *pak*. To this effect, the idea that no P element is specified for expressing little-*p* provides a neat account for why P elements that we know are capable of expressing the P_{DIR}-RES sequence fail to do so in (40b): little-*p* breaks the contiguity of the sequence, and the model of syncretism assumed in this study relies on structural contiguity of heads that are expressed by the same morpheme. Little-*p* thus functions as a “stop” signal to the lexicalisation process, preventing material of the P-domain from lexicalising structure in the V-domain. The spellout scenarios in (40) are depicted by the respective illustrations in (40’).

(40’) (a)



(b)



Importantly, though, little-*p* is not a “stop” to any syntactic procedures. What is interesting to contemplate in light of this is the fact that little-*p* also facilitates *integration* between the V- and P-domains, as noted in Sections 5.2 and 5.3 above. That is, because it introduces an only partly licensed Figure, which raises into the verb’s argument structure, rendering the adpositional phrase non-extraposable. So, it seems there are at least two different ways in which the V and P domains combine. One is via P_{DIR}-RES “amalgamation”, where a single lexical item expresses heads that are typically considered to belong to *both* domains – here, the P-domain may be thought of as “incomplete” or deficient in the more familiar Chomskian (2001) sense – or via little-*p*-mediated phrasal integration where *p* is present and the two domains become integrated through argument raising. As discussed above, little-*p* is in fact an integration-promoting head that sends the XP in its specifier up into the argument structure of the V-domain. Not only does this provide an account for the structural difference underlying particle verbs vs. [RES-verbs + directional PPs], it also accounts

for the pattern emerging from the above data showing that PPs not incorporating little-*p* only occur with PROC-denoting verbs.

The notion of a “predicate-rendering” little-*p* node that cannot be lexicalised by any overt P element thus provides the system with a powerful explanatory tool accounting for an array of potentially unrelated phenomena. Little-*p* has been compared to Zwarts’ (2014) silent adpositional predicates, which also take the referential *place* or *path* [P + Ground] complement. Whereas Zwarts follows Jackendoff (1983) in giving this silent predicate three “flavours” (BE, EXT, GO), I have assumed only one little-*p*, with the nature of the predication following both from little-*p*’s complement and from the nature of the node taking *p*P complement. Specifically, a P_{Loc}P complement to little-*p* is equivalent to Zwarts’ BE, whereas a P_{Dir}P complement is equivalent to either EXT or GO. In accordance with Zwarts’ (2014) own observation that GO cannot be licensed in the absence of a main verb denoting motion, the effects of GO arise when PROC takes [*p* [P_{Dir}]] complement, and the effects of EXT arise when RES (or a non-verbal projection) takes [*p* [P_{Dir}]] complement.

Before summing up, I wish to resolve an apparent contradiction that may have arisen in the above discussion. Since little-*p* renders the structure it embeds predicative, it is treated on par with the head of a resultative SC. The apparent contradiction lies in the fact that little-*p* is necessarily absent from the structure underlying V-particles, and it is well established that V-particles correspond to resultative SC-type configurations (e.g. cf. Stowell 1981; Kayne 1984; 1985; Hoekstra 1988; Svenonius 1994; Den Dikken 1996). Crucially, however, the present account takes the head of the resultative SC underlying particle verbs to be RES and not little-*p*. Hence, in keeping with the above discussion, little-*p* is not taken to be “special” in the sense that it is the only node that heads P-related SC-type configurations. Although the implementation differs slightly, the idea that RES can function as an SC-type head is also argued for by Ramchand (2008:123-138), where the categorial status of RES’s complement determines whether the resultative is an adjectival predicate (e.g. *John ran his shoes ragged*), an adpositional predicate (*Mary turned her homework in*), etc. It should also be noted that, where the DP that is typically associated with V-particles is generally

referred to as the Figure, I have reserved this term for the DP associated with little-*p*. Hence, in the present system, a Figure is actually the external argument of an adposition, and the DP associated with V-particles is the structural RESULTEE. I wish to emphasise, however, that this is largely a labelling issue stemming from the relatively articulated structure. To sum up, various “logical possibilities” for combining the structural subcomponents of the adpositional and verbal domains are data-attested:

- (41) (a) [“V” [P_{LOC} [DP_{GROUND}]]] LOCATIVE NON-PREDICATE
- (b) [“V” [*p* [P_{LOC} [DP_{GROUND}]]]] LOCATIVE PREDICATE
- (c) [... PROC [P_{DIR} [P_{LOC} [DP_{GROUND}]]]] DIRECTIONAL NON-PREDICATE
- (d) [... PROC [RES [P_{DIR} [P_{LOC} [DP_{GROUND}]]]]] PARTICLE VERB
- (d) [... PROC [RES [*p* [P_{DIR} [P_{LOC} [DP_{GROUND}]]]]]] DIRECTIONAL PP PREDICATE

Some logical possibilities for combining these structural components have not been discussed, and it is not in fact clear that expressions corresponding to such structures are attested. An example of such a structure is given in (42), where a directional predicative PP is selected by a PROC- verb:

- (42) [... PROC [*p* [P_{DIR} [P_{LOC} [DP_{GROUND}]]]]] UNATTESTED

I leave open whether this structure in fact surfaces, and what might be an example of such an expression. It seems possible, however, that one of Zwarts’ (2014) intentions is challenging the idea that predicative directional PPs actually occur with PROC-verbs.

The next section builds on what has been established thus far to provide an account of circumpositions and doubling PPs.

5.4 Circumpositional Phrases

This section attempts to deal with the question of word order in the PP – particularly, how circum-PPs are derived. Although there currently seems to be no ultimate consensus regarding these structures (cf. Beliën 2008 for discussion), or to what extent Afrikaans differs from the better studied Dutch, key observations will be drawn from the literature on both Dutch and Afrikaans, and from the discussion in previous sections of this chapter. As a point of entry, circumpositional structures are shown not to be productive in Afrikaans and are argued to arise from (i) a last resort phenomenon here termed *Spellout Repair* (accounting for the presence of two P elements in such structures as opposed to just one in pre-PPs) and (ii) the interaction between Spellout and lexicalisation (accounting for word order).

5.4.1 A Brief Note on Spellout, Lexicalisation, Matching, and Insertion

Spellout is taken to occur in phases,¹⁰³ providing lexical access at given points in the derivation by facilitating the matching of lexical material to syntactic structure. The structural objects delineated by points of Spellout are referred to as *Spellout Domains* (SDs), which may possess distinct fundamental properties, such as categorial identity.

¹⁰³ Much of the debate surrounding the nature of phases and the *Phase Impenetrability Condition* (PIC; cf. Chomsky 2000; Chomsky 2001) is not, however, relevant to the present discussion (but cf. Richards 2007 and references therein for an overview of the main concerns). Despite differing views, there is general consensus that defined syntactic domains become inaccessible to operations outside of that domain at some point in the derivation. Whatever the nature of the mechanism triggering such opacity in syntax, it is the *Spellout Domain* (SD) itself that will concern us in this chapter.

An SD into which lexical material has been inserted cannot be re-evaluated in the Spellout of a higher SD, or participate again in lexical matching and insertion. A distinction between *Spellout* and *lexicalisation* (where lexicalisation itself consists of two distinct parts, *matching* and *insertion*) will be instrumental in accounting for both circumpositional and doubling structures.

As mentioned, Spellout provides points of lexical access, creating opportunities for structure to be evaluated through *matching*, which is guided by the Superset Principle and the Elsewhere Condition. Matching determines which entry is the best “fit” for the structure under evaluation. Under normal circumstances, matching is followed by insertion. However, it will be argued that under certain clearly defined circumstances, matching is not followed by insertion and the SD returns to the active derivation, remaining accessible to a higher round of Spellout. Such “delays” in the insertion of lexical material will be argued to result in directional pre-PPs, whereas the inability to delay an insertion is argued to lead to double insertion (Section 5.5).

5.4.2 Spellout Repair: Why Circumpositions Require Two P Elements

Circum-PPs, like directional pre-PPs, can be both predicative and non-predicative. Consider the following, of which the PP in (43a) is non-predicative and that in (43b) predicative, as verified by their (non-)resistance to extraposition (the (') examples).

- (43) (a) Die vreemde man het na die swembad toe gespring.
 the strange man has after the swimming-pool to jumped
 “The strange man jumped towards the swimming pool.”
 (I.e. he traversed a path, along which his progress tends towards
 an end point in proportion to the progression of the event)
- (a') Die vreemde man het gespring na die swembad toe.
 the strange man has jumped after the swimming-pool to
 “The strange man jumped towards the swimming pool.”
 (I.e. he jumped, and jumped in such a way that he progressed
 towards the swimming pool)

- (b) ...dat Jan na sy ouma toe is.
that Jan to his grandmother to is
“...that Jan has gone to his grandma.”
- (b') *...dat Jan is na sy ouma toe.
that Jan is to his grandmother to

Recall from previous sections that non-predicative PPs occur only with PROC-verbs. This is illustrated with (43a), where only the process reading of *jump* (=multiple jumps) is available. Since little-*p* would be present in (43b) and absent from (43a), it seems unlikely that this functional projection relates to *circum-* vs. *pre-*positionality in any direct sense. The question of word order will be addressed later in this section. First, the discussion addresses the necessity of two P elements in circum-PPs, since the abundance of directional pre-PPs in the language provides ample evidence that only a single P element is normally required to express directionality in the P domain. To that effect, it will be argued that the postpositional element of circum-PPs is unable to lexicalise the full structure. The presence of the prepositional element thus results from *Spellout Repair*, which I argue to be a last resort operation that inserts a conceptually vacuous exponent to “save” the derivation from crashing due to unlexicalized structure. The imperative to lexicalise every structural node is enforced by an immutable *Exhaustive Lexicalisation Principle* (cf. Fábregas 2007). The paucity of circum-PPs in Afrikaans provides a first piece of evidence that such an assessment might be on the right track – (44) lists the complete inventory:

- (44) (a) Jan gooi die bal na sy vriend toe.
Jan throws the ball to his friend to
“Jan is throwing the ball to his friend.”
GOAL
- (b) Jan stap van die plaas af.
Jan walks of the farm from
“Jan is walking from the farm.”
SOURCE
- (c) Jan ry met die grondpad langs.
Jan drives with the dirt-road along
“Jan is driving along the dirt road.”
ROUTE

As also noted in Pretorius (2015a) and Biberauer (2016b), the expressions in (45) are importantly different from the circumpositions in (44), though the surface string also constitutes a P DP P pattern.

- (45) (a) Jan klim by die venster in.
 Jan climbs at the window in
 “Jan is climbing in through the window.”
- (b) Die jakkals kruip onder die heining deur.
 the jackal crawls under the fence through
 “The jackal is crawling through underneath the fence.”
- (c) Die duikertjie spring agter die bosse uit.
 the duiker.DIM jumps behind the bushes out
 “The little duiker is jumping out from behind the bushes.”

The expressions in (45) comprise a particle verb + pre-PP (either locative or directional) combination such that [_{VP} V [_{PP} P [_{DP_{GROUND}}]] PRT]. To see this, consider that the pre-PPs in (45) may be extraposed (46), whereas it is not possible to separate the postpositional element of the circum-PP in the same way (47).

- (46) (a) Jan klim in_{PRT} [_{PP} by die venster].
 Jan climbs in at the window
 “Jan is climbing in through the window.”
- (b) Die jakkals kruip deur_{PRT} [_{PP} onder die heining].
 The jackal crawls through under the fence
 “The jackal is crawling through underneath the fence.”
- (c) Die duikertjie spring uit_{PRT} [_{PP} agter die bosse].
 the duiker.DIM jumps out behind the bushes
 “The little duiker is jumping out from behind the bushes.”
- (47) (a) *Jan gooi die bal toe na sy vriend.
 Jan throws the ball to to his friend
- (b) *Jan stap af van die plaas.
 Jan walks from of the farm

- (c) *Jan ry langs met die grondpad.
Jan drives along with the dirt-road

The pre-PPs in (45) can also be fronted (48), whereas, the P elements comprising the circumpositions in (44) again cannot be separated this way (49).

- (48) (a) [By die venster] het Jan in_{PRT}geklim.
at the window has Jan in -climbed
“Through the window is where Jan climbed in.”
- (b) [Onder die heining] het die jakkals deur_{PRT}gekrui.
under the fence has the jackal through-crawled
“Under the fence is where the jackal crawled through.”
- (c) [Agter die bosse] het die duikertjie uit_{PRT}gespring.
behind the bushes has the duiker.DIM out -jumped
“From behind the bushes is where the little duiker jumped out.”
- (49) (a) *[Na sy vriend] is waar Jan die bal toe gegooi het.
to his friend is where Jan the ball to PTCPL-throw has
- (b) *[Van die plaas] is waar Jan af gestap het.
of the farm is where Jan from PTCPL-walk has
- (c) *[Met die grondpad] is waar Jan langs gery het.
with the river is where Jan along PTCPL-drive has

The particle status of the postpositional elements in (45) is also evident from their need to incorporate with the verb in embedded clauses and clauses with non-finite main verbs (cf (48)). Such incorporation is impossible with the postpositional elements of circum-PPs.¹⁰⁴ Furthermore, the P elements comprising what I will designate spurious circumpositions (=pre-PP + particle combinations) occur in free combination (50) whereas the combination of P elements comprising true circumpositions is rigid (51).

¹⁰⁴ Cf. also Biberauer's (2016b:25-26) data illustrating compulsory particle incorporation with non-finite verbs in expressions analogous to (46), where the pre-PP has been extraposed.

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- (50) (a) Jan klim by die venster in/uit/op/af.
 Jan climbs at the window in/out/up/down
 “Jan is climbing in/out/up/down through the window.”
- (b) Die jakkals kruip onder die heining deur/ in/uit/ weg.
 the jackal crawls under the fence through in/out/away
 “The jackal is crawling through/in/out underneath the fence.”
 “The jackal is hiding underneath the fence.”
- (c) Die duikertjie spring agter die bosse uit/in/op.
 the duiker.DIM jumps behind the bushes out/in/up
 “The little duiker is jumping out from behind the bushes/to behind the bushes/up behind the bushes.”
- (51) (a) *Jan gooi die bal na sy vriend af/langs/heen.
 Jan throws the ball to his friend off/along/PRT
- (b) *Jan stap van die plaas in/deur.
 Jan walks of the farm in/through
- (c) *Jan ry met die grondpad af/ op.
 Jan drives with the dirt-road down/ up

Finally, circum-PPs can co-occur with V-particles (52a), whereas the spurious circum-PPs cannot (52b). It seems clear that this is because the postpositional element in the latter already occupies the structural position of V-particles, whereas that of true circum-PPs occupies a distinct position.

- (52) (a) Jan [ry [van die Kaap af] in /deur].
 Jan drives of the Cape from in/through
 “Jan is driving in/through from the Cape.”
- (b) Die duikertjie [spring [agter die bosse] uit] (*in/op).
 the duiker.DIM jumps behind the bushes out in/up
 “The little duiker is jumping out from behind the bushes.”

An analysis of circumpositional structures as arising from some manner of last resort strategy thus seems to be supported firstly by their paucity. Next, the prepositional elements – *na*, *van*, and *met* – are semantically bleached and the content of the circum-PP is contributed by the postposition. It therefore appears that the prepositional

element is “licensed” by the postposition in the sense that the postposition is selected for its conceptual content but lacks some of the requisite formal features for expressing the complete structure underlying directional expressions. The P elements *toe* and *af* alone comprise FRaP Class C, which means they never lexicalise P_{LOC}. We know, both from syntactic and semantic cross-linguistic evidence on the topic that directional expressions must incorporate P_{LOC}.¹⁰⁵ By hypothesis, then, neither *toe* nor *af* are lexically specified for expressing P_{LOC}, which makes inserting an “auxiliary” P element – *na* in the case of *toe* and *van* in the case of *af* – necessary in order to save the derivation from being culled by the *Exhaustive Lexicalisation Principle*.

The matter appears less straightforward with the route-directed circum-PP *met...langs*, since the postpositional element *langs* (= a FRaP Class B element) is indeed specified for P_{LOC} (cf. expressions like *langs die huis* “beside/next to the house”). I will nevertheless apply the same notion of *Spellout Repair* to this route circum-PP as to its goal- and source-directed counterparts. The hypothesis is therefore that there are features in the locative zone of the fine structure of a route-directed circum-PP which *langs* itself cannot lexicalise. Although a truly adequate argument in favour of this would take the discussion too far outside of the scope of this study, I will briefly justify the plausibility of this claim with reference to studies investigating the “superfine” structure of spatial adpositions.

In a syncretism-driven approach analogous to that taken in this study, Caha (2009; 2010) argues for a (non-spatial) Case Hierarchy such that NOMINATIVE < ACCUSATIVE < GENITIVE < DATIVE < INSTRUMENTAL < COMITATIVE. The same observations motivating the Case Hierarchy (namely, patterns of syncretism that are cross-linguistically robust) lead Pantcheva & Caha (2011) and Caha (2014) to pursue unification of the Case Hierarchy and the Space Hierarchy LOCATION < GOAL < SOURCE < ROUTE argued for in Pantcheva (2009; 2010; 2011). The observations driving the unification, in particular, are that GENITIVE is frequently syncretic with LOCATION, DATIVE is frequently syncretic with GOAL, and the INSTRUMENTAL is

¹⁰⁵ Cf. Section 4.3 in Chapter 4 for discussion.

frequently syncretic with SOURCE. This is illustrated in (53), with data from Sinhala, an Indo-Aryan language.

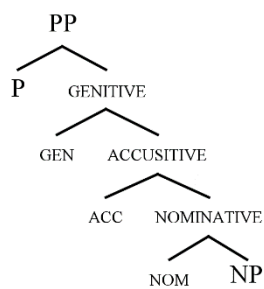
- (53) (a) *Genitive = locative*
- (i) Pot -ee piṭ.
book-LOC pages
“the pages of the book”
POSESSION
- (ii) At -ee boolāyak tai-nəwa.
hand -LOC ball be-IND
“There is a ball in (her) hand”
LOCATION
- (b) *Dative = allative*
- (i) Ranjit Chitra-ṭə leensuak de -nəwa.
Ranjit Chitra-DAT handkerchief give-IND
“Ranjit gives Chitra a handkerchief.”
RECIPIENT
- (ii) Ranjit pansəḷə-ṭə ya-nəwa
Ranjit temple -DAT go-IND
“Ranjit is going to the temple”
GOAL
- (c) *Instrumental = ablative*
- (i) miniha tarradi-en baḍu kirə -nəwa
man scale -ABL commodities measure-IND
“He measures commodities with scales”
INSTRUMENT
- (ii) dah-en gedjə wəṭə-nəwa
tree-ABL fruit fall -IND
“Fruit falls from the tree”
SOURCE

(Chandralal 2010; from Caha 2014)

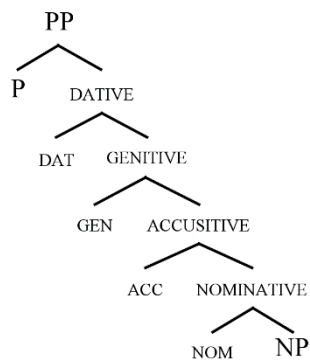
The proposed unification takes the following form: Case is coded for with the Case Hierarchy, and Space is coded for with Case + P. In this way, the structure underlying

LOCATION is that represented in (54a), GOAL is coded for with the structure in (54b), and SOURCE with the structure in (54c).¹⁰⁶

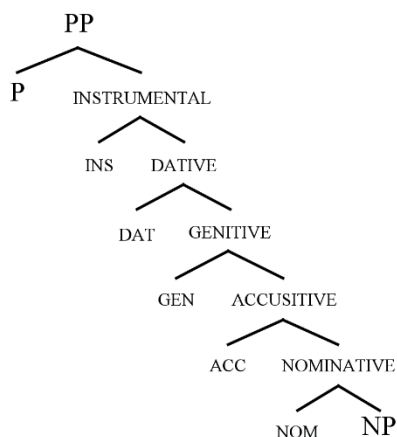
(54) (a) *Superfine Locative Structure*



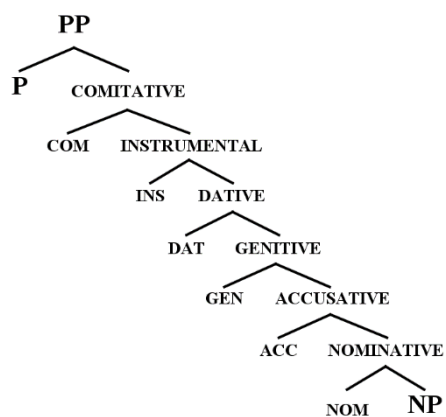
(b) *Superfine Goal-directed Structure*



¹⁰⁶ I have placed “P” in the structure above the Case nodes, but this constitutes a modification to Caha’s (2014) proposal, in which “P” is located below Case.

(c) *Superfine Source-directed Structure*

Although a unification between “the next nodes up” in each hierarchy – i.e. COMITATIVE in the Case Hierarchy, and ROUTE in the Space Hierarchy – is not explicitly proposed in Caha (2014), I take it to be a logical extension of that unifying system, and suggest that the ROUTE function should, on that superfine approach, be coded for with the structure represented in (55).

(55) *Superfine Route-directed Structure*

Following “the logic of the system”, then, it is interesting to note that the grammatical adposition expressing the comitative relation in Afrikaans is *met* (“with”) (55'), and that is precisely the P element that shows up as the prepositional component of the route-directed circum-PP *met...langs*.

- (55') (a) Jan het met Marie Nederland toe gegaan.
 Jan has with Marie Netherlands to gone
 “Jan went to the Netherlands with Marie.”
- (b) Jan het met die hond gaan stap.
 Jan has with the dog go walk
 “Jan went for a walk with the dog.”

By hypothesis, then, the fact that the P element *langs* is specified for expressing location (=P_{Loc} in this system; NOM-ACC-GEN-P in terms of superfine structure), does not mean it is necessarily specified for all the requisite “low” structure in the route-directed expression, which would require it to be specified for the Case nodes DAT-INS-COM comprising the superfine structure. It then stands to reason that the “auxiliary” P element that would be inserted to express the structure for which *langs* is not specified should be one that *is* specified for expressing the DAT-INS-COM sequence, and it seems logical that a P element like *met*, which is capable of expressing the grammatical COMITATIVE relation, should surface in such a *Spellout Repair* context. In this (substantially less straightforward) sense, the presence of two P elements in the route-directed circum-PP *met...langs* can be accounted for in the same way as with the goal- and source-directed circum-PPs – only with reference to a finer grain. As mentioned, the scope of this study does not permit full investigation into the (de-)merits of using superfine structure to account for spatial P-related phenomena in Afrikaans and we simply give a passing nod to the potential explanatory power of such superfine-grained investigation. The fact that two P elements surface in circum-PPs structures has been accounted for with *Spellout Repair*. The discussion now turns to accounting for word order.

5.4.3 Word Order: Spellout Domains and Lexicalisation

To address the question of word order in circum-PPs, I take up the idea of a fundamental headedness principle, which applies to syntactic zones that are delineated by *Spellout Domains* (SDs). Importantly, though, I remain agnostic about the nature of the precise mechanisms triggering Spellout, so no particular version of the Phase Impenetrability Condition (PIC)¹⁰⁷, or some such equivalent,¹⁰⁸ is adopted here. What is important for the present discussion is the syntactic domain defined by any given SD. In the first instance, P_{Loc}P is argued to define an SD_{P_{Loc}P}, and I take it to be uncontroversial that this SD is head-initial in Afrikaans. Next, little-*p*P is argued to define an SD_{*p*P}, above which is SD_{*v*/VP}. I take it to be uncontroversial that the latter is head-final in Afrikaans. As will become apparent, it is less obvious whether SD_{*p*P} is underlyingly head-initial or final. It will be argued that, although final by default, SD_{*p*P} is frequently and under clearly defined circumstances, absorbed by adjacent SDs in which case it takes on that domain's headedness property.¹⁰⁹ Thus, when SD_{*p*P} is appropriated by SD_{P_{Loc}P}, it becomes head-initial.

¹⁰⁷ Two such versions are PIC₁ and PIC₂, to use Müller's 2004 convention for referring to Chomsky's (2000) and Chomsky's (2001) version of PIC, given in (i) and (ii) below, respectively. Cf. also Richards (2007), and sources therein, for a discussion and evaluation of (various versions of) PIC.

- (i) *Phase Impenetrability Condition (PIC)₁* (Chomsky 2000):
In phase α with head H, the domain of H is not accessible to operations outside α ; only H and its edge are accessible to such operations.
- (ii) *Phase Impenetrability Condition (PIC)₂* (Chomsky 2001):
[Given a structure [_{ZP} Z ... [_{HP} α [H YP]]]], where H and Z are heads of phases – EP]
The domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations.

¹⁰⁸ Cf. e.g. Fox & Pesetsky (2005) – and related discussion in the same issue of *Theoretical Linguistics* – for a proposal of cyclic linearization that captures some of the effects of Chomsky's phases, but utilising different mechanisms.

¹⁰⁹ If P_{Loc} and *p* are considered to be heads belonging to the same macro-category, this proposal violates the (restricted) *Final-over-Final Constraint* (FOFC; Biberauer et al. 2014:171) Cf. Section 7.1.4 of Chapter 7 for discussion.

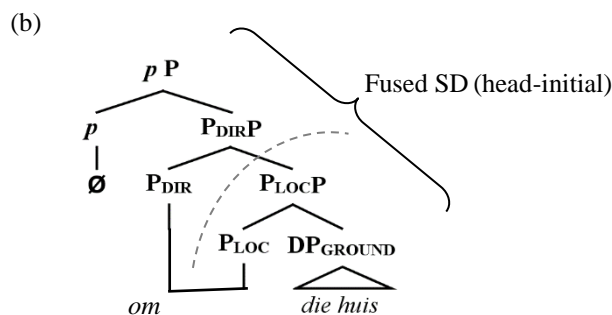
The mechanism by which a higher SD is absorbed into a lower one is lexicalisation. I will make the assumption that every SD must be initiated in the active derivation by an instance of first merge, i.e. a merger operation combining a syntactically inert root with a formal feature.¹¹⁰ The nature of the conceptual information contained in the root naturally determines which lexical entries compete for insertion when the structure is spelled out but so, equally, does the formal specification on the lexical entries, which must match the functional structure with which the root is merged. I suggest that the conceptual information contained in roots of FRaP Class D elements like *deur* (“through”), *om* (“around”), *verby* (“past”) (which distribute prepositionally) is inherently directional and constitutes an unambiguous signal to the interface processes evaluating the structure at $SD_{P_{LOC}}$ that a directional structure is being derived and so that P_{DIR} will next be merged into the structure. Being a maximally economical system, I suggest that an interface procedure, having conceptually matched a Class D element to P_{LOC} , delays the actual insertion so that the structure can return to the active derivation for P_{DIR} to be merged. When, at the next point of lexical access, the structure returns to the interface, the system is able to make a maximally economical insertion, allowing the previously matched Class D element to be inserted to lexicalise $[P_{DIR} [P_{LOC}]]$.

The argument is then that, whenever a given lexical entry “straddles” an SD boundary, as illustrated with the FRaP Class D element *om* in (56), the lower SD (in this case,

¹¹⁰ Providing a proper exposition on the nature of and literature surrounding the topic of roots constitutes too big a task to take on in the context of this chapter. According to De Belder & Van Craenenbroeck (2013), roots have four distinctive properties: they (i) have no grammatical features, (b) have no syntactic category, (c) are defined structurally rather than lexically, and (d) are dominated by functional material (rather than the other way around). The typical understanding of roots in Distributed Morphology (DM) is indeed that they are utterly devoid of syntactic information and embody “pure” lexical/conceptual information. Furthermore, roots are merged at the very bottom of the structure – in DM the first merge is with a categorising node (cf. i.a. Harley (1995), Harley & Noyer (1999), Marantz (1997); cf. also Borer (2005) for a view of roots on which first merge is not necessarily with a categoriser.

SD_{LOC}) absorbs the higher SD (in this case, SD_{PP}).¹¹¹ As a result of this “SD appropriation”, SD_{PP} takes on the headedness property of the SD into which it is absorbed – it becomes head-initial because SD_{LOC} is head-initial. The result of this domain fusion is a directional pre-PPs, in which the FRaP Class D element lexicalises the sequence P_{LOC} - P_{DIR} in a head-initial spellout domain.

- (56) (a) ...om die huis
around the house
“...around the house.”



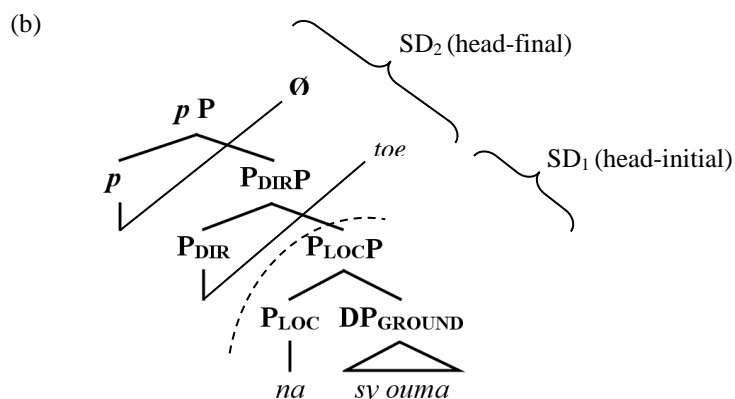
By contrast, the conceptual information contained in roots of FRaP Class E elements like *in* (“in”), *uit* (“out”), *op* (“on”) (which form doubling PPs when expressing a directional function) is not inherently directional. As such, the interface processes evaluating the structure at SD_{LOC} cannot determine whether a locative or a directional structure is being derived whenever a FRaP Class E element is a conceptually matched to the root in the structure. Effectively, there is no signal at the interface of SD_{LOC} when a Class E element is at stake whether P_{DIR} will next be merged into the structure or not, since the system cannot look ahead to make this prediction. To avoid the possibility of a non-exhaustively lexicalised structure, the spellout procedure has no choice but to make the insertion, thereby closing off the SD to participation in future rounds of lexical access. When P_{DIR} is subsequently merged into the structure, the system has no choice but make a double insertion of the same Class E element to

¹¹¹ This proposal has common elements with a more general notion of *Phase/Domain Extension* (cf. e.g. Den Dikken (2007); Van Craenenbroeck & Van Koppen (2012); Bošković (2014) in which a phase or spellout domain is voided.

ensure that both P_{LOC} and P_{DIR} are lexicalized. In this scenario (to which we return with examples and diagrams in the next section), no lexical item “straddles” an SD boundary, which means there is no domain appropriation at play, and each SD retains its inherent headedness property ($SD_{P_{LOC}}$ being head-initial and SD_{pP} being head-final). The result is circumpositional word order.

The same basic processes are at play in the derivation of the circum-PPs *na...toe*, *van...af*, and *met...langs*. Recall from Section 5.4.2 that the postpositional elements *toe*, *af*, and *langs* are structurally deficient in the sense that they are not specified for all the requisite features in the locative domain. This patently means that, in derivations involving these P elements, no lexical entry will – *can* – straddle the $SD_{P_{LOC}}$ boundary: the postpositions will lexicalise P_{DIR} and their *spellout auxiliary* counterparts will lexicalise P_{LOC} . Consequently, no domain appropriation occurs and $P_{LOC}P$ and little-*pP* remain in separate SDs with their respective headedness properties. The derivation of circum-PPs is thus proposed to proceed along the lines in (57), where no element in $P_{LOC}P$ reaches across the SD boundary. $P_{LOC}P$ subsequently is spelled out as a head-initial domain, and the derivation proceeds with little-*pP* as a head-final domain. This means that $P_{LOC}P$ moves to spec- P_{DIR} , which in turn rolls up to spec-little-*p*.

- (57) (a) ...na sy ouma toe
after his grandmother to
“...to his grandma’s.”

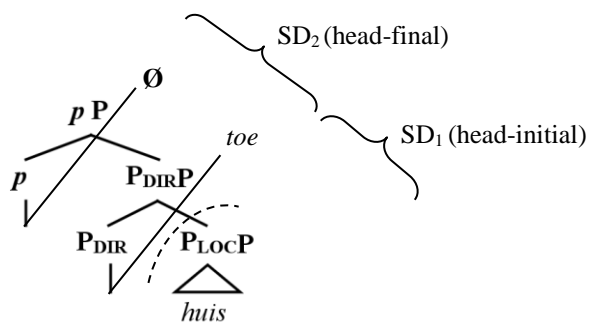


This analysis of circumpositions is taken to hold also for what might be described as spurious postpositional structures given in (58). As the analysis in (58b) suggests, the structure underlying such expressions is congruous with that of circum-PPs, but this fact is masked by the nature of the DP/nP Ground which, as argued in Section 4.6, makes P_{LocP} unavailable for lexicalisation by a P element by lexicalising it itself.

- (58) (a) Jan loop huis toe.
 Jan walks home to
 “Jan is walking home.”

(= (108) from Section 4.6, Ch 4)

(b)



“Locative nouns” such as *huis* in (58) must occur bare, accepting neither a preposition nor a determiner. They were identified in Section 4.6 of Chapter 4 as members of a well-established (though small), cross-linguistic category referred to as the *home*-class. It was further suggested that “intransitive” adpositions are like *home*-class nouns in lexicalising P_{LocP}. Thus, the analysis in (58b) is argued also to apply equally to expressions like *binnetoe* in (59).

- (59) Jan gaan binnetoe.
 Jan goes inside-to
 “Jan is going inside.”

(= (117d) from Section 4.6)

Aside from spurious post-PPs like (58-59), “true” postpositional structures do not appear to be productive in contemporary spoken Afrikaans. Expressions like (60), where the Ground is a regular (as opposed to *home*-class) determiner-taking DP, may appear at first to incorporate post-PPs. In accordance with Biberauer (2016b:22), however, I argue that such expressions are transitive particle verbs, with the constituency indicated by the brackets:

- (60) (a) Jan [_{VP} hardloop [die bos] _{in_{PRT}}].
 Jan runs the forest in
 “Jan is running into the forest.”
- (b) Jan [_{VP} klim [die berg] _{op_{PRT}}].
 Jan climbs the mountain op
 “Jan is climbing up/to the top of the mountain.”

Possibly owing to some semi-idiomatic component in the meaning of the particle verb expressions, the Ground components in (60) cannot be freely substituted, even with what might seem to be a semantically appropriate DP. There is, for instance, a marked decrease in acceptability of (60b) when *die berg* is substituted with *die leer* (“the ladder”) or *die boom* (“the tree”).¹¹² The data in (61) are examples of post-PPs that all informants found unacceptable; (62) shows that the Dutch counterparts of such expressions – presumably, “true” post-PPs – are grammatical.

¹¹² The “semi-idiomatic” meaning in question might be related to the dimension of the Ground in such expressions, which is required to be of suitably large/formidable proportions. It is, for example, possible to imagine a context for an expression like (61a) with *die boom* as the Ground:

- (i) Daardie boom is yslik, maar Jan dink mos hy kan enige boom klim.
 that tree is massive but Jan thinks PRT he can any tree climb

En kyk nou net! Hy klim daardie boom op!
 and looks now just he climbs that tree up

“That tree is massive, but of course Jan thinks he can climb any tree. And just look! He is actually climbing it!”

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- (61) (a) ??Jan klim die stoel/boom in.
 Jan climbs the chair/tree in
 Target: “Jan is climbing into the chair/tree.”
- (b) ??Jan spring die bank op.
 Jan jumps the couch on
 Target: “Jan is jumping onto the couch.”
- (62) *Dutch*
- (a) Hij klimt de stoel in.
 he climbs the chair in(to)
 “He is climbing in(to) the chair.”
- (b) Hij springt de bank op.
 he jumps the couch on(to)
 “He is jumping on(to) the couch.”

(Den Dikken 2010:75; my translations)

Informants all exhibited a tendency to interpret the unacceptable expressions in (61) as incorporating particle verbs.¹¹³ For instance, *inklim* (lit.: in-climb) is a particle verb that has an idiomatic interpretation “to scold (someone)”. One informant reported that (61a) is bad because Jan cannot scold a chair or a tree, indicating a preference for interpreting the expression as a particle verb and not a V + post-PP. So if the DP *die stoel/boom* (“the chair/tree”) in (61a) were substituted with a semantically appropriate object (63), then the expression becomes good, but only on an interpretation of the P element as a V-particle.

- (63) Jan klim die werkers in.
 Jan climbs die workers in
 “Jan is scolding the workers.”

Informants also showed a preference for interpreting *op* (“on/up”) in (61b) as a V-particle. That is, *opspring* (lit.: up-jump) is a particle verb with a semi-idiomatic resultative interpretation “to jump (something) into a broken/depleted state”. So the

¹¹³ Informants were all mother tongue speakers of Afrikaans, aged 18-58, from diverse regions of South Africa.

expression in (61b) is in fact grammatical when interpreted as incorporating a particle verb. The expression then means “John jumped the couch threadbare”, and that is the interpretation that all informants opted for.

Since Afrikaans “post-PPs” are argued to be circum-PPs with the prepositional element “suppressed”, the fact that post-PPs, like circum-PPs, are not productive in Afrikaans is what we expect. The grammar thus seems not to favour *adpositional* structures with a head-final P_{DIR} , but structures with a head-initial P_{DIR} . As established in the above discussion on the derivation of circum-PPs, a head-final P_{DIR} indicates an SD_{pP} that is distinct from the head-initial $SD_{P_{LOC}P}$. Postposition-incorporating adpositional structures (=circum- and post-PPs) thus require two SDs (cf. (57-58)), whereas *prepositional* directional structures require only one (cf. (56)).

Recall from the above discussion that the mechanism through which SDs are eliminated by, or absorbed into, other SDs is through lexical material “straddling” SD boundaries, giving simultaneous expression to nodes from both domains. The analysis in (56) illustrated this domain fusion between SD_{pP} and $SD_{P_{LOC}P}$, but it will be argued in Chapter 6 that V-particles are also essentially SD boundary straddling elements, lexicalising RES (= $SD_{v/VP}$) in addition to P_{DIR} (= SD_{pP}). I suggest that V-particles therefore cause SD_{pP} to be absorbed into $SD_{v/VP}$.¹¹⁴ Thus, the lack of (productive) head-final P_{DIR} containing structures in Afrikaans might now be explained in terms of a general tendency to economy, through minimising the number of SDs required in giving expression to the same underlying structure. That is, we have seen that deriving circum-PPs requires three SDs ($SD_{P_{LOC}P}$, SD_{pP} and $SD_{v/VP}$) whereas directional pre-PPs and particle verbs requires only two ($SD_{P_{LOC}P}$ and $SD_{v/VP}$, with SD_{pP} being absorbed into either one of the other two SDs).

¹¹⁴ Concerning which SD does the “appropriating”, and which SD is in turn “appropriated”, it may be necessary to conceive of a notion like “strong” vs. “weak” SDs, where $P_{LOC}P$ and v/VP define strong SDs and little- pP defines a weak SD, but such an avenue of thought can only be adequately pursued through further research.

With this in place, it may be possible to give an explanatory (though informal) account of Afrikaans speakers' preference for interpreting expressions like (61) as incorporating particle verbs rather than post-PPs, and for treating the expressions in (45) above as particle verb + pre-PP combinations, rather than circum-PPs. That is, when evaluating all but a fixed, closed class of circumpositional expressions, the grammar is only prepared to accept directional expressions comprising at maximum two SDs. This situation is clearly one where there is a default or Elsewhere pattern (i.e. particle verb +pre-PP) with only a small number of patterns being learned separately (circum-PPs). Where cues to the acquirer are unclear, the Elsewhere pattern always wins out. So it is possible to imagine that, over time, the grammar of Afrikaans is "reanalysing" circum-PPs to particle verb + pre-PP combinations. It is not difficult to imagine how such "reanalysis" of the input might take place in language learning, since the surface string of [V + post-PPs] is identical to that of transitive particle verbs, both in main and embedded clauses:

(64) *Transitive particle verb (Afrikaans):*

- (a) Jan [_{VP} spring [die bank] op_{PRT}].
 Jan jumps the couch up
 "Jan is jumping the couch threadbare."
 (= (61b) above)
- (b) ...dat Jan [_{VP} [die bank] opspring].
 that Jan the couch up-jumps
 "...that Jan is jumping the couch threadbare."

(65) *Post-PP (Dutch):*

- (a) Hij [_{VP} springt [_{PP} de bank op]].
 he jumps the couch on(to)
 "He is jumping on(to) the couch."
 (= 62b above; Den Dikken 2010:75; my brackets)
- (b) ...dat hij [_{VP} [_{PP} de bank op] springt].
 that he the couch on(to) jumps
 "...that he is jumping on(to) the couch."

Likewise, as also noted by Biberauer (2016b), Pretorius 2015a; 2015b, and Oosthuizen (2009), the string corresponding to [V + circum-PPs] is identical to that of [particle verb + pre-PPs], both in main and embedded clauses:

- (66) *Particle verb + pre-PP adjunct (Afrikaans):*
- (a) Jan [_{VP} klim [_{PP} by die venster] in_{PRT}].
 Jan climbs at the window in
 “Jan is climbing in through the window.”
 (= 45a)
- (b) ...dat Jan [_{VP} [_{PP} by die venster] in klim].
 that Jan at the window in-climbs
 “...that Jan is climbing in through the window.”
- (67) *Circum-PP (Afrikaans):*
- (a) Jan gooi die bal [_{PP} na sy vriend toe].
 Jan throws the ball after his friend to
 “Jan is throwing the ball to his friend.”
 (= 44a)
- (b) ...dat Jan die bal [_{PP} na sy vriend toe] gooi.
 that Jan the ball after his friend to throws
 “...that Jan is throwing the ball to his friend.”

This section has developed an analysis of circumpositional structures in Afrikaans. The point of departure was the paucity of “true” circumpositions – as opposed to spurious [pre-PP + V-particle] combinations – and it was shown that Afrikaans incorporates just one goal-directed (*na...toe*), one source-directed (*van...af*), and one route-directed (*met...langs*) circum-PP. In each case, it was argued that the initial P element is lexicalising part of the structure (P_{LOC} or some equivalent) for which the final element is unspecified. On such a view, the fact that two P elements surface in circumpositional expressions (= an “expensive” Spellout choice, given *Minimise Exponence*) can be framed in terms of a last resort operation called *Spellout Repair*.

Circumpositional word order was accounted for with a fundamental headedness principle applying to individual SDs. It was argued that, whereas $SD_{P_{LOC}}$ is head-initial, SD_{PP} is head-final unless it is absorbed by $SD_{P_{LOC}}$. This appropriation only occurs when a lexical entry “straddles” an SD boundary, which is the case with directional pre-PPs, but patently not the case with circum-PPs, given *Spellout Repair*

and the fact that the items lexicalising the structure cannot reach across the $P_{\text{LOC}}-P_{\text{DIR}}$ span. Finally, the non-productivity of structures incorporating a head-final P_{DIR} in Afrikaans *in general* (i.e. circum- and post-PPs) was discussed in terms of a tendency to minimise SDs, in particular derivations, but also over time in the grammar of the language. The following section investigates doubling PPs in light of these findings.

5.5 Doubling Adpositional Phrases

Although circum-PPs and doubling PPs are argued in this section to differ in at least one important way, the Spellout algorithm giving rise to circumpositional order will be argued to hold also in the case of doubling PPs. Following Biberauer (2016b), and what has also been suggested in Oosthuizen (2009), some doubling PPs are shown to be spurious, i.e. [particle verb + pre-PP] combinations. But it will also be shown that P doubling is not always spurious, and arises in Afrikaans under circumstances analogous to those giving rise to postpositional structures in Dutch. Some doubling expressions are illustrated in (68):

- (68)
- (a) Jan spring (binne-)in die swembad in.
Jan jumps inside in the swimming-pool in
“Jan is jumping into the swimming pool.”
 - (b) Jan klim uit die swembad uit.
Jan climbs out the swimming-pool out
“Jan is climbing out of the swimming pool.”
 - (c) Die hond spring (bo-)op die bed op.
the dog jumps top on the bed on
“The dog is jumping onto the bed.”
 - (d) Ons ry (tussen-)deur die bome deur.
we drive between through the trees through
“We are driving through the trees.”
 - (e) Die man kom om die hek om.
the man comes around the gate around
“The man is coming around the gate.”

5.5.1 Spurious Doublings

Following the discussion in the previous section, we know there are at least two structural options, that exist independently in the grammar of Afrikaans, that produce the surface string P DP P: (i) the (non-productive) circumpositional structure, and (ii) the (productive) particle verb + pre-PP structure underlying expressions like (45) and (66) above. It is therefore imperative first to investigate whether the doubling PPs in (68) might receive one of these analyses, before proposing any analysis that is unique to doubling PPs.

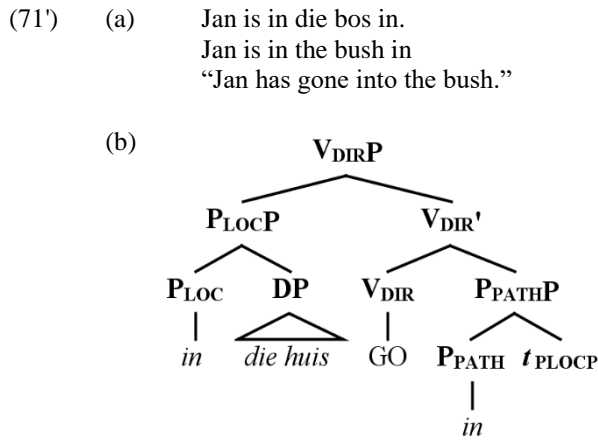
Biberauer (2016b) demonstrates that doubling PPs are verifiably different from the circumpositional structures (*na...toe* “to”, *van...af* “from”, *met...langs* “via”) discussed in the previous section, and argues that they do in fact constitute particle verb + pre-PP combinations (cf. also Oosthuizen 2009 and Pretorius 2015a; 2015b). Support for this comes from the fact that the final element of doubling PPs like (68) readily incorporates with the verb, as illustrated again in (69; repeated from 50), whereas the final element of circumpositions cannot (70).

- (69) (a) Hulle het [_{VP} [_{PP} in die bos] in_{PRT} geloop]].
 they have in the bush in walked
 “They walked into the bush.”
 (Biberauer 2016b:22; my brackets)
- (b) Hulle het [_{VP} in_{PRT}-geloop [_{PP} by/in die bos]].
 they have in.walked at in the bush
 “They walked into the bush.”
 (Biberauer 2016b:25; my brackets)
- (70) (a) Hulle het [_{VP} [_{PP} na die swembad toe] gehardloop]].
 they have to the swimming.pool to run
 “They ran to the swimming pool.”
- (b) *Hulle het toegehardloop na die swembad.
 they have to.run to the swimming.pool
 (Biberauer 2016b:26)

In further support of the particle verb + pre-PP assessment of the doubling expressions in (68), consider the fact that the pre-PPs components may be felicitously extraposed:

- (71) (a) Jan spring *in_{PRT}* [*PP* (*binne-*)*in* die swembad].
 Jan jumps in inside in the swimming-pool
 “Jan is jumping into the swimming pool.”
- (b) Jan klim *uit_{PRT}* [*PP* *uit* die swembad].
 Jan climbs out out the swimming-pool
 “Jan is climbing out of the swimming pool.”
- (c) Die hond spring *op_{PRT}* [*PP* (*bo-*)*op* die bed].
 the dog jumps up top on the bed
 “The dog is jumping onto the bed.”
- (d) Ons ry *deur_{PRT}* [*PP* (*tussen-*) *deur* die bome].
 we drive through between through the trees
 “We are driving through the trees.”
- (e) Die man kom *om_{PRT}* [*PP* *om* die hek].
 the man comes around around the gate
 “The man is coming around the gate.”

Since doubling PPs can occur in expressions superficially lacking a lexical verb (71'a), Biberauer (2016b) argues that doubling PPs incorporate a silent verb GO (71'b).¹¹⁵



(Biberauer 2016b:23)

¹¹⁵ Cf. the discussion in Section 5.3.2 above about silent verbs in Afrikaans, as well as relevant references to the literature: i.a. van Riemsdijk (2002) and Biberauer & Oosthuizen (2011).

The PATH element *in* is argued to be “defective” in the sense that it cannot itself project P_{DIR}, making it a “defective goal” in the sense of Roberts (2010), which, for Biberauer, is the mechanism facilitating its incorporation with the silent V_{DIR}, and from there, with any overt lexical verb higher in the structure.

5.5.2 True Doubling PPs

Following the discussion in the previous section, some doubling PPs – e.g. those in (68) above – are not “special”. That is because their structures do not differ from particle verb + pre-PP expressions with non-identical P elements – e.g. those in (45) and (66) above. There are, however, expressions in which a doubling PP co-occurs with a particle verb – cf. the data in (72) which are all expressions uttered by an Afrikaans speaker from the Wellington region of the Western Cape.¹¹⁶

- (72) (a) ...dan kan mense in sien in die huis in.
 then can people in see in the house in
 “...then people can see into the house.”
- (b) ...wanneer daai kat opklim (bo-) op die bed op.
 when that cat up-climbs top on the bed on
 “...when that cat climbs onto the bed.”
- (c) ...dat hy asemhaal in my gesig in.
 that he breath-takes in my face in
 “...that he breathes into my face.”

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As also noted by Aelbrecht & Den Dikken (2013:38) regarding P doubling in dialects of Dutch, the fact that the doubling PP itself may co-occur with a V-particle seems a

¹¹⁶ Note, however, that such expressions are not necessarily characteristic of the Afrikaans spoken in that region. Further research is definitely required in order to establish whether such expressions belong to a regional or social group, or a community of practice.

clear indication that not all doubling PPs constitute particle verb + pre-PP combinations. Thus, I argue that although many instances of doubling PPs should in fact be analysed as particle verb + pre-PP combinations, those in (72) clearly warrant a special analysis – one that accounts for “true” doubling as a thus far un-encountered structure. The observation that forms the basis of the analysis is that “true” doubling PPs like (72) only seem to occur with P elements from FRaP Class E;¹¹⁷ that is, P elements that productively function as both locative and directional adpositions. The behaviour of this class stands in stark contrast to that of members from FRaP Class D, which cannot function as locative adpositions, only as directional ones, and are singularly prepositional (=non-doubling). To see this, witness (73), which contains two examples of FRaP Class D elements, in the precise configuration that elicits doubling from the FRaP Class E elements in (72).

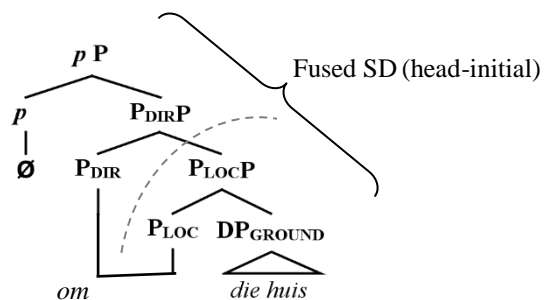
- (73) (a) ...as hulle omkom om die hek.
if they around-come around the gate
“...if the come around the gate.”
- (b) ...dat hulle moet deurry deur die hek.
that they must through-drive through the gate
“...that they must drive through the gate.”

These facts call to mind the interaction between SDs and lexicalisation that played a crucial role in the analysis of circum-PPs vs. directional pre-PPs. The difference was argued to lie in the fact that the FRaP Class D elements necessarily “straddle” the boundary between SD_{LocP} and SD_{pP} (cf. (56), repeated below as (56')), whereas in circumpositional structures no lexical element straddles an SD boundary (cf. (57), repeated below as (57')). The analysis that I will put forward to account for doubling PPs, although in a sense “unique” to doubling PPs, is highly reminiscent of the circumpositional structure represented in (57').

¹¹⁷ Notably, however, not all members of FRaP Class E are subject to doubling. Particularly, it seems to be those P elements that occur in high frequency: especially *in* (“in(to)”), *uit* (“out”), but also *op* (“on/up”).

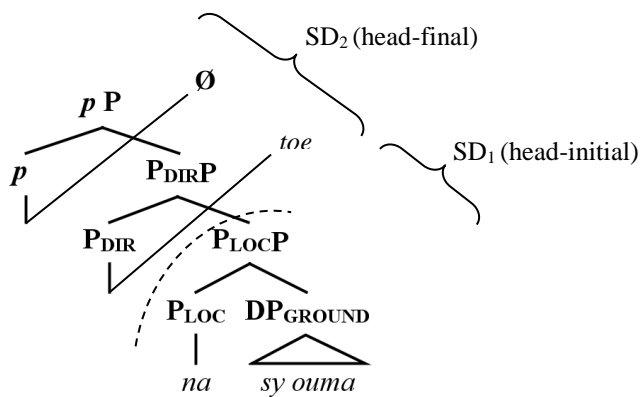
(56) (a) ...om die huis
 around the house
 "...around the house."

(b)



(57) (a) ...na sy ouma toe
 after his grandmother to
 "...to his grandma's"

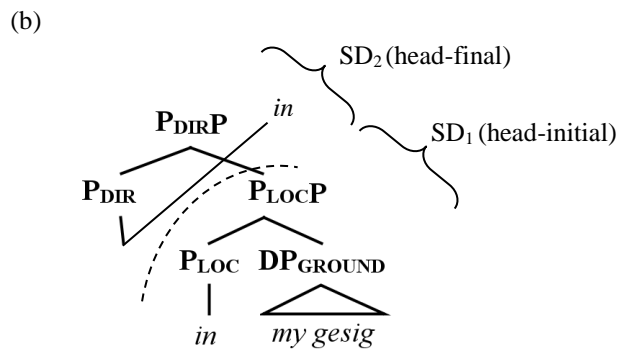
(b)



Since, as suggested in Section 5.4.3 above, the roots corresponding to FRaP Class E elements are “neutral” (in the sense that they are not inherently locative or directional) it is impossible for the system to predict whether or not a Class E element that is an active (functional and conceptual) match for P_{LOC} during a round of lexical access at $SD_{P_{LOC}P}$ will eventually correspond to a locative or directional structure. As also discussed in Section 5.4.3, the system *can* predict that P_{DIR} will next be merged whenever a Class D element is an active match for P_{LOC} during lexical access at $SD_{P_{LOC}P}$, because the conceptual information associated with the roots of Class D elements is indeed inherently directional. As discussed in Section 5.4.3, the system legitimately delays insertion in such cases since it can make a more economical insertion at the next point of lexical access.

By contrast, when a Class E element is due for insertion to P_{LOC} , the system can *not* predict whether P_{DIR} will be merged without invoking *look ahead*, because Class E elements are conceptually neutral and express P_{LOC} in isolation when a locative function is being derived. I therefore argue that it is precisely the system’s inability to know “what comes next” whenever a Class E element is at stake that causes doubling: the system has no choice but to insert the Class E element at P_{LOC} during the spellout of $SD_{P_{LOC}P}$. If it does not and P_{DIR} is *not* merged, the derivation will be culled by Exhaustive Lexicalisation because P_{LOC} will then be unable to receive morphological expression at all. Thus, when the system “gambles” on lexicalising P_{LOC} in $SD_{P_{LOC}P}$ by proceeding an actual insertion of the Class E element to P_{LOC} , $SD_{P_{LOC}P}$ becomes inaccessible to the derivation, as “complete” SDs do by the end of the lexicalisation procedure. If P_{DIR} is then subsequently merged into the structure, requiring phonological expression by the same P element that has already been inserted to express P_{LOC} , Spellout can no longer access $SD_{P_{LOC}P}$, and must resort to inserting the same P element a second time to lexicalise P_{DIR} , because that element still constitutes the best (formal and conceptual) match. This is represented in (74).

- (74) (a) ...in my gesig in.
 in my face in
 “...into my face.”



If this analysis of doubling PPs is on the right track, then it is not surprising that we do not witness the FRaP Class D elements surfacing in doubling PPs because the system delays insertion at P_{LOC} in favour of making a more economical insertion of the Class D element to express the sequence P_{DIR} - P_{LOC} at the next round of lexical access. This serves a maximally economical lexicalisation procedure, for which the system opts whenever feasible.

5.5.3 Effects of Event Structure on Doubling PPs

This final instalment on deriving word order in the PP investigates Den Dikken's (2010a) account of the interaction between verb event structure and directional PP structure. The aim is to consolidate the analysis developed in previous sections by pointing out common links with Den Dikken's (rather different) system. What this comparison yields (aside from bringing to light the various points of overlap between the systems) is evidence that doubling PPs in Afrikaans arise in the same structural configuration as postpositional PPs in (Standard) Dutch.

In Den Dikken's (2010a) system, one of two event structure operators GO and GET can take the directional PP complement. A MANNER component optionally adjoins to the operator, in which case the manner of the motion verb is interpreted literally. The directional PP in the complement of the operator can be headed either by what Den

Dikken (2010a) refers to as an “inherently directional” P element, or a “non-inherently directional” P element. These structures are modelled as represented in (75):

(75) (a) $[_{PP} P_{dir} = OVERT [_{PP} P_{loc} = \emptyset DP]]$ = inherently directional (e.g. *naar*)

(b) $[_{PP} P_{dir} = \emptyset [_{PP} P_{loc} = OVERT DP]]$ = non-inherently directional (e.g. *in*)

(Adapted from Den Dikken 2010a:28)

Den Dikken (2010a) takes the structures in (75) to form the predicates of a small clause (indicated in the structures below by PRED). There are thus four logical possibilities for combining these structural components:

(76) (a) $GO [_{SC} DP [RELATOR = \emptyset [_{PRED=PP} P_{dir} [_{PP} P_{loc} DP]]]]$
= non-literal interpretation of manner component

(b) $GO+MANNER [_{SC} DP [RELATOR = \emptyset [_{PRED=PP} P_{dir} [_{PP} P_{loc} DP]]]]$
= literal interpretation of manner

(77) (a) $GET [_{SC} DP [RELATOR = PRT [_{PRED=PP} P_{dir} [_{PP} P_{loc} DP]]]]$
= non-literal interpretation of manner

(b) $GET+MANNER [_{SC} DP [RELATOR = PRT [_{PRED=PP} P_{dir} [_{PP} P_{loc} DP]]]]$
= literal interpretation of manner

(Den Dikken 2010a:29)

Before continuing with the exposition of Den Dikken’s (2010a) system, it seems useful to point out that his event structure operator GO is analogous to [(INIT) [PROC]] representing PROC(ess)-verbs in this study, and the operator GET is analogous to [(INIT) [PROC [RES]]] representing RES(ult)-verbs. Furthermore, Den Dikken’s “inherently directional” P elements are roughly equivalent to the FRaP Class D elements of this study, and the “non-inherently directional” one to FRaP Class E elements. As a final preliminary point setting up the comparison of the two systems, note that whereas Den Dikken assumes that the phrase projected by P_{dir} is by default predicative, I have

assumed with Zwarts (2014) that no PP is predicative by default and that PPs require the Figure-introducing projection little-*p* to be merged above either P_{LOC} or P_{DIR} .

Returning to Den Dikken's (2010a) account of Dutch, when P_{DIR} is null (due to the presence of a non-inherently directional P like *in*), it has to be licensed by another structural component. When GET is the event structure operator (cf. (76)) where null P_{DIR} is always licensed in situ by an overt relator (which is a particle PRT in Den Dikken's terms, but which is not equivalent to the V-particles in this study). When GO is the event structure operator (cf. (77)), null P_{DIR} is licensed either by raising overt P_{LOC} to P_{DIR} , or by raising P_{DIR} to the event structure operator. These options are equally "expensive", although the latter option is only available in structures like (76a), because P_{DIR} can never raise to the operator in the presence of the MANNER component.

In structures like (76a), therefore, null P_{DIR} must be licensed by raising P_{LOC} to P_{DIR} . This crucially triggers postpositional word order in which DP raises to spec- P_{DIR} in an operation that is like Object Shift.¹¹⁸ This effectively draws a correlation between interpreting the manner component of a GO (=PROC-) verb literally, and postpositional word order in Dutch. Den Dikken's system thus dictates that postpositional word order is only triggered by the GO operator (= with PROC-verbs). Accordingly, expressions such as (78a) are analysed as shown in (78b).

- (78) (a) De vreemde man sprong de kamer uit.
the strange man jumped the room out
(Den Dikken 2010a:33)
- (b) GO+MANNER [_{SC} DP [RELATOR = Ø [_{PRED=PP} P_{DIR} [_{PP} P_{LOC} DP]]]]

The expression in (78a), according to Den Dikken (2010a), can only be interpreted as involving multiple jumps, being the manner in which the man left the room. P_{DIR} is null because *uit* is non-inherently directional. P_{DIR} cannot be licensed by raising up to

¹¹⁸ Den Dikken (2010a:31) points out that this phenomenon is also noted in Gehrke (2008; Section 4.7).

GO (because the presence of MANNER blocks further incorporation), so the only option is for P_{LOC} to raise to P_{DIR} , which triggers DP movement to spec- P_{DIR} , resulting in postpositional word order. Conversely, the expression in (79a) must be interpreted as involving only a single jump, which Den Dikken (2010a:34) analyses as in (79b).

- (79) (a) De vreemde man sprong uit het raam.
 the strange man jumped out the window
 (Den Dikken 2010a:34)
- (b) GET+MANNER [_{SC} DP [RELATOR = PRT [_{PRED=PP} P_{DIR} [_{PP} P_{LOC} DP]]]]

On Den Dikken's analysis, the single jump interpretation comes from the presence of GET (= events culminating in a resultant state; my RES-verbs) as opposed to GO (= PROC-verbs), since GET modifies the inception of the activity only. The jumping event in (79) is not describing a durative process, which is a GO-compatible interpretation only. With GET, the relator is always overt, so null P_{DIR} is licensed in situ, yielding prepositional word order.

A consequence of how Den Dikken's system works is that the manner component of a verb occurring with a post-PP will always be interpreted literally (because MANNER adjunction to GO forces P_{LOC} to P_{DIR} , which triggers DP to spec- P_{DIR}), whereas pre-PPs can be interpreted idiomatically because one structure that results in pre-positionality (and idiomaticity) is the lack of MANNER adjunction to GO, which allows P_{DIR} to incorporate, which yields prepositional order. An example of this is given in (80-81), where the prepositional expression must be interpreted idiomatically, and the postpositional one literally:

- (80) het loopt uit de hand
 it walks out the hand
 "it gets out of hand" (idiomatic directional)
 * "it walks out of the hand" (non-idiomatic directional)

These facts suggest a correlation between Dutch postpositional phrases and Afrikaans doubling PPs. For one thing, these structures are the ones that combine with PROC-verbs (=GO), and which yield literal manner interpretations. For another, these structures are only available with “non-inherently directional” (=FRaP Class E) elements, which lends further support to the idea that these structures arise under equivalent conditions. This provides a neat “starting point” for comparison between adpositional structures in Afrikaans (and possibly also doubling varieties of Dutch; cf. Aelbrecht & Den Dikken 2013), and Standard Dutch, although a properly worked out comparison must be left to future research. However, if such a correlation is on the right track, an immediate consequence for the analysis of Afrikaans doubling PPs, following from Den Dikken’s (2010a) system and his observations about the Dutch data, is the prediction that doubling PPs should not merge with RES-verbs (=GET), but only with PROC-verbs (=GO). I will go about directly testing this prediction below, but note first that an indirect test is the extrapositionability of doubling PPs. The logic is as follows: Section 6.3 above concluded that directional PPs combining with PROC-verbs are modifiers and therefore non-predicative. In the present system, this means such structures lack a little-*p* projection (cf. Sections 6.2 and 6.3 above). It was also noted throughout the discussion that adpositional phrases lacking a little-*p* projection are systematically extrapositionable. It follows that, if doubling PPs are necessarily merged with PROC, they should be non-predicative and therefore felicitously extrapose. This is patently the case, as the data in (72) above, repeated here in (85), show:

- (85) (a) ...dan kan mense in sien in die huis in.
 then can people in see in the house in
 “...then people can see into the house.”
- (b) ...wanneer daai kat opklim (bo-) op die bed op.
 when that cat up-climbs top on the bed on
 “...when that cat climbs onto the bed.”
- (c) ...dat hy asemhaal in my gesig in.
 that he breath-takes in my face in
 “...that he breathes into my face.”

It should be noted that, although it is not obligatory for the doubling PPs to extrapose, the doubling effect frequently does not surface when the PP is in the base position. This happens when the postpositional element and V-particle are phonologically identical, as in (85a-b), most likely due to a PF process eliminating sequences of phonologically identical lexical material immediately adjacent upon linearisation.¹¹⁹ With the PPs in base position, therefore, the expressions in (85) surface as shown in (86), with doubling suppressed in the (a-b) examples when the phonologically identical postpositional element and V-particle are adjacent. The expression in (86c) shows that doubling is still underlyingly present and detectable whenever the V-particle and the postpositional element are non-identical.

- (86) (a) ...dan kan mense [_{VP} [_{PP} in die huis in] ~~in~~_{PRT} sien].
 then can people in the house in in see
 “...then people can see into the house.”
- (a') ...dan kan mense [_{VP} [_{PP} in die huis] in_{PRT} sien].
 then can people in the house in see
 “...then people can see into the house.”
- (b) ...wanneer daai kat [_{VP} [_{PP} (bo-) op die bed op] ~~op~~_{PRT}-klim].
 when that cat top on the bed on up-climbs
 “...when that cat climbs onto the bed.”
- (b') ...wanneer daai kat [_{VP} [_{PP} (bo-) op die bed] op_{PRT}-klim].
 when that cat top on the bed up-climbs
 “...when that cat climbs onto the bed.”
- (c) ...dat hy [_{VP} [_{PP} in my gesig in] asem_{PRT}-haal].
 that he in my face in breath-takes
 “...that he breathes into my face.”

A complicating factor for an analysis of such expressions is the fact that, as (86a-b) vs. (86a-b') show, when the doubling is suppressed, the expressions are structurally

¹¹⁹ Cf. Neeleman & Van de Koot (2005) for an overview of syntactic haplology and its relation to the Obligatory Contour Principle (OCP). Furthermore, Cf. Biberauer & Folli (2004) for discussion of OCP-related phenomena in Afrikaans and Dutch PPs, and Biberauer (2008) for discussion such phenomena relating to Afrikaans negation.

ambiguous between the “true” doubling structure and the “spurious” particle verb + pre-PP combinations discussed above.

In keeping with what Den Dikken’s (2010a) system predicts, and assuming the above-noted correlation between Dutch postpositional and Afrikaans doubling PPs is solid, I suggest that the “true” doubling structure surfaces with PROC-verbs and that the “spurious” doubling structure – i.e. the particle verb + pre-PP structure – surfaces with RES-verbs. This could provide a neat account for Den Dikken’s observations about the contrast in interpretation between expressions like (78-79), repeated below as (87-88).

- (87) (a) De vreemde man sprong de kamer uit.
the strange man jumped the room out
(Den Dikken 2010a:33)
- (b) GO+MANNER [_{SC} DP [RELATOR = Ø [P_{PRED=PP} P_{DIR} [PP P_{LOC} DP]]]]

Regarding (87a), Den Dikken reports that it can only be interpreted as involving multiple jumps, and hence involves the event structure operator GO (=PROC), as indicated in (87b) – note the postpositional order in this expression, resulting from the raising of the “non-inherently directional” P *uit* from P_{LOC} to P_{DIR}, triggering movement of the DP to spec-P_{DIR}. Regarding (88a), Den Dikken reports that its interpretation can only involve a single jump and that this stems from the presence of the operator GET (=RES) as opposed to GO.

- (88) (a) De vreemde man sprong uit het raam.
the strange man jumped out the window
(Den Dikken 2010a:34)
- (b) GET+MANNER [_{SC} DP [RELATOR = PRT [P_{PRED=PP} P_{DIR} [PP P_{LOC} DP]]]]

In Den Dikken’s terms, GET modifies the inception of the activity only, and the jumping event in (88) is not describing a durative process (=GO-compatible only) but rather an event that brings about a resultant state (=GET-compatible only). With GET, the relator is always overt, which means that null P_{DIR} is licensed in situ (which means

no raising of P_{LOC} to P_{DIR} can trigger DP movement to $spec-P_{DIR}$, as it does in (87), yielding prepositional word order.

In Afrikaans, although the prepositional equivalent of (88a) is not ungrammatical, it is not entirely acceptable. The most natural equivalent of both Den Dikken's GO(=PROC)-based structure (= (87) multiple jumps on a literal manner interpretation) and his GET(=RES)-based structure (= (88) single jump, marking the inception of a resultant state) is in fact the expression given in (89) – one incorporating what appears to be a doubling PP.

- (89) Die vreemde man spring uit die kamer uit.
 the strange man jumps out the room out
 “The strange man is going out of the room by jumping repeatedly”
 (GO/PROC-based)
 “The strange man gives one big jump and as a result is out of the room”
 (GET/RES-based)

Given what we have seen with the data in (86a-b), we *expect* an expression like (89) to be structurally ambiguous. The two structural options are indicated in (89') below, with the “true” doubling PP corresponding with the GO/PROC-based interpretation in (a), and the “spurious” doubling particle verb + pre-PP combination corresponding with the GET/RES-based interpretation in (b).

- (91') (a) Die vreemde man [_{VP} spring [_{PP} uit die kamer uit]].
 the strange man jumps out the room out
 “The strange man is going out of the room by jumping repeatedly”
 (GO/PROC-based)
- (b) Die vreemde man [_{VP} spring [_{PP} uit die kamer] uit_{PRT}]].
 the strange man jumps out the room out
 “The strange man gives one big jump and as a result is out of the room”
 (GET/RES-based)

Although the GET/RES-based interpretation requires a particle both in the present system and in that of Den Dikken (2010a), it is not clear that the elements which Den Dikken refers to as particles (his PRT = RELATOR) are equivalent to the V-particles in

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this study. Further comparison of these systems – and of the subtle differences between the data accounted for with these systems – is set aside as a topic for further research.

This section has revealed a correlation between postpositional word order in Dutch and “true” doubling PPs in Afrikaans as structures that arise in the respective languages when directional PPs modify process verbs.

5.6 Concluding Remarks

This chapter has contributed to the ongoing discussion surrounding the analysis of disharmonic word order in circum-PPs. One of the main ideas advanced in the discussion is that word order (also, language-internal variation with expressions of the same formal function) arises as an interaction between structure, spellout domains, and lexicalization. It was argued that the featural specifications of the individual lexical items (some being deficient) affect how the underlying structure surfaces, as the position of a lexical item relative to the Spellout Domain boundary may affect the fundamental headedness property of the domain during the linearization process.

CHAPTER 6

V-Particles and Particle Verbs

6.0 Introduction

It is a striking fact that V(erb)al-particles in general appear to be “recycled” from other categories (1). Only two spatial V-particles in Afrikaans do not seem to have productive adpositional counterparts (2).

- | | | | |
|-----|-----|--|---------------------------------------|
| (1) | (a) | uithaal
out-take
“to take out” | Particle: <i>out</i> (P-based form) |
| | (b) | slegsê
bad-say
“to insult” | Particle: <i>sleg</i> (A-based form) |
| | (c) | wegneem
away-take
“to remove” | Particle: <i>weg</i> (Adv-based form) |
| | (d) | fietsry
bike-ride
“to ride bike” | Particle: <i>fiets</i> (N-based form) |
| (2) | (a) | Laat ons weet indien jy heengaan.
let us know if you away _{PRT} -go
“Let us know if you go/depart.” | |

- (b) Waar moet ek jou sakke neersit?
 where must I your bags down_{PRT}-put
 “Where should I put down your bags?”

Chapter 2 argued at length that such systematically homophonous elements of language are not twice listed in the lexicon, but are specified in such a way that they qualify for insertion into more than one context. This chapter is concerned with the lexical specification of P elements that have the capacity for functioning as V-particles (=FRaP Classes C-F) and what the structure underlying particle verbs must be in order for elements that we know are also capable of functioning as adpositions to spell that structure out. Pre-theoretically, V-particles differ from “transitive” adpositions in having a closer relation with the verb. In OV-Germanic languages like Afrikaans, one way in which this is apparent is preverbal particle placement in the base-order of the clause – what is often described as particle incorporation (cf. i.a. Van Riemsdijk (1978), Ackema & Neeleman (2001), and Helmantel (2002) for discussion). This can be witnessed in the absence of V2-movement in embedded clauses (3b) or when the verb is non-finite (3c).

- (3) (a) Jan hang die wasgoed uit.
 Jan hangs the washing out
 “Jan is hanging out the washing.”
- (b) Ek hoop dat Jan die wasgoed uithang.
 I hope that Jan the washing out-hangs
 “I hope that Jan is hanging out the washing.”
- (c) Jan sal die wasgoed uithang.
 Jan will the washing out-hang
 “Jan will hang out the washing.”

Another typical example of the close relation between the verb and particle is the idiosyncratic meaning that such combinations frequently give rise to – that is, cases in which the meaning of the particle verb is not compositionally derivable from the sum of its parts. For example, the P element *uit*, in its regular spatial sense (cf. (3)), means “out”. In (4), however, that spatial meaning is lost:

- (4) Jan sê jy het hom uitgeskel.
 Jan says you have him out-scolded
 “Jan says you scolded him.”

The “closeness” of verb and particle has been modelled in various ways in the literature. The present system – that is, the model of syncretism adopted here – makes strong predictions about the structure underlying V-particles (with P-based forms), which may also account for their observed closeness with the verb. Specifically, the prediction is that, in whatever way V-particles are structurally distinct from their adpositional counterparts, the functions should be located on adjacent nodes so as to account for the syncretism. The system predicts that V-particles are structurally distinct from adpositions in expressing (at least) the “next node up” from the highest node corresponding with adpositional functions (=P_{DIR}).

One confounding fact, however, noted especially in the small clause (SC) literature, is that the particle – while we know it has a close relation with the verb – demonstrably forms a constituent with the object DP. Svenonius (1992) illustrates this with gapping, where the logic is as follows: Gapping in English can only leave behind a maximum of two constituents (5). Based on (5), it must be concluded about (6) that the particle *on* forms a constituent with the object *the acetylene*.

- (5) (a) John eats with chopsticks, and [Mary]₁ [with a fork]₂.
 (b) John eats spaghetti, and [Mary]₁ [chop suey]₂.
 (c) *John eats spaghetti with a fork, and [Mary]₁ [chop suey]₂ [with chopsticks]₃.
- (6) (a) Turn the oxygen off when I say to, and [the acetylene on]₁ [a moment later]₂
 (b) Turn the oxygen off with your elbow, and [the acetylene on]₁ [with your knee]₂

(Svenonius 1992; from Den Dikken 1996:43)

The challenge thus seems to lie in proposing an account of particle verbs that draws together the various – and seemingly contradictory – properties that are typical of these predicates. Section 6.1 positions the chapter with regard to certain traditional views about the nature and function of V-particles. Section 6.2 surveys dominant accounts of particle verbs in the literature to date. Section 6.3 argues that V-particles are characterised by lexicalising RES in the “V-domain” of syntax, and that P-based V-particles differ from adpositions in expressing at least this node. Support for this claim is drawn initially from the patterns of syncretism, which were already established in Chapter 2. Section 6.4 offers various considerations, both structural and interpretational, in support of the main claim that V-particles lexicalise RES. Section 6.5 proposes an account of the distinction between predicative and non-predicative particles, on the one hand, and interpretationally transparent and non-transparent particle verbs on the other. It is argued, as far as particle verbs are concerned, that the transparency of the particle verb is not contingent upon the (non-)predicate status of the V-particle, and that these properties arise from independent structural factors. The phenomenon of *landmark flexibility* (where the object of a given particle verb can be interpreted either as the Figure or the Ground, cf. McIntyre (2001)) is then analysed with reference to alternating (non-) predicate status of the V-particle in some particle verbs. Section 6.6 discusses *particle shift* and particle incorporation, and Section 6.7 concludes.

6.1 Some Preliminaries

A longstanding custom in the literature on P-based V-particles ascribes to them the descriptive label *intransitive adposition* (cf. e.g. Emonds 1972; 1976, Van Riemsdijk 1978, Den Dikken 1996). Den Dikken (1996:29) states that “they are obviously intransitive in the sense that they take no more than a single argument,” but it is also frequently noted that “intransitive adpositions and particles do not form a homogeneous group” (Broekhuis 2013: 35). In what follows I give a very brief

overview of some observations that might prompt treatment of particles as intransitive adpositions and, although the notion of *intransitive adposition* was problematised and dealt with to a large extent in Section 4.6.2 of Chapter 4, the following two subsections deals with this notion specifically as it relates to V-particles.

6.1.1 A Note on Argument Structure

In small clause (SC) approaches to analysing V-particles,¹²⁰ the SC headed by the particle generally saturates an argument position of the verb (7a). And that is true for any “secondary predicate” such as nominal (7b), adjectival (7c), and adpositional phrases (7d) that are predicated in an SC of the object DP.¹²¹

- (7) (a) They sent [_{SC} the schedules [_{out_{Pr}}]].
 (b) They consider [_{SC} John [_{DP} a great guy]].
 (c) They painted [_{SC} the barn [_{AP} red]].
 (d) They pushed [_{SC} the pram [_{PP} down the hill]].

Particles are thus given essentially similar treatment to adpositions heading PP arguments of the verb, when those PPs are considered to be secondary predicates. From such an assessment, it seems right that particles be considered intransitive adpositions. Witness, for example, the contrast in (8a-b).

- (8) (a) Jan sit [_{SC} die boeke [_{PP} op [_{die tafel}]].
 Jan puts the books on the table
 “Jan is putting the books on the table.”

¹²⁰ Cf. Chapter 5 – especially Section 5.1 – for a discussion of the SC literature and the stance adopted towards SC configurations in this study.

¹²¹ Chapter 5 questioned whether arguments and predicates *ought* to saturate structurally analogous positions. SCs are generally argued to saturate the internal argument position of the verb, though they are predicates. Thorough investigation of this issue at large has to be left for further research, although it should be noted that the system adopted in this study does not allow predicates and arguments to saturate structurally analogous positions.

- (b) Jan sit [SC die boeke [PP neer]].
 Jan puts the books down
 “Jan is putting the books down.”

The fact that the particle in (8b) – which does not introduce a Ground – appears to substitute for the transitive PP in (8a) suggests a characterisation of particles as “intransitive adpositions”. The expression in (9), however, shows that the particle in (8b) probably is not substituting the PP in (8a) and that the two may be occupying distinct positions.

- (9) Jan sit [SC die boeke [PP op die tafel]] neer.
 Jan puts the books on the table down_{PRT}
 “Jan is putting the books down on the table.”

As Zeller (2001) also points out for German, “not all particles leave their reference object implicit” – contrast (10a-b), where Zeller (2001:154-155) suggests that *das Kind* is underlyingly the complement of the particle in (10b).

- (10) (a) Peter wirft den Ball [zu dem Kind].
 P. throws the ball-ACC to the child
 “Peter throws the ball to the child.”
- (b) Peter wirft dem Kind den Ball [zu].
 P. throws the child-DAT the ball-ACC PRT
 Peter throws the child the ball PRT

Zeller’s point regarding (10) could also be interpreted as a comment on how (or whether) the V-particle affects argument structure. For instance, if *zu* in (10b) is taken to introduce the indirect object, that is claiming V-particles change the valency of the expression, as adpositions do. Yet it is far from clear that this is systematically the case. Consider the contrasts in (11-12), where the presence of the particle has no effect on argument structure:

- (11) (a) Jan het die chakalaka geëet.
 Jan has the chakalaka eaten
 “Jan ate the chakalaka.”

- (b) Jan het die chakalaka opgeëet.
Jan has the chakalaka up-eaten
“Jan finished the chakalaka.”
- (12) (a) Jan het die berg geklim.
Jan has the mountain climbed
“Jan climbed the mountain.”
- (b) Jan het die berg uit geklim.
Jan has the mountain out climbed
“Jan climbed the mountain to the top.”

In light of such expressions Zeller (2001:153-160) distinguishes between particles that affect argument structure (10), and particles that affect the verb’s aspectual class (11-12). I will take a different approach to the role of the V-particle in this study, one in which event and argument structure are dissociated from the lexical elements giving expression to that structure (following mainly Ramchand (2008), as set out in Chapter 3). In this sense, particles never alter valency – they merely express structure that is underlyingly present, and which may under different circumstances be expressed by the verb (Section 6.3). I will furthermore argue that particles make a predictable and consistent aspectual contribution to the event structure, namely adding *telos* or a logical end point (Section 6.4.2).

6.1.2 A Note on “Intransitive Adpositions”

Here I show briefly that the descriptor *intransitive adposition* becomes problematic if it prompts analogous analytical treatment of all elements to which it may apply.

V-particles differ systematically from another class of (potentially) “intransitive adposition” which in Chapter 2 was shown to constitute one incarnation of FRaP Class B elements (13a).¹²² As Van Riemsdijk (1978:55) points out, only particles can

¹²² They are “potentially” intransitive because they occur both with (i) and without (ii) an overt Ground:

integrate with the verb cluster. The inability of FRaP Class B adpositions to do so is illustrated in (13b), and may be contrasted with the behaviour of the particle in (13c).

- (13) (a) ...dat Jan binne/ buite/ bo/ onder/ voor wil woon.
 that Jan inside outside above below front wants live
 "...that Jan wants to live inside/outside/upstairs/downstairs/in the front."
- (b) *...dat Jan wil binne/ buite/ bo/ onder/ voor woon.
 that Jan wants inside outside above below front live
- (c) ...dat Jan {[?]in} wil {in-}bly.
 that Jan in wants in -stay
 "...that Jan wants to stay in."

A further well-known property of V-particles is their tendency to combine with the verb to become the foundation for further word-formation processes. This is not the case with the FRaP Class B adpositions (cf. **buiteganery* (lit.: outside-go-N), **bospringery* (lit.: top-jump-N) and contrast with *uitganery* (lit.: out-go-N, "going out/partying"), *op-springery* (lit.: up-jump-N, "jumping up").

As discussed at length in Chapter 4, one robust property of FRaP Class B adpositions is their patent ability to form the morphologically initial element of complex adpositions, e.g. *binne-in* (lit.: inside-in, "inside"), *bo-op* (lit.: top-on, "on top"), *vooraan* (lit.: front-on, "on the front"). In stark contrast, elements capable of functioning as V-particles can only form the morphologically final element of complex adpositions. Furthermore, as noted in Chapter 2, FRaP Class B elements can never express directional functional meaning. Again, in stark contrast, all elements that have the capacity for functioning as V-particles are capable of expressing direction, and spatial V-particles always express direction and never location. In

-
- (i) Die sjokolade is op die rak **bo** die koffie.
 the chocolate is on the shelf above the coffee
 "The chocolate is on the shelf above the coffee."
- (ii) Die biblioteek is **bo**.
 the library is above
 "The library is upstairs."

Chapter 4 these facts were taken as a clear indication that V-particles and FRaP Class B adpositions are specified for different – even, *complementary* – parts of the structure: FRaP Class B elements *at most* lexicalise structure up to P_{LOC}, whereas V-particles *never* lexicalise structure beneath P_{LOC}. It was argued that FRaP Class B elements, when “intransitive” as in (13a) above, are in fact better considered *locative nouns* which are structurally congruous with *home*-class nouns in expressions like *I want to go home* (cf. also Biggs 2014). In other words, such adpositions are only superficially intransitive, incorporating both the nominal structure of the Ground and locative adpositional structure. This seems to be in line with an observation by Koopman (1993). As Den Dikken (1996:29, fn.) points out:

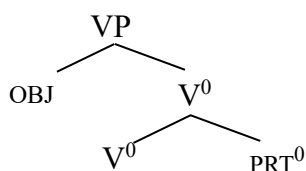
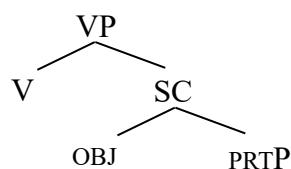
Another question arising in the context of intransitive Ps like *boven* is whether these really are intransitive, or whether, instead, they should be analysed as transitive Ps taking a null (pro) complement (cf. Koopman 1993:13). The latter approach seems plausible in light of the fact that in an example like *De wagen staat voor* (“the car stands in front”) there is always an understood location in front of which the car is situated.

Thus, it is not really clear that the descriptor *intransitive adposition* is really useful in assigning any P element to a proper analysable class. FRaP Class B adpositions have been argued never to be underlyingly intransitive, and it is clear that V-particles are categorially distinct from adpositions on various important fronts. Having thus established good grounds for not using this label in reference to V-particles, the next section provides an overview of previous treatments of particle verbs in the literature.

6.2 Approaches to Analysing Particle Verbs

Arguments in the literature over the correct structural analysis of particle verbs have long been divided into two main camps: those stating that (i) verb and particle form a

complex V^0 (= *complex predicate* approach¹²³ – e.g. Booij 1990, Johnson 1991, Pesetsky 1996, Neeleman 1994 – cf. (14a) for a basic representation of this configuration), and (ii) the particle is a syntactic head (= *small clause (SC) approach*¹²⁴ – e.g. Hoekstra 1988, Kayne 1985, Aarts 1989, Guéron 1990, Den Dikken 1996 – cf. (14b) for a basic representation of this configuration).

(14) (a) *Complex predicate structure*(b) *Small clause structure*

(Wurmbrand 2000:1)

Some – of which Wurmbrand (2000) is an example – have argued for the correctness of both approaches, suggesting that particle verbs probably do not form a homogenous class. She suggests that the *complex predicate* analysis applies to idiomatic/non-transparent particle verbs and the *SC* analysis to compositional/transparent particle verbs. Others – notably Ramchand & Svenonius (2002) and Ramchand (2008) – have argued for a unification of these approaches in a finer grained analysis. And still others, e.g. Zeller (2001), have proposed syntactic analyses (i.e. where the particle projects) which are also able to account for the word-like behaviour of particle verbs. This section first provides an overview of the *complex predicate* and *SC* approaches and then briefly examines Zeller's (2001) proposal. The analysis developed later in the chapter builds on that of Ramchand & Svenonius (2002) and Ramchand (2008).

¹²³ Also referred to as the *complex head* or *morphological* approach.

¹²⁴ Also referred to as the *syntactic* approach.

6.2.1 Complex Predicates and Small Clauses

The main argument in favour of the SC approach is the separability of the verb and particle under syntactic operations. The logic, under a general constraint like *lexical integrity*,¹²⁵ is that the particle must be a projecting head if syntactic operations can target the verb to the exclusion of the particle. The Afrikaans data in (15) illustrate such obligatory separation under V2 movement – such separation is also obligatory in German and Dutch (Wurmbrand 2000:3).

- (15) (a) Jan gooi die hond uit t_V .
 Jan throws the dog out
 “Jan is throwing the dog out.”
- (b) *Jan uitgooi die hond t_V .
 Jan out-throws the dog

Taking V2 to represent syntactic movement of V^0 to C^0 or complementiser position, Wurmbrand (2000:3) points out that the distribution in (15) is unproblematic for the SC approach because a phrase hosting the particle is projected outside of V^0 . To account for this, analyses taking the *complex predicate* approach have to assume excorporation (or a similar special operation), the application of which is constrained to particle verbs.^{126, 127} Another argument against the *complex predicate* approach is

¹²⁵ *Lexical integrity* states the opacity of word-internal structure to syntactic, word-external operations. Cf. Lapointe (1985) and Di Sciullo & Williams (1987).

¹²⁶ That is, because there is no bar on otherwise morphologically complex verbs (=X° categories) undergoing V2:

- (i) Jan **onder-steun** sy ouers se besluit.
 Jan under-supports his parents POS decision
 “Jan supports his parents’ decision”

¹²⁷ Cf. Johnson (1991) and Roberts (1991) for the general properties of excorporation.

the fact that in many languages (e.g. English, German, and Dutch) adpositions and V-particles permit modification by *right/straight* (or the relevant equivalent) (16).¹²⁸

- (16) (a) John threw the ball right/straight through the window
 (b) John threw the ball right/straight up/down/back

The logic is that if verb and particle formed a complex head (=V⁰) the particle should not be visible to the modifier outside V⁰.^{129, 130} Interestingly, as shown in (17), Afrikaans particles *cannot* be modified by *reg* (“right”), as adpositions can; instead, they accept modification by *heeltemal* (“completely”).

- (17) (a) (i) ...dat Jan die beker reg op/in die wasbak neergesit het.
 that Jan the mug right on/in the basin down-put has
 “...that Jan put the mug down right on/in the basin.”
 (ii) ...dat Jan reg verby die plaasdam gery het.
 that Jan right past the farm-dam drives has
 “...that Jan drove right past the farm dam.”
 (b) (i) ...dat Jan die koekies *reg/ heeltemal opgeëet het.
 that Jan the cookies right completely up-eaten has
 “...that Jan ate the cookies up completely.”

¹²⁸ Cf. Emonds (1976), Van Riemsdijk (1978:52), and Den Dikken (1996) for discussion of analogous behaviour of *pal/vlak* (“right”) in Dutch.

¹²⁹ This follows from the principle of *lexical integrity* (cf. note 125 above).

¹³⁰ Den Dikken (1996), speculating over how (16b) might be felicitous on a complex head analysis, suggests that the modifier might be merged directly with the particle – that is, inside the complex head. Assuming general structure preserving rules stating that a maximal projection (XP) may not combine with a head (X⁰) (Emonds 1970), Zeller (2001:100, fn. 28) rejects this possibility with reference to the German data in (i) where *ganz weit* (“completely wide”), clearly a phrasal modifier, combines with the particle (as verified by the fact that the particle can be topicalised with the modifier (ib), to the exclusion of the verb. Den Dikken (1996:39-41) eventually also rejects this proposal.

- (i) (a) Peter hat die Tür [ganz weit auf]-gemacht.
 Peter has the door completely wide open made
 (b) [Ganz weit auf] hat Peter die Tür gemacht.
 completely wide open has Peter the door made
 “Peter opened the door completely”

- (ii) ...dat Jan die berg *reg/ heeltemal uitgeklim het.
that Jan the mountain right completely out-climbed has
“...that Jan climbing the mountain all the way to the top.”
- (iii) ...dat sy hom *reg /heeltemal uitgeskel het.
that she him right completely out-scolded has
“...that she scolded him severely”
- (iv) ...dat Jan sy hare *reg / heeltemal afgespoel het.
that Jan his hair right completely off-rinsed has
“...that Jan did a thorough job of rinsing off his hair.”

The fact that *heeltemal* can be topicalised with the particle, leaving the verb behind, shows that the modifier forms a constituent with the particle, which excludes the verb.

- (18) (a) [Heeltemal op] het Jan die koekies geëet.
completely up has Jan the cookie eaten
“Jan totally finished the cookies.”
- (b) [Heeltemal in/uit/op] het Jan geklim.
completely in/out/up has Jan climbed
“Jan climbed all the way in/out/up.”

These facts will be addressed in Section 6.4.1, where they are drawn upon in support of the proposed analysis. Basically, however, it will be argued that, because particles lexicalise a higher part of the structure than adpositions, modifiers scoping under RES (like *reg* in Afrikaans) cannot felicitously combine with them. Returning for now to syntactic separability, verb and particle must also be obligatorily separated by certain derivational affixes, like the participle marker, in Afrikaans (19), German, and Dutch:¹³¹

¹³¹ There is some evidence to suggest that the participle (PTCPL) prefix *ge-*, forms the head of a syntactic projection, though the status and base-generated position of this morpheme has received divergent analyses. Vanden Wyngaerd (1994; 1996) and Sybesma & Vanden Wyngaerd (1997) argue that *ge-* is the head of an SC forming the complement of V, whereas Hinterhölzl (1998; 2006) and Boone (2009) argue *ge-* heads a functional projection above V. Cf. also De Vos (2003) on the participle marker in Afrikaans and dialects of Dutch.

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- (19) (a) Jan het die hond uitgegooi.
 Jan has the dog out-PTCPL-thrown
 “Jan threw the dog out.”
- (b) *Jan het die hond ge-uitgooi.
 Jan has the dog PTCLP-out-thrown

Interestingly, though, verb and particle as a unit seem to form the base component of other word-level derivational processes (20). In early insertion frameworks, such word formation processes were taken to occur in the lexicon (contrasting with syntactic word formation processes), which offered one type of evidence that the verb and particle formed a unit prior to entering syntax.

- | | | | |
|------|-----|--|-------|
| (20) | (a) | om-koop – omkoopery
around-buy – around-buy-ING
“to bribe” – “bribery” | V → N |
| | (b) | oorhandig – oorhandiging
over-hand – over-hand-ING
“to hand over” – “a handing over” | V → N |
| | (c) | opvoed – opvoeder
up-feed – up-feed-ER
“to teach” – “teacher” | V → N |
| | (d) | oplos – onoplosbaar
up-leave – UN-up-leave-ABLE
“to solve” – “unsolvable” | V → A |

The *complex predicate* approach accounts for such X⁰-level behaviour which the SC approach fails to capture. Furthermore, as mentioned above, many particle verbs have idiomatic/non-transparent meanings – cf. (4) and (6b) above, repeated here as (21) and (22) – in which the spatial meaning of the particle is lost. This again suggests that verb and particle are listed together in the lexicon with a special associated meaning, like other X⁰-level categories – although this property of particle verbs has been captured in the SC literature by regarding non-transparent particle verbs as phrasal idioms (cf. e.g. Emonds 1972).

- (21) Jan sê jy het hom uitgeskel.
 Jan says you have him out-scolded
 “Jan says you scolded him.”

- (22) Jan het die berg uit geklim.
 Jan has the mountain out climbed
 “Jan climbed the mountain to the top.”

The data in (23a-b) show that certain verb and particle combinations can be separated by other elements in the verb cluster: in Colloquial Afrikaans the particle may appear to the left of any modal auxiliaries.^{132, 133} But this behaviour seems to be restricted to transparent particle verbs, with non-transparent particle verbs resisting such separation (23c).

- (23) (a) ...dat Jan {op} sal (moet) {op-}klim.
 that Jan up will must up -climb
 “...that Jan will / wants to / is going to climb the mountain.”
- (b) ...dat die kinders die lekkers {op} sal (wil) {op-}eet.
 that the kids the sweets up wil want go eat
 “...that the kids will / want to / are going to eat the sweets up.”
- (c) ...dat Jan sy ma {*op} wil {op-} bel.
 that Jan his mother up wants up-phone
 “...that Jan wants to phone his mother up.”

Based on the contrast in (23), it has been argued – notably by Wurmbrand (2000) but also by Den Dikken (2002) – that particle verbs exist both as complex predicates and as SCs. Those that are non-transparent and non-separable by the method in (23) correspond with the complex predicate configuration and those that are transparent and separable by the method in (23) correspond with SC structures. However, even non-transparent particle verbs like (23c) have to be separated in V2 constructions:

- (24) Jan {*op-} bel sy ma {op}.
 Jan up phones his mother up
 “Jan is phoning up his mother.”

¹³² Cf. also Le Roux (1989) for further data.

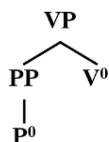
¹³³ Cf. Wurmbrand (2000:25-29) for a comparison of this property in Dutch, Swiss German, Afrikaans, and West Flemish.

To my best knowledge, no definitive solution has been proposed to account for this. It has however, been suggested that separability under V2 constitutes indisputable evidence that the verb and particle never really form a V^0 . Inseparability of verb and particle in non-transparent combinations under circumstances like (23) then simply results from difficulty in parsing the particle if it is separated from the verb in non-V2 constructions (cf. e.g. Svenonius 1994). The next section provides an overview of one final approach to the structure of particle verbs, before progressing to the analysis put forward in this study.

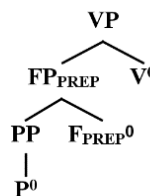
6.2.2 Particle Verbs and Local Domains

Zeller (2001) argues that what distinguishes particles of all categories from “regular” complements of corresponding categories is that they project no functional structure. For example, P-based V-particles are distinct from their adpositional counterparts in projecting no little-*p*; N-based V-particles are distinct from their full nominal counterparts in projecting no D – or related nominal functional structure, etc. N-based particles are thus considered “true” bare nouns whereas mass nouns or bare plurals would be DPs with an empty D. It is the locality of the particle with the verb – the lack of functional structure separating the two lexical categories – that brings about the word-like behaviour observable in particle verbs, including the non-transparent meanings that are frequently associated with such combinations. The distinction between particles and full PP complements is modelled in Zeller as in (25). Note however that the structure in (25b) is based on the discussion in Zeller (2001:109-149) but is not given as such by Zeller (2001).

(25) (a) *Particle Verb* (Zeller 2001:141):



(b) *Verb + PP complement*



Conceptually, the functional structure in Zeller's (2001) account renders categories referential, which by definition makes particles non-referring elements.¹³⁴ The locality of the verb and particle in (25a) is argued to bring about the word-like properties of particle verbs; however, the fact that the particle is still a projecting head means the account shares a strength of the SC approach in accounting for syntactic separability.

Though varyingly implemented, the idea that functional structure separating the "lexical cores" is missing between verb and particle is reflected in much of the literature. In Den Dikken (1996; 2010) for instance lexical categories that are not separated by functional structure trigger incorporation as a licensing mechanism, so particles that undergo obligatory syntactic (as opposed to LF) incorporation necessarily lack functional structure. In Aelbrecht & Den Dikken (2013) and Biberauer (2016b), the lack of requisite functional structure renders the particle a defective goal for agreement with a higher head which triggers incorporation in the sense of Roberts (2010). For Biberauer (2016b) this lack of functional structure also renders the phase defective, which in turn affects extraposition (cf. Chapter 5 for discussion). Chapter 5 also argued extensively that P-related functional structure (=little-*p*) is absent in Afrikaans particle verbs. Since the particular set of observations motivating the argument here comes from Spellout, it seems the absence of this functional structure in particle verbs is independently motivated from various theoretical perspectives. The next section sets out the proposed analysis, and the main observations driving the analysis, after which the proposal is evaluated against various known properties of particle verbs.

¹³⁴ For instance, the interpretational distinction between the nominal complements in the German expressions *Peter fährt Auto* (lit.: Peter drives car, "Peter is a car-driver") and *Peter repariert das Auto* (lit.: Peter repairs the car, "Peter repairs the car") is that the bare noun *Auto* is non-referential in the sense that it denotes no token; by contrast, *das Auto* in the latter expression identifies a token from a real set. Zeller (2001) points out that the non-referential noun is a de-nominal particle whereas the referential one is not. He argues, in keeping with his larger proposal, that the particle lacks functional structure whereas the referential noun has its extended projection in tact. Cf. Zeller (2001:127-143) for full discussion.

6.3 A Syncretism-Driven Analysis of Particle Verbs

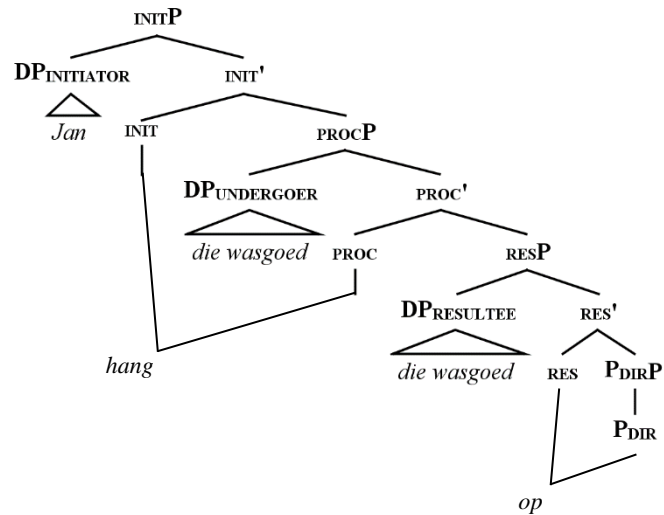
The empirical force driving this study is the robust patterns of syncretism in the P domain of Afrikaans, which were described in Chapter 2 in terms of the **ABA Constraint on Afrikaans Spatial P*, repeated here in (26). This in turn gave rise to the *Space Contiguity Hypothesis for Afrikaans*, repeated here in (27). In (26-27), “result” refers to the function that is argued to define P-syncretic V-particles, and corresponds to the event structure subcomponent RES.

- (26) **ABA constraint on Afrikaans spatial P*
- (a) If a suppletive form functions as an AxPart and V-particle, then it also functions as a locative and directional Adposition
 - (b) If a suppletive form functions as a locative Adposition and a V-particle, then it also functions as a directional Adposition
 - (c) If a suppletive form functions as a locative Adposition but not as a directional Adposition, then neither does it function as a V-particle
 - (d) If a suppletive form functions as a directional Adposition but not as a locative Adposition, then neither does it function as an AxPart
- (27) *Space contiguity hypothesis for Afrikaans*
Syncretism targets contiguous regions in the sequence AxPart-P_{LOC}-P_{DIR}-V-particle.

Taken together with the hierarchical model of syncretism, (26-27) make very strong predictions about the internal structure of P elements capable of surfacing as V-particles (=FRaP Classes C-F), but also therefore about the actual syntactic structure underlying expressions incorporating particle verbs. The function distinguishing V-particles from adpositions has to be located on the structural node immediately adjacent to P_{DIR}, such that AXPART < P_{LOC} < P_{DIR} < “V-PARTICLE FUNCTION”. By hypothesis, the “V-particle function” is RES since little-*p* is taken to be absent in the structure of particle verbs, and RES is then “the next node up”. So a P element must be giving morphological expression to RES whenever it exhibits the category effects of a V-particle. I suggest that V-particles sometimes lexicalise P_{DIR} and RES simultaneously, and that this gives rise to transparent interpretations (28).

- (28) (a) Jan sal die wasgoed ophang.
 Jan will the washing up-hang
 “Jan will hang the washing up.”

(b)



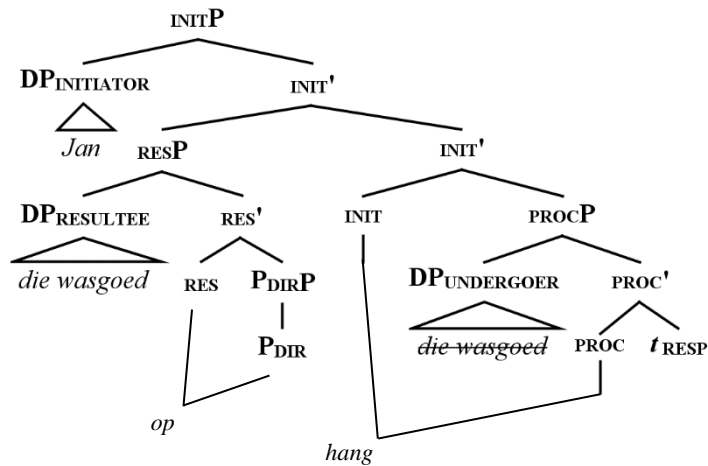
At other times, P_{DIR} may be absent from the structure, in which case the particle lexicalises only RES. This will be argued to give rise to non-transparent interpretations (Section 6.5). I will also argue that the object of the particle verb is not always a RESULTEE as it is in (28), and that the object is sometimes merged as a complement, making it an incremental theme/path/rheme in the sense of Ramchand (2008). I suggest this structural difference embodies that between (non-) predicative particles and is also what gives rise to landmark flexibility (Section 6.5). In line with the idea of Spellout Domains (SDs) developed in Chapter 5, I take it to be uncontroversial that the SD defined by VP (=SD_{VP}) in Afrikaans and other OV Germanic languages is head final.

In Chapter 5 head-finality was modelled as a PF algorithm. In the present chapter, however, it will be modelled as roll-up movement because pre-verbal particle placement cannot be achieved with a PF algorithm unless particle incorporation (in the sense of Baker 1988) is assumed to take place. Not only are the facts surrounding particle verbs neatly accounted for in the present system with roll-up movement, it

also relies on the lack of Bakerian particle incorporation for a straightforward account of particle verb separability under V2 movement. The fact that modelling head finality as a PF algorithm is incompatible with deriving it through roll-up movement is a non-trivial issue that requires serious attention. I therefore flag it up and leave it a topic for future investigation, one that falls outside the scope of this dissertation.

What this practically translates to is the entire complement phrase of a (set of) node(s) into which lexical material is inserted moving to a specifier position of the highest node that has been targeted for insertion. So when SD_{VP} (defined by [INIT [PROC [RES]]]) in (28) is spelled out, insertion first targets $P_{DIR-RES}$. Since there is no structural complement to the element lexicalising the $P_{DIR-RES}$ sequence in (28), no movement takes place at this stage and lexicalisation proceeds to target PROC. When the verb *hang* is inserted to lexicalise PROC-INIT, RESP moves to spec-INIT, as indicated in (29), and this yields the base OV order perceived in non-V2 constructions.

(29)



From the point in the derivation represented in (29), it is possible to imagine how V2 targets the verb to the exclusion of the particle, since no V^0 has been formed in syntax that includes both the verb and the particle. This basic idea, substantiated and further developed in the rest of the chapter, is in line with what is proposed in Ramchand &

Svenonius (2002) and Ramchand (2008). As briefly pointed out, the proposal sheds some light on the paradoxical properties of particle verbs outlined in Section 6.2, concerning which Ramchand (2008:133) remarks as follows:

[An analysis on which the event subcomponent RES is expressed by the particle – EP] resolves the debate between the small clause approach... and the complex predicate approach... by representing the essential correctness of both positions. The small clause approach is correct because the particle is associated with additional predicational structure which thematically affects, and is sometimes even solely responsible for the presence of the direct object, which is essentially the ‘subject’ of that introduced small clause. On the other hand, the first-phase decomposition is in effect a complex (decomposed) predicate, where the subevents involved combine to create a singular (albeit internally articulated) event. This complex event is a unit for the purposes of case licensing and idiom formation.

Structurally, therefore, RES is equivalent to the head of the SC in particle verb constructions. Additionally, the fact that RES *is* an event structure subcomponent, which is ordinarily lexicalised along with the other event structure subcomponents by the verb, yields an intuitive explanation of the word-like behaviour of particle verbs. The following section examines some of the structural and interpretational consequences of claiming that V-particles characteristically lexicalise RES.

6.4 V-particles ↔ RES: Structural and Interpretational Consequences

This section seeks to substantiate the claim that V-particles lexicalise RES. Section 6.4.1 first investigates similarities between V-particles and T-state passive participles, which have also been argued to give morphological expression to RES (cf. Caha 2007, Lundquist 2009, as well as Kratzer 2000 and Embick 2003; 2004 for similar proposals). Section 6.4.2 then examines the interpretational role of RES with respect to designating the logical end point in eventive expressions and the implications of V-particles necessarily giving expression to this end point.

6.4.1 V-Particles and T-state Passives.

There is a classic ternary distinction between eventive, R(esultant)-state, and T(arget)-state passive participles, with the latter two collectively forming the class of “adjectival” participles. The expressions in (30) illustrate the three classes, and (31) provides Parsons' (1990: 234-235) characterisation of T-states and R-states.

- | | | | |
|------|-----|-------------------------------------|----------|
| (30) | (a) | The dustbin is empty. | T-STATE |
| | (b) | The dustbin is emptied. | R-STATE |
| | (c) | The dustbin was emptied (by David). | EVENTIVE |

(Adapted from Embick 2003:148)

(31)

T-State Participle

For a large number of verbs, there is a “typical” independently identifiable state that its object is in after the verb is true of it. If the state is transitory, then we come to use the adjective form of the past participle to stand for the transitory state instead of for the permanent resultant state. For example, anything that is cracked and then not repaired is in a state that is easy to identify.

R-State Participle

For every event *e* that culminates, there is a corresponding state that holds forever after. This is “the state of *e*'s having culminated”, which I call the “Resultant state of *e*” or “*e*'s R-state”. If Mary eats lunch, then there is a state that holds forever after: The state of Mary's having eaten lunch.

(Parsons 1990: 234-235)

As indicated, the eventive passive in (30c) does not require the agentive *by*-phrase, although the *by*-phrase makes the characteristic “causing” subcomponent of the eventive explicit. The table in (32) illustrates some forms that are taken by these participles in English, and (33) below does the same for Afrikaans.

(32)

Root	T-state	R-state	Eventive
bless	blessèd	blessed	blessed
rot	rotten	rotted	rotted
sink	sunken	sunk	sunk
shave	(clean-) shaven	shaved	shaved
open	open	opened	opened
empty	empty	emptied	emptied
dry	dry	dried	dried
close	closed	closed	closed

(Embick 2003:153)

(33)

Root	T-state	R-state	Eventive
<i>oop</i> (open)	oop open “open”	oop-ge-maak open-PTCPL-make “opened”	oop-ge-maak open-PTCPL-make “opened”
<i>droog</i> (dry)	droog dry “dry”	droog-ge-maak dry-PTCPL-make “dried”	droog-ge-maak dry-PTCPL-make “dried”
<i>skeer</i> (shave)	ge-skeer PTCPL-shave “shaven”	ge-skeer PTCPL-shave “shaved”	ge-skeer PTCPL-shave “shaved”
<i>breek</i> (break)	ge-breek PTCPL-break “broken”	ge-breek PTCPL-break “broken”	ge-breek PTCPL-break “broken”
<i>spot</i> (tease)	---	ge-spot PTCPL-tease “teased”	ge-spot PTCPL-tease “teased”

From (33) it can be seen that, when the Afrikaans T-state is not V-based, the R-state and eventive form particle verbs. I add the table in (34) to the above, showing that P-based T-states behave the same as the A-based ones, forming particle verbs in the R-state and eventive:

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(34)

Root	T-state	R-state	Eventive
<i>op</i> (up)	op up “up”	op-ge-slaan up-PTCPL-set “set up”	op-ge-slaan up-PTCPL-set “set up”
<i>in</i> (in) <i>uit</i> (out)	in/uit in/out “in/out”	in/uit-ge-sluit in/out-PTCPL-locked “in-/excluded”	in/uit-ge-sluit in/out-PTCPL-locked “in-/excluded”
<i>deur</i> (through)	deur through “passed”	deur-ge-sit through-PTCPL-put “passed”	deur-ge-sit through-PTCPL-put “passed”

It has been argued by Caha (2007) and Lundquist (2009) that T-state, R-state, and eventive passives correspond to the event structure subcomponents of Ramchand (2008) as indicated in (35).

- (35) (a) *T-state*: [RES]
 (b) *R-State*: [PROC [RES]]
 (c) *Eventive*: [INIT [PROC [RES]]]

(Caha 2007:24)

The transparent morphological “nesting” exhibited by the Afrikaans paradigms in (33-34) – where non-V-based T-states form particle verbs in the R-state and eventive that morphologically *includes* the T-state morpheme – makes a case for the “structural nesting” proposed in (35). The distinction between the R-state and eventive is of no further concern to the present discussion, which focuses henceforth only on the contrast between the T-states and R-states.

T-states express no information other than the identification of a state (Embick 2003; 2004), and importantly carry no information about the event that brought it about (36). Compositionally, this translates to the absence of PROC in such passives.

- (36) (a) Die afstandbeheer is *gebreek*.
 the distance-control PASS PTCPL-break
 “The remote control is broken.”

V-BASED T-STATE

- (b) Die deur is *oop*.
the door PASS open
“The door is open.”

A-BASED T-STATE

- (c) Die tent is *op*.
the tent PASS up
“The tent is up.”

P-BASED T-STATE

Whereas RES corresponds to a *resultant* state in active predicates, I suggest this is due to it being selected by the event subcomponent PROC: compositionally, a process leading to a state would have the state interpreted as resulting from the process. In a structure such as that corresponding to the T-state passive, where PROC is absent, I suggest RES is interpreted as a mere STATE. This in turn suggests that RES is not categorially specific and may in fact correspond to an array of lexical material denoting states – like simple adjectives. R-states, on the other hand, while also denoting states, carry information about the event which brought the state about. Here, RES is again interpreted as denoting a resultant state, on par with active predicates. When information about the dynamic process (=PROC) enters the structure, paradigm series in (33-34) that do not have V-based roots in the T-state form particle verbs:

- (37) (a) Die deur is *ooggemaak*.
the door PASS open-PTCPL-make
“The door is (in a state of having been) opened.”

A-BASED R-STATE

- (b) Die tent is *opgeslaan*.
the tent PASS up-PTCPL-set
“The tent is (in a state of having been) set up.”

P-BASED R-STATE

Since R-states express [PROC [RES]] (= a process leading to a resultant state), I suggest that predicates which are not V-based (e.g. *oop* and *droog* in (33) and all the roots in (34)) form particle verbs – i.e. the subcomponents PROC and RES are lexicalised by separate elements – because the elements expressing RES (A- and P-elements) are not specified for PROC.

One diagnostic for T-states is compatibility with degree modifiers that also typically occur with gradable adjectives, e.g. *heeltemal* (“completely”). The expression in (38a) illustrates the compatibility of a true gradable adjective with *heeltemal*, after which (38b-d) show that V-based, A-based, and P-based T-states are compatible with the same modifier. I suggest this is an indication that these elements are all lexicalising congruous structure.

- | | | | |
|------|-----|---|-----------------|
| (38) | (a) | Herman is heeltemal <i>gelukkig</i> .
Herman is completely happy
“Herman is completely happy” | TRUE ADJECTIVE |
| | (b) | Herman is heeltemal <i>gekuier</i>
Herman is completely partied
“Herman is completely drunk” | V-BASED T-STATE |
| | (c) | Die hek is heeltemal <i>oop</i> .
The gate is completely open
“The gate is completely open.” | A-BASED T-STATE |
| | (d) | Die kos is heeltemal <i>op</i> .
the food is completely up
“The food is completely finished.” | P-BASED T-STATE |

T-states are also typically compatible with *still*-modification (Kratzer 2000:388-389):

- | | | | |
|------|-----|---|-----------------|
| (39) | (a) | Herman is nog steeds <i>gelukkig</i> .
Herman is more still happy
“Herman is still happy” | TRUE ADJECTIVE |
| | (b) | Herman is nog steeds <i>gekuier</i>
Herman is more still partied
“Herman is still drunk” | V-BASED T-STATE |
| | (c) | Die hek is nog steeds <i>oop</i> .
The gate is more still open
“The gate is still open.” | A-BASED T-STATE |

- (d) Die kos is nog steeds *op*.
the food is more still up
“The food is still finished.”
P-BASED T-STATE
- (e) Die professor is nog steeds *uit*.
the professor is more still out
“The professor is still out.”
P-BASED T-STATE

The expression in (39d) seems a little odd out of context, but is perfectly acceptable in a situation where more food is expected to arrive but has not yet. Finally, consider the fact that T-states are infelicitous with *un*-prefixation (40); R-states, on the other hand, allow it (Embick 2003:154).

- (40) (b) *Herman is *on-gekuier*
Herman is un-partied
V-BASED T-STATE
- (c) Die geskenk is **on-oop* / *onoopgemaak*.
The gift is un-open un-open-PTCPL-make
“The gift is unopened.”
A-BASED T-STATE/R-STATE
- (d) Die bed is **on-op* / *onopgemaak*.
the bed is un-up un-up-PTCPL-make
“The bed is unmade.”
P-BASED T-STATE/R-STATE

From the above, I argue that both A-based and P-based T-states – and therefore by extension the A and P components of the (active or passive) particle verbs – express RES. I suggest furthermore that modifiers like *heeltemal* in (38) above scope over RES, which accounts for the ability of T-states and V-particles in general to accept such modification. Recall from Section 6.2.1 above that Afrikaans P-based V-particles, unlike in Dutch or English, do not accept modification by *right/straight*, as adpositions do – (41a) shows that adpositions may be felicitously modified by *reg* (“right”), and (41b) shows that V-particles reject such modification but accept modification, as we know, by *heeltemal* (“completely”).

- (41) (a) (i) ...dat Jan die beker *reg* op/in die wasbak neergesit het.
that Jan the mug right on/in the basin down-put has
“...that Jan put the mug down right on/in the basin.”
- (ii) ...dat Jan *reg* verby die plaasdam gery het.
that Jan right past the farm-dam drives has
“...that Jan drove right past the farm dam.”
- (b) (i) ...dat Jan die koekies **reg*/ heeltemal opgeëet het.
that Jan the cookies right completely up-eaten has
“...that Jan ate the cookies up completely.”
- (ii) ...dat Jan die berg **reg*/ heeltemal uitgeklim het.
that Jan the mountain right completely out-climbed has
“...that Jan climbing the mountain all the way to the top.”
- (iii) ...dat sy hom **reg* /heeltemal uitgeskel het.
that she him right completely out-scolded has
“...that she scolded him severely”
- (iv) ...dat Jan sy hare **reg* / heeltemal afgespoel het.
that Jan his hair right completely off-rinsed has
“...that Jan did a thorough job of rinsing off his hair.”

As also shown in Section 6.2.1, *heeltemal* can be topicalised with the particle, leaving the verb behind, which means the constituent containing the particle and the modifier excludes the verb:

- (42) (a) [Heeltemal op] het Jan die koekies geëet.
completely up has Jan the cookie eaten
“Jan totally finished the cookies.”
- (b) [Heeltemal in/uit/op] het Jan geklim.
completely in/out/up has Jan climbed
“Jan climbed all the way in/out/up.”

I suggest the fact that V-particles cannot be modified by *reg* (“right”) in Afrikaans provides additional support for the idea that the V-particle function is higher than that corresponding to adpositions, and that *reg* does not scope over the V-particle function, located at RES, whereas *heeltemal* does. The fact that A- and P-based V-particles are

both compatible with *heeltemal* suggests these particles are structurally congruous – at least in their upper layer – and the fact that these V-particles share this property with T-state passives suggests that the identity of that structural layer is indeed RES.

6.4.2 Telicity: Particle Contribution to Verb-Internal Aspect

Telicity – or resultativity – identifies the logical end-point of an event.¹³⁵ An activity defined by *running*, for instance, is *atelic* because it has no inherent end point unless one is additionally specified, e.g. running *a race*. Although the concept seems simple enough to grasp, it is much debated whether or not any particular structural component gives rise to telicity. In many languages telicity is associated with special morphology and/or has case-marking reflexes (cf. e.g. Tenny (1987), Kiparsky (1998), Van Hout (1996), Ritter & Rosen (1998), Borer (1998)), which suggests it may be active in the formal representation of the grammar. With Ramchand (2008), I will take the view that telicity can arise both from inherent properties of the event predicate (=lexically and structurally encoded) and from semantic entailments that are not lexically or structurally encoded. I will also assume that structurally encoded telicity can eventually correspond to an atelic reading due to the encyclopaedic content of an element lexicalising the relevant structure.

¹³⁵ It was long thought, as possibly first proposed by Streitberg (1891), that V-particles affect clausal aspect so as to render it perfective. More recent consensus seems to be that V-particles actually interact with aktionsart – which might be thought of as verb-internal aspect – rendering events telic (Live (1965), Bolinger (1971), Fraser (1976), Brinton (1985; 1988:163-184), Gavruseva (2003:741), Travis (2010), Schippers (2012:20), Ogiela et al. (2014)). To see that telicity is distinct from perfectivity, consider (i), which is perfective yet remains atelic.

(i) Jan has eaten chakalaka for an hour / *in an hour.

ATELIC

6.4.2.1 Telicity Effects with Incremental Themes/Paths

The data in (43) show that verbs do differ in terms of their inherent aspectual properties.

- (43) (a) Jan het vir 'n uur lank / ??binne 'n uur gedraf.
 Jan has for an hour long in an hour jogged
 “Jan jogged for an hour.”
 ATELIC
- (b) Jan het binne 'n uur / ??vir 'n uur lank gearriveer.
 Jan has in an hour for an hour long arrived
 “Jan arrived in an hour.”
 TELIC

On the basis of a classic telicity test where compatibility with *in an hour* identifies a telic event, and compatibility with *for an hour* identifies an atelic event (cf. e.g. Vendler 1957 and Verkuyl 1972), the activity *draf* (“jog”) in (43a) is atelic and the achievement *arriveer* (“arrive”) in (43b) is telic.¹³⁶ Many durative verbs – especially those belonging to a semantic class designated creation/consumption verbs – *bake*, *build*, *eat*, *drink* – tend to alternate between activities and accomplishments, depending on the presence of an incremental theme. Consider (44):

- (44) (a) John ate chakalaka for an hour / ??in an hour.
 ATELIC
- (b) John ate the chakalaka in an hour / ??for an hour.
 TELIC
- (c) John walked towards Camps Bay for an hour / ??in an hour.
 ATELIC
- (d) John walked to Camps Bay in an hour / ??for an hour.
 TELIC

¹³⁶ Importantly, *in*-phrases with achievements are interpreted as meaning “X happened after the specified period of time”, whereas with accomplishments they are interpreted as meaning “X took the specified period time to reach completion”. So although both achievements and accomplishments are telic, accomplishments are durative and achievements are not (cf. Kearns' (2000) notion of *repair readings* with diagnostics for verb-internal aspect). Achievements are the only aspectual class that cannot occur as complements of *stop* (i); accomplishments are the only aspectual class that can occur as complements of *finish* (ii) (cf. Kearns 2000:214).

- (i) ??John stopped arriving. / John stopped mopping (the floor).
 (ii) John finished mopping (the floor). / ??John finished arriving.

In (44a) the mass noun *chakalaka* is unbounded,¹³⁷ and has no effect on the telicity of the activity. In (44b) *the chakalaka* is an incremental theme, referring to a bounded quantity, and enforces a telic reading on the event such that it comes to an end when the quantity is depleted. Similarly, *towards* in (44c) denotes no boundary,¹³⁸ so the PP has no effect on the telicity of the activity. In (44d) *to* implies reaching a boundary and thus enforces a telic reading on the event such that it comes to an end when the boundary is reached.¹³⁹ Ramchand (2008:31) argues that telicity effects in the class of creation/consumption verbs with bounded objects and paths are semantic entailments and do not arise from any lexical specification or syntactic reflexes of the verb. When telicity is an inherent property of the verb's event structure, it is reflected in the presence of the result state-denoting node RES, and the entity of which that state is predicated is merged in spec-RES. So the event and argument structure of an achievement like *arriveer* in (43c) is given as follows:¹⁴⁰

- (45) (a) Jan het gearriveer.
 Jan has arrived
 "Jan arrived."

¹³⁷ In fact, *quantisation* (having a specified quantity) is the nominal property that has been argued to bring about telicity. It is a topic of debate whether quantisation *is* in fact responsible for telic interpretations (in general), as has frequently been claimed. Cf. Krifka (1987; 1992); Van Hout (2000); Kratzer (2004); Borer (2005) for discussion. Ramchand (2008:25) points out that expressions like (iii) are telic despite the DP *gold* being an un-quantised mass noun:

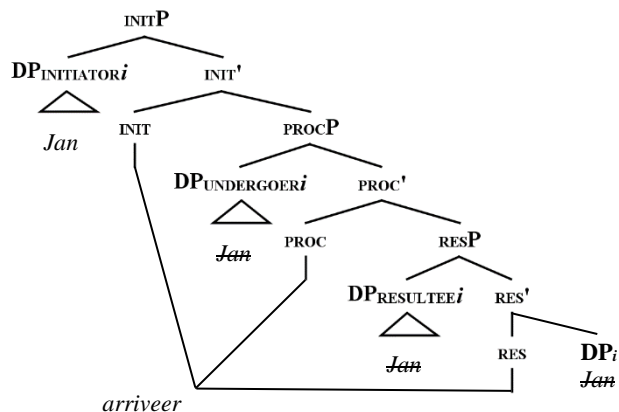
- (iii) They found gold in three hours.

¹³⁸ Cf. Zwarts (2005) for discussion of bounded and unbounded spatial paths.

¹³⁹ The sense in which bounded and unbounded DPs and PPs give rise to telicity can be related to the general cognitive notion of a *path* (cf. Schwarzschild 2002). Paths are interpreted as scales that are homomorphic to the part-whole process of the event, as described above for the interpretation of (44b,d).

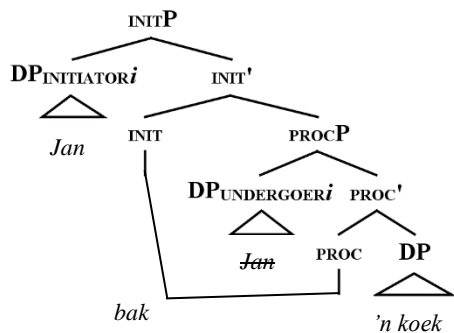
¹⁴⁰ To preserve phrase structure, it is necessary to assume that the DP *Jan* in structures like (45b), where RES takes no rhematic complement, originates in RES-complement and only subsequently moves into its specifier (from whence it moves successively to saturate each co-indexed argument position. For notational simplicity, however, this "initial" movement operation will henceforth not be represented in the diagrams.

(b)



By contrast, the telicity arising from the presence of incremental themes/paths is by Ramchand’s account a semantic entailment and does not warrant the presence of RES, which “only exists when there is a result state explicitly expressed by the lexical predicate” (Ramchand 2008:40). So the event and argument structure of an accomplishment like *bak* in (43b) is given as in (46), where the incremental theme is structurally a *rheme* (saturating a complement rather than specifier position) and not a *theme*; (cf. Chapter 3 for discussion).

- (46) Jan het 'n koek gebak.
 Jan has a cake baked
 “Jan baked a cake.”



In this sense, it should be clear that RES is not the structural locus of telicity – as Ramchand (2008:77) also states – but does embody one means through which events can receive a telic reading. Specifically, RES encodes structural telicity as opposed to telicity arising from semantic entailment.

6.4.2.2 Atelicity Effects with Adverbial Modifiers

Importantly, just as telicity can arise despite the absence of RES, atelic readings can arise despite the presence of RES, due to modification by auxiliaries or PPs outside the first-phase syntax (Ramchand 2008:40). Furthermore, I argue that the encyclopaedic content of an element lexicalising a telic structure can also give rise to an atelic reading (I elaborate on this below). Though the presence of RES is contingent upon a resultant state as explicitly expressed by the event predicate, there is no *a priori* reason for RES to be associated exclusively with “V”-categorial elements, as argued in Section 6.4.1 above. Consider the fact that the presence of a V-particle renders inherently atelic verbs (47-i) telic (47-ii).

- (47) (a) (i) Jan het (^{??}binne ’n uur) televisie gekyk.
Jan has in an hour television watched
“Jan watched television.”
- (ii) Jan het binne ’n sekonde omgekyk.
Jan has in a second around-looked
“Jan looked around in a second.”
- (b) (i) Jan het (^{??}binne ’n uur) gestaan/geklim/ gestap.
Jan has in an hour stood climbed strolled
“Jan stood / climbed / strolled.”
- (ii) Jan het binne ’n sekonde opgestaan / uitgeklim / deurgestap.
Jan has in a second up-stood out-climbed through-strolled
“Jan stood up / climbed out / walked through in a second.”
- (c) (i) Jan het (^{??}binne ’n uur) gespeel/geskree.
Jan has in an hour played screamed
“Jan played / screamed.”

- (ii) Jan het binne 'n uur uitgespeel /uitgeskree.
 Jan has in an hour out-played out-screamed
 “Jan played finished (a game) / screamed out in an hour.”

Since it seems important to point out that this test for telicity should be applied with caution, some remarks on the effects of the temporal adverbials in these expressions are in order. The first thing to notice about the (47-ii) examples is that most are subtly ambiguous. Depending on whether the verb allows it, relevant expressions could mean either that the event took a specified duration to reach completion or that it happened instantaneously after the specified time. As registered in note 136 above, this indicates that the predicates in such cases are ambiguous between achievement (=X happened instantaneously after specified time) and accomplishment (=X took specified time to reach completion) readings.¹⁴¹ Furthermore, many expressions in (47-ii) are compatible with *for*-adverbials (48), which is supposed to diagnose atelicity. On closer inspection, however, it can be seen that this type of modification actually elicits one of two repair readings, with the specified length of time making one or the other reading more salient. The first type of repair reading is iterative, in which the same routine defining the event is understood to occur repeatedly over a lengthy period of (e.g. *a year*). The second type of repair reading is one of transience in which the state that results from the event is understood to hold only for a short period (e.g. *a minute*).

- (48) (a) Jan het vir 'n minuut/'n jaar lank omgekyk.
 Jan has for a minute a year long around-looked

“Jan looked around for a minute.”	TRANSIENT
“Jan looked around (every day) for a year.”	ITERATIVE

¹⁴¹ Besides the “X took a specified time to reach completion” reading on *in*-adverbials with accomplishments, the fact that some events in (47-ii) can be interpreted as accomplishments can be seen from the fact that they can occur in the complement of *klaar* (“finish”) as illustrated with *omkyk* (“to look around”) in (i) (cf. note 136 regarding the fact that accomplishments are the only aspectual class that can occur in complement of *finish*). Importantly, *klaar* in Afrikaans can mean either “finished” or “already”, the latter of which does not diagnose accomplishments. There does not seem to be an adverb in Afrikaans that is unambiguously equivalent to *finished* in English, so this test – like the others – has to be applied with caution.

- (i) Jan, het jy nou klaar omgekyk?
 Jan have you now finished around-looking
 “Jan, have you finished gawking?”

- (b) Jan het vir 'n minuut/'n jaar opgestaan / uitgeklim / deurgestap.
 Jan has for a minute /a year up-stood out-climbed through-strolled

“Jan stood up/climbed out/walked through for a minute.” TRANSIENT

“Jan stood up/climbed out/walked through (once a day) for a year.”
 ITERATIVE

The iterative reading of the expressions in (48) does not cancel the telicity of the events. Instead, the *for*-adverbial creates additional meaning on which the events are repeated – from initiation to resultant state – for the duration of the specified time. Likewise, the non-permanence of the resultant state on the transience reading does not cancel the fact that a resultant state is brought about. That the state is transient again constitutes additional information contributed by the *for*-adverbial. Thus, for example, the transience reading of *opstaan* in (48b) can be paraphrased as “Jan initiated a process of standing up, which brought about a state in which Jan is up, and which lasted only a minute because after that Jan sat down again.” Likewise, the transience reading of *deurstap* in (48b) can be paraphrased as “Jan initiated a process of walking through (e.g. the foyer of a great hall), which brought about a state in which Jan is through, and which lasted only a minute because after that Jan came back.” The fact that neither habitual nor transience readings actually give rise to atelicity is a clear indication that the presence of the *for*-adverbial in expressions like (48) does not warrant the absence of RES in the underlying representation.

6.4.2.3 Atelicity Effects Triggered by Conceptual Content

Despite the possibility of atelic readings arising with telic structures due to adverbial material, the particle *rond* (“round”) systematically fails to correspond with telic event interpretations, even when no adverbial material is present:

- (49) Jan het vir / ?binne 'n uur rond -gedans/ -geloop/ -gesit/ -gekyk
 Jan has for in an hour round-danced walked sat looked
 “Jan danced/walked/sat/looked round for an hour.”

Since it seems highly unlikely that *ronde* is the single P-based V- particle requiring a unique structural analysis, I suggest that the encyclopaedic content of the P element *ronde* is such that it “masks” an underlyingly telic structure. In other words, particle verbs formed with *ronde* are argued to lexicalise the same structure as particle verbs incorporating other P elements – i.e. with the particle lexicalising RES. Eventually, however, the telic structure is given an atelic reading because *ronde* could effectively be said to denote a spatial concept of “boundlessness” and “aimlessness”. It should be clear that an element’s *functional* properties need not align with their *conceptual* properties. This situation described with *ronde* could be reminiscent of that described by Zeller (2001:158-160) regarding the “aspectual” contribution of the particle *an* in German:

- (50) (a) Peter brät das Fleisch.
Peter fries the meat
“Peter is frying the meat”
- (b) Peter brät das Fleisch an.
Peter fries the meat PRT
“Peter is frying the meat lightly”

(Zeller 2001:158-159)

Zeller suggests that the functional nature of the particle *an* is to specify the aspectual property of “lightly”, “partly” or “incomplete”. It is not clear, however, that such “contentful” aspect should be functionally encoded, or indeed how it would be encoded in the present system. Notice instead that the particle in (50b), although denoting *conceptually* that the action is in some way light-handed, still seems *functionally* to denote the coming about of a resultant state – i.e. a state which is predicated of the meat, that it is lightly fried. I therefore suggest, like with the Afrikaans particle *ronde*,¹⁴² that the conceptual content of the German particle *an*,

¹⁴² Afrikaans does incorporate many particle verbs that are formed with *aan*, but very few appear to denote the aspectual quality that Zeller (2001) reports for German *an*. An example of such a particle verb is *aanvang* (“initiate mischief”), which has a rather idiomatic meaning. The particle *aan* never has this “lightly” aspectual quality in productive combinations and rather denotes a spatial sense “towards” – even when (semi-) idiomatic – e.g. *aanskou* (“behold”), *aangee* (“pass on”), *aanplak* (“stick to”). It seems particularly clear that Afrikaans and German differ in their respective uses of this particle when considering the fact that the closest Afrikaans

denotes a property that seems to be at odds with a deeper functional reading corresponding to a resultant state. In fact, the state (=RES) is not cancelled or absent, merely masked by the conceptual content of the element giving expression to it.

This section has attempted to substantiate the claim that V-particles give morphological expression to RES by examining some structural and interpretational consequences. It was found that V-particles are analogous to T-state passives, which have also been argued to express RES. Moreover, it was argued that the presence of a V-particle always renders the verbal aspect telic, even though such telicity is sometimes masked by adverbial material or encyclopaedic content.

6.5 Predication & Transparency

In this section I will argue for a structural distinction firstly between transparent and non-transparent particle verbs (52), and secondly between predicative and non-predicative particles (53). The first distinction is argued to arise from the amount of structure the particle lexicalises whereas the second, in keeping with the larger model for representing structural relations, is taken to arise from the fact that non-predicative particles do not accommodate referential material in specifier position.

- | | | | |
|------|-----|---|-----------------|
| (52) | (a) | Jan hang die wasgoed op.
Jan hangs the washing up
“Jan is hanging the washing up.” | TRANSPARENT |
| | (b) | Jan eet die chakalaka op.
Jan eats the chakalaka up
“Jan is eating the chakalaka up.” | NON-TRANSPARENT |

equivalent of the particle verb in Zeller’s (2001) example is *aanbrand* (lit.: to-burn) which translates roughly as “sticking (to the pan)”.

A nominalized homophone of the particle verb *aanvang*, has the primary meaning “(the) start/beginning”, e.g. *die aanvang van die akademiese jaar* (“the start of the academic year”).

- (53) (a) Jan kom al sy eksamens deur.
Jan comes all his exams through
“Jan is passing all his exams.”
PREDICATIVE
- (b) Jan lees die boek deur.
Jan reads the book through
“Jan is reading the book (from cover to cover).”
NON-PREDICATIVE

(Non-) transparency is largely based on interpretation: if the particle retains the spatial meaning with which it is associated as an adposition the particle verb is described as transparent (52a), whereas if it loses this spatial meaning the particle verb is non-transparent (52b). Predication, on the other hand, can be diagnosed based on whether the particle can appear as sole predicate in a copular construction:

- (54) (a) Jan eet die chakalaka op.
Jan eats the chakalaka up
“Jan is eating the chakalaka up.”
(a') Die chakalaka is op.
the chakalaka is up
“The chakalaka is finished
- (b) Jan kom al sy eksamens deur.
Jan comes all his exams through
“Jan is passing all his exams.”
(b') Jan is deur.
Jan is through
“Jan passed.”
PREDICATIVE
- (55) (a) Jan lees die boek deur.
Jan reads the book through
“Jan is reading the book (from cover to cover).”
(a') *Die boek is deur.
the book is through
- (b) Jan klim die berg uit.
Jan climbs the mountain out
“Jan is climbing the mountain (all the way to the top).”
(b') *Die berg/ Jan is uit.
the mountain/Jan is out
NON-PREDICATIVE

Though the notions of transparency and predication with regard to V-particles and particle verbs are often conflated (i.e. particles in transparent particle verbs are said to be predicative and vice versa),¹⁴³ it is not clear that such an assessment is correct. For instance, particles in transparent particle verbs are frequently non-predicative (56); similarly, non-transparent particles may be predicative (cf. 54a, repeated as 57).

- (56) (a) Die polisie soek die woonstel deur.
the police search the flat through
“The police are searching the flat.”
- (b) *Die woonstel/die polisie is deur.
the flat / the police are through
- TRANSPARENT; NON-PREDICATIVE
- (57) (a) Jan eet die chakalaka op.
Jan eats the chakalaka up
“Jan is eating the chakalaka up.”
- (b) Die chakalaka is op.
the chakalaka is up
“The chakalaka is finished
- NON-TRANSPARENT; PREDICATIVE

It has been argued in the literature that transparent and non-transparent/predicative and non-predicative particle verbs should receive distinct syntactic treatment (cf. Wurmbrand 2000, Den Dikken 2002). Citing work by Sawyer (1999), Den Dikken (2002) points out that, besides exhibiting distinct behaviour with regard to the copular predication test, acquisition paths differ robustly between particle verbs with

¹⁴³ Interpretation alone arguably does not provide adequate proof of a structural distinction between transparent and non-transparent particle verbs. Wurmbrand (2000) thus takes the copular predication test to be definitive on the issue of transparency (i.e. when a particle can occur in a copular predication, it is transparent), stating Transparent Particle Licensing (i) as the relation between transparency and predication. She does, however, point out that the copular predication test is not felicitous with all transparent particle verbs (Wurmbrand 2000:12).

- (i) Transparent particle licensing (Wurmbrand 2000:13):
Transparent particles are licensed in a direct or indirect predicate/argument relation.

predicative particles and non-predicative particles.¹⁴⁴ Wurmbrand (2000) argues that transparent particle verbs should be analysed using the SC approach, whereas their non-transparent counterparts should be analysed as complex predicates. As noted in Section 6.2 however, this does not allow for a straightforward account of the obligatory syntactic separability of verb and particle in V2 constructions.

The solution I propose therefore maintains a careful dissociation between particles being (non-)predicative on the one hand, and particle verbs being (non-)transparent on the other. There are thus four logical combinations for particle verbs, in terms of these two independent properties (58).

(58)

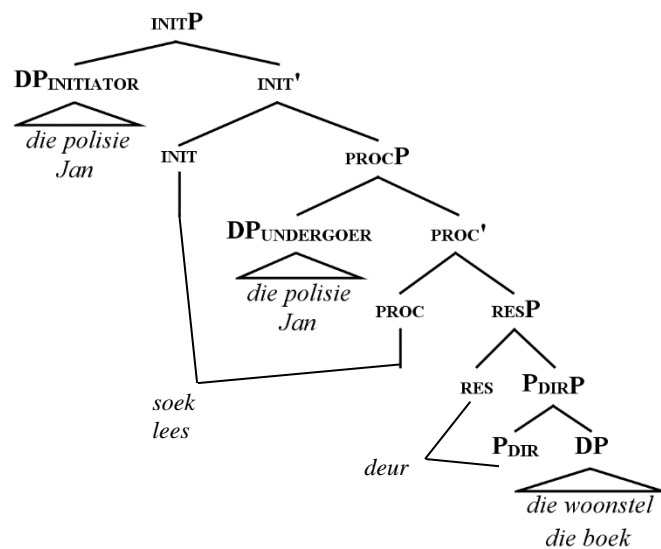
Transparent	Predicative	Example
+	-	deursoek, deurlees through-search, through-read “thoroughly search/read”
+	+	uithang, afspoel out-hang, off-rinse “hang out, rinse off”
-	-	uitklim, uitskel out-climb, out-scold “climb (to the top), scold”
-	+	opeet, aan- / afskakel up-eat, on/ off-switch “eat up, switch on/off”

6.5.1 (Non-)Transparent Particle Verbs

I argue that each combinatorial possibility in (58) is attested. Consider first particle verbs that are transparent but in which the particle is non-predicative (59). The analysis I propose is given below the data, with discussion following.

¹⁴⁴ Sawyer (1999) shows that the mistakes associated with the production of particle verbs with (non-) predicative particles pattern differently. For predicative particles, the most common mistakes involved lexical mistakes, e.g. inappropriate pairings of verbs and particles (e.g. *beat down* as opposed to *beat up*, *made up* as opposed to *messed up*); on the other hand, the most common mistakes in connection with particle verbs with predicative particles involved inappropriately dropping either the subject or the theme.

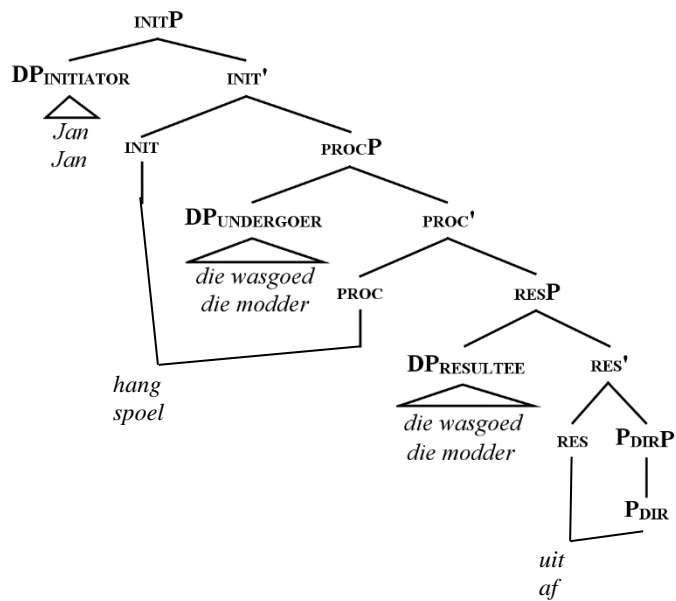
- (59) *Transparent, Non-predicative:*
- (a) Die polisie soek die woonstel deur.
 the police search the flat through
 “The police are thoroughly searching the flat.”
- (b) Jan lees die boek deur.
 Jan reads the book through
 “Jan is reading the book (from cover to cover).”



In keeping with the mode of structural representation maintained throughout the study, I suggest that non-predicative particles do not accommodate referential material in specifier position, so there is no RESULTEE in (59). Instead, I argue that the DPs *die woonstel* (“the flat”) and *die boek* (“the book”) in (59a-b) are incremental themes/paths, as discussed and introduced in Section 6.4.2 above. They are thus merged in complement position. This is compositionally accurate of the expressions in (59), where the INITIATOR of activities like *soek* (“search”) and *lees* (“read”) is also the UNDERGOER and, importantly, the theme is homomorphic to the part-whole process of the event. For instance, the interpretation of (59a) is such that the police progress through the flat in proportion to the progression of the searching event. Likewise, in (59b) Jan’s progress through the book is proportional to the progression of his reading. The fact that the internal arguments *die woonstel* and *die boek* are in

complement position and not in spec-RES accounts for the fact that the particle cannot be predicated of them in a copular construction: **die woonstel is deur* (lit.: the flat is through), **die boek is deur* (lit.: the book is through). Furthermore, despite the fact that the particles are non-predicative, they express a clear sense of directionality, and I suggest this comes about because the particles are expressing RES (=the locus of the V-particle function) in addition to P_{DIR} (=the locus of the directional function in the adpositional domain). Now consider the next combinatorial possibility:

- (60) *Transparent, Predicative:*
- (a) Jan hang die wasgoed uit.
 Jan hangs the washing out
 “Jan is hanging the washing out.”
 - (b) Jan spoel die modder af.
 Jan rinses the mud off
 “Jan is rinsing the mud off.”



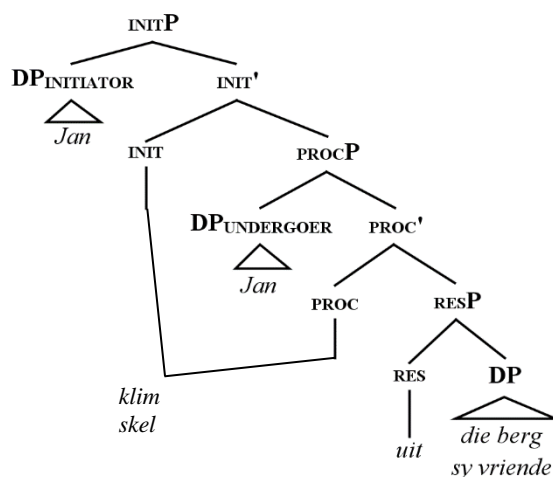
That the particles in (60) are predicated of the DPs *die wasgoed* (“the washing”) and *die modder* (“the mud”) can be verified on the basis of the corresponding copular expressions *die wasgoed is uit* (lit.: the washing is out) and *die modder is af* (lit.: the

mud is off”). This suggests that, unlike the objects in (59), these DPs are arguments of the particle (=RESULTEEs) and thus saturate spec-RES. Furthermore, the particles express a clear sense of directionality so, like the particles in (59), they express the functional sequence P_{DIR-RES}.

6.5.2 (Non-)Predicative Particles

Next, we consider non-transparent particle verbs:¹⁴⁵

- (61) *Non-transparent; Non-predicative:*
- (a) Jan klim die berg uit.
Jan climbs the mountain out
“Jan is climbing (to the top of) the mountain.”
- (b) Jan skel sy vriende uit.
Jan scolds his friends out
“Jan is scolding his friends.”

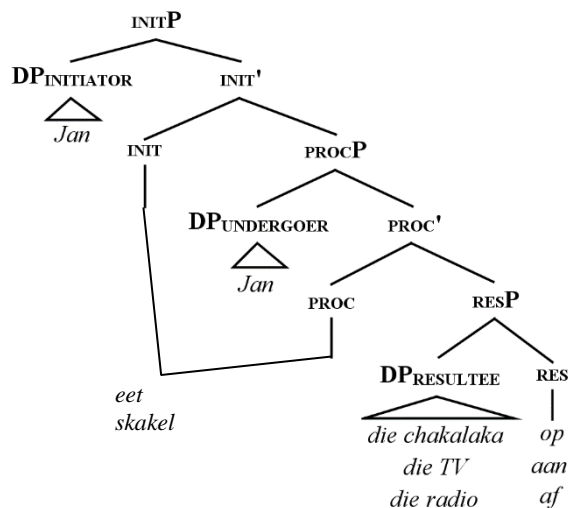


¹⁴⁵ Note that the UNDERGOER and INITIATOR arguments of *klim* in (61a) are coindexed because *klim* is intransitive and denotes an activity which the DP *Jan* both initiates and undergoes. It is less clear that *Jan* should be coindexed with the UNDERGOER in (61b) with *skel*. In this case, it is in fact likely *sy vriende* is coindexed with this argument position. Such a modification to the structure in (61) would have no effect on the word order of the expression and has no important consequences for the discussion at hand, so I leave this issue open.

The important difference between (61) and (59) is that the particle *uit* in (61) expresses no directionality and is thus responsible for the non-transparent interpretation of these particle verbs. I have analysed non-transparent particles as expressing only the state-denoting node RES and argue that there is no P_{DIR} node in expressions where the particle expresses no spatial meaning. The effect is reminiscent of grammaticalisation in which lower, “substantive” structure is lost (cf. Roberts & Roussou (2003)). Whether non-transparent particles ought to be considered “grammaticised P elements” is not completely clear, though, because they are well able to express spatial meaning in other syntactic contexts. A more fitting assessment of the non-transparency of the particle in (61) seems simply to be that the P element expressing the structure is overspecified (so, *able* to express direction), but that the actual underlying structure is not utilising that particular functional specification on the lexical entry. In other words, P_{DIR} is not actually merged into the structure in (61), so the P element cannot express it, though it is able to. The lack of directionality in expressions like (61) is thus argued to follow from the underlying structure rather than from the lexical material realising it.

Furthermore, the fact that the particles in (61) are not predicated of the DPs *die berg* (“the mountain”) or *sy vriende* (“his friends”) follows from the fact that they cannot occur in copular predications: **die berg is uit* (lit.: the mountain is out), **sy vriende is uit* (lit.: his friends are out). Once again, I suggest that these DPs are rhemes/incremental themes/paths, merged in complement rather than specifier position. Finally, consider the analysis of non-transparent, predicative particles:

- (62) *Non-transparent; predicative:*
- (a) Jan eet die chakalaka op.
Jan eats the chakalaka up
“Jan is eating the chakalaka up.”
 - (b) Jan skakel die TV aan / die radio af.
Jan switches the TV on the radio off
“Jan is switching the TV on / the radio off.”



Once again, since the particles in (62) are not directional, the structures are argued to lack the P_{DIR} node, with the particles expressing only RES. This gives rise to the non-transparent interpretation. The particles are, however, predicated of the DPs *die chakalaka*, *die TV*, and *die radio*: cf. *die chakalaka is op* (lit.: the chakalaka is up), *die TV is aan* (lit.: the TV is on), and *die radio is af* (lit.: the radio is off), which means that these DPs are in spec-position of the node corresponding to the particle – i.e. spec-RES.

The next section implements the structural distinction between (non-)predicative particles argued for above to account for the phenomenon of *landmark flexibility*.

6.5.3 Landmark Flexibility

Landmark flexibility, a phenomenon where the object of a given particle verb can be interpreted either as the Figure or the Ground may provide evidence for the above claim that the objects of some particle verbs are rhemes/incremental themes/paths

(=complements of RES) whereas others are RESULTEES (=in spec-RES). The phenomenon is illustrated in (63-64):¹⁴⁶

- | | | | |
|------|-----|---|-----------------|
| (63) | (a) | Jan spoel <i>die bord</i> af.
Jan rinses the plate off
“Jan is rinsing the plate off.” | OBJECT = GROUND |
| | (b) | Jan spoel <i>die modder</i> af.
Jan rinses the mud off
“Jan is rinsing off the mud.” | OBJECT = FIGURE |
| (64) | (a) | Jan laai <i>die bakkie</i> af.
Jan loads the pickup off
“Jan is offloading the pickup truck.” | OBJECT = GROUND |
| | (b) | Jan laai <i>die tasse</i> af.
Jan loads the suitcases off
“Jan is offloading the suitcases.” | OBJECT = FIGURE |

The objects in the (a) examples of (63-64) are interpreted as Grounds: the place from which something is rinsed away or unloaded. By contrast, the objects in the (b) examples are interpreted as Figures: the entity that is rinsed away or unloaded. The copular predication test reveals that the particles in the (a) examples – where the object is interpreted as a Ground – are non-predicative, whereas the particles in the (b) examples – where the object is interpreted as a Figure – are predicative:

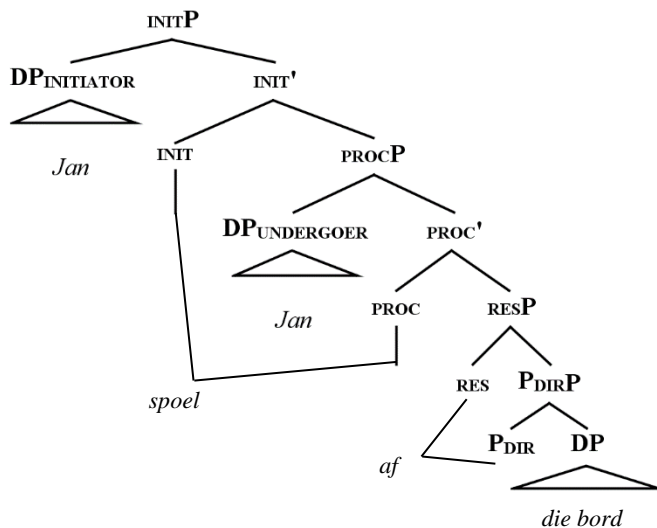
- | | | | |
|-------|-----|--|---------------|
| (63') | (a) | *Die bord is af.
the plate is off | NON-PREDICATE |
| | (b) | Die modder is af.
the mud is off
“The mud is off.” | PREDICATIVE |

¹⁴⁶ Cf. also Zeller (2001:179-182) and McIntyre (2001) for discussion of this phenomenon in German, and Svenonius (2003) for a comparison of the phenomenon between North and West Germanic languages. Cf. also Van der Merwe (2013) for landmark flexibility in Afrikaans.

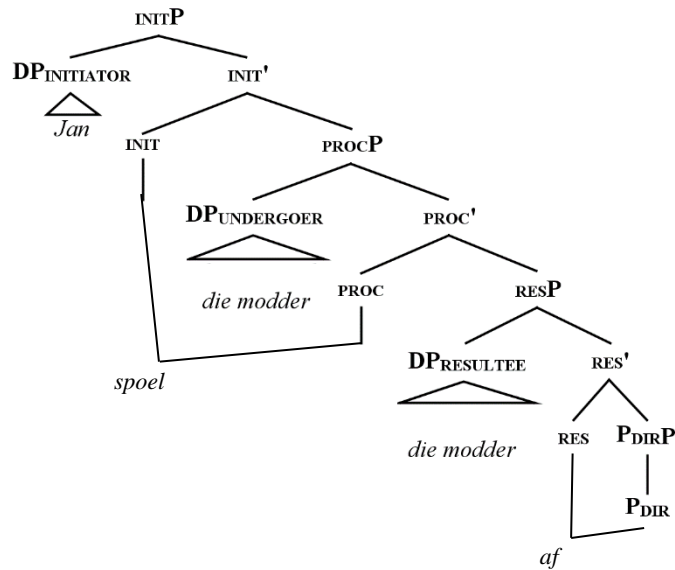
- (64) (a) *Die bakkie is af.
the bakkie is off
NON-PREDICATE
- (b) Die tasse is af.
the suitcases are off
“The suitcases are off.”
PREDICATE

What follows directly from the analyses in the previous section is that *die bord* and *die bakkie* in (63a-64a) are complements of the particle (the particle is not predicated of these DPs), whereas the *die modder* and *die tasse* in (63b-64b) are merged in the specifier of the node corresponding to the particle (the particle is predicated of these DPs). So I argue that the structural distinction between (63a) and (63b) is that in (65):

- (65) (a) Jan spoel die bord af.
Jan rinses the plate off
“Jan is rinsing the plate off.”



- (b) Jan spoel die modder af.
 Jan rinses the mud off
 “Jan is rinsing off the mud.”



It should be clear that I have not treated the DPs *die bord* vs. *die modder* in (63–65) as saturating the singular **GROUND** (=complement of **P_{LOC}**) vs. **FIGURE** (=spec-little-*p*) structural positions, as Svenonius (2003) proposes. Rather, I have treated the distinction between them in *general* **Ground** (complement) vs. **Figure** (specifier) terms. Following Ramchand (2008), this simply means that the **Ground** (complement) is interpreted as an incremental theme/path which is homomorphic to the part-whole process of the verb, whereas the **Figure** (specifier) is a **RESULTEE** and is not interpreted as a path of any kind, but rather as an argument. A structural composition in which the DPs in (63a–64a) are incremental themes/paths/Grounds seems to accurately reflect the interpretation of these expressions: in (63a), the extent to which the plate is rinsed off is proportional to the progression of the event, and the result of the rinsing cannot be predicated of the DP; in (64a), the extent to which the pickup is offloaded is proportional to the progression of the event and the result of the offloading cannot be predicated of the DP.

There seems to be pretty good evidence, for Afrikaans at least, that the DPs in (63-65) are not saturating the singular GROUND (=complement of P_{LOC}) vs. FIGURE (=spec-little-*p*) positions. As regards the FIGURE position (=spec-little-*p*), it was argued extensively in Chapter 5 that little-*p* is absent from the structure underlying particle verbs. As regards the GROUND position (=complement of P_{LOC}), it was also argued extensively in Chapter 5 that the P element *af* is not specified for expressing the P_{LOC} node. It is therefore unlikely that P_{LOC} is merged into the structure underlying particle verbs – possibly in general, as there seems to be no evidence for the presence of such structure; but certainly in expressions like (63-65), which incorporate no lexical element capable of giving expression to P_{LOC}. The next section deals with particle shift and incorporation, and also illustrates how the correct word order is derived.

6.6 Particle Shift and Incorporation

Generally speaking, OV-Germanic languages differ from VO-Germanic languages in terms of particle placement with respect to the verb. In non-V2 constructions, the particle in OV languages (e.g. Afrikaans, Dutch, and German) precedes the verb (66) whereas it follows the verb in VO languages (e.g. English, Norwegian, Swedish, Danish, Icelandic). Among the VO languages there is further variation with regard to whether the particle precedes or follows the DP object (67), and whether this placement is optional (as it is for English and Norwegian) or not (as in Swedish and Danish). When the particle exhibits optional placement, it is called *particle shift*.

- (66) Jan het die mat uitgegooi.
 Jan has the carpet out-thrown
 “Jan threw the carpet out.”

AFRIKAANS

- (67) (a) Peter threw {out} the carpet {out}.

ENGLISH

- (b) Petter kastet {bort} teppet {bort}.
 Peter threw out carpet.DEF out
 “Peter threw the carpet out.”

NORWEGIAN

- (c) Peter kastade {bort} mattan {*bort}.
Peter threw out carpet.DEF out
“Peter threw the carpet out.”
SWEDISH
- (d) Peter smed {*ud} tæppet {ud}.
Peter threw out carpet.DEF out
“Peter threw the carpet out.”
DANISH
- (Data from Vikner 2013:6; cf. also Vikner 1987)

The preverbal position of the particle in OV-Germanic is normally described with reference to *incorporation*. It is very much worth noting, however, that “incorporation” in the particle literature is frequently employed to refer to non-trivially different phenomena. On the one hand, “incorporation” is used in the sense of Baker (1988) to refer to (a process that is equivalent to) complex head formation that obeys the *Right Hand Head Rule* (Williams 1981); this is usually taken to occur in the OV languages and thus to be the locus of the preverbal placement of the particle. On the other hand, however, “incorporation” is also sometimes used with reference to the inner particle placement associated with particle shift in the VO languages (e.g. in Den Dikken 1996). The latter type of “incorporation” is nevertheless usually not argued to involve overt syntactic incorporation and is considered to entail “reanalysis” at LF, or something similar. In more recent work (e.g. Ramchand 2008), particle shift is not regarded in terms of incorporation and rather as high vs. low spellout options with regard to either the particle or the DP object. This is discussed below.

There are well-known circumstances under which particle shift is not permissible. For example, only inner particle placement is permissible with weak pronouns (68a) and when the particle is modified (68b); furthermore, only outer particle placement is permissible when the DP is phonologically “heavy” (68c).¹⁴⁷

- (68) (a) *John locked up it.
(b) *John locked right up the doors.

¹⁴⁷ Svenonius (1996) provides detailed discussion of the circumstances under which particle shift is (non-) permissible in English, Norwegian, and Icelandic.

- (c) *Lock all the doors on the second and third floors that lead into rooms with expensive equipment in them up.

(Adapted from Svenonius 1996:49-51)

The aim of this section is not to provide a definitive account of particle shift or the circumstances under which it may (not) arise, or even to account for the variation among the VO-Germanic languages with regard to particle placement.^{148, 149} Rather, with reference to how particle shift has been accounted for in the system of Ramchand & Svenonius (2002) and Ramchand (2008), I will offer an explanation of the observed *lack* of this phenomenon in OV-Germanic languages.¹⁵⁰

The shift illustrated in (69) is accounted for in Ramchand & Svenonius (2002) and Ramchand (2008) by arguing for the possibility of high vs. low spellout of the DP

¹⁴⁸ As regards accounts of particle shift, this has been much debated in the literature. Svenonius (1996) argues that shift – at least in English, Norwegian, and Icelandic – is equally felicitous but that the conditions under which it may occur differ in English and Norwegian as compared to Icelandic. For Svenonius (1996), particle shift is the consequence of two equally economical derivational solutions. Den Dikken (1996), however, argues that particle shift is never optional and that expressions with outer particle placement have an underlying SC structure from which “incorporation” (=inner particle placement) is banned (i). Inner particle placement is argued to involve a “bare” particle phrase that is selected directly by the verb, and from which “incorporation” is obligatory.

- (i) They looked [_{SC} [_{NP θ} the information] [_{PP} up ~~the information~~]]

¹⁴⁹ Kayne (1985) argues that inner particle placement (iib) is derived from outer particle placement (iia) through NP extraposition (iii). Kayne points out that, if it is the particle *up* that raises to V it would have to do so through head movement across the NP, yet no head movement (=incorporation) in the sense of Baker (1988) occurs in (ii-iii). In a counterargument to Kayne, Svenonius (1992) shows that the proposed NP movement cannot be heavy NP shift and argues there is no landing site for Kayne’s extraposed NP.

- (ii) (a) John looked the information up.
(b) John looked up the information.

- (iii) They looked [_{SC} ~~the information~~ [_{PP} up]] the information.

¹⁵⁰ Importantly, particle shift is not entirely absent from Afrikaans: the data in (i) illustrate particle shift in an imperative expression:

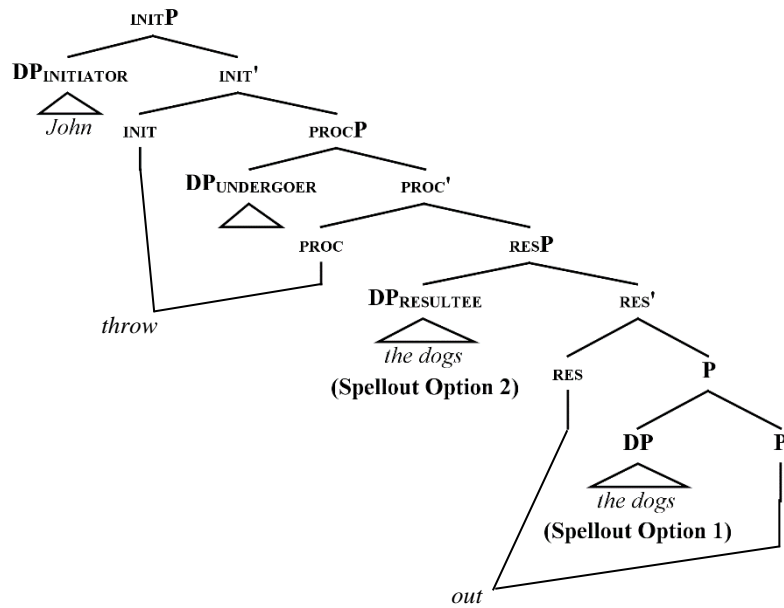
- (i) Maak {oop} daardie deur {oop}!
make open that door open
“Open that door!”

object. This is illustrated in (70) for the expression in (69b).¹⁵¹ That is, *the dogs* can be spelled out either in its base position, as the external argument of P, or in the position to which it raises (spec-RES) to become the RESULTEE of the event predicate and the argument of the particle. Thus, Ramchand (2008) argues that the particle must be expressed at RES, so if the DP is spelled out low the result is inner particle placement and if the DP is spelled out high the result is outer particle placement.

- (69) (a) Alex handed {in} her homework {in}.
 (b) John threw {out} the dogs {out}.

(Adapted from Ramchand 2008:134)

(70)



On this analysis, the variation in particle placement and the permissibility of shift in and between the VO-Germanic languages might be accounted for in terms of a high (Danish) vs. low (Swedish) – or indeed an optional high *or* low (Norwegian and

¹⁵¹ Note that this structure is not given by Ramchand (2008), but is based on her discussion (49 – pp. 132).

English) – spellout parameter on the DP object of the particle verb. Based on the observation that adjectival secondary predicates in English do not exhibit particle shift as P-based V-particles do (71), Ramchand (2008:52) suggests that such predicates do not provide their associated DPs with the two spellout options afforded the object DPs of the P-based particle in (69) above.¹⁵²

(71) Ariel ran { *ragged } her shoes { ragged }.

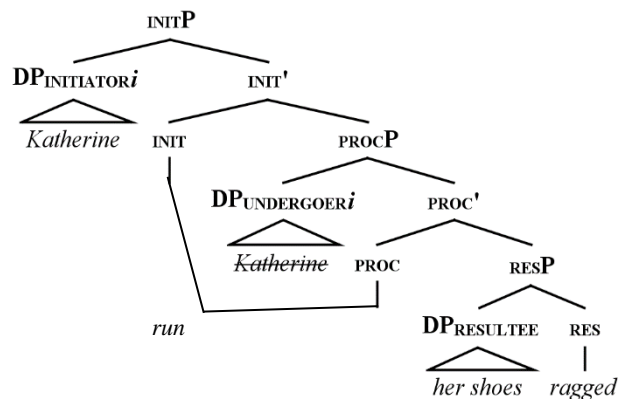
(Adapted from Ramchand 2008:132)

I adopt Ramchand's (2008) proposal that adjectival secondary predicates do not afford their arguments two positions in the structure (and that this explains the lack of shift with these predicates), but the implementation I argue for is crucially different: I propose to treat adjectival secondary predicates as structurally equivalent to non-transparent P-based particles, of which an account was developed in Section 5.5.1 above. There, it was argued that non-transparency in P-based particles (that is, lack of any spatial meaning) results from the absence of P_{DIR} in the structure with the subsequent effect that the particle spells out no spatial node in such expressions and as a result conveys no spatial information. Such an analysis fits straightforwardly with adjectival secondary predicates which are presumably not even specified for any P-related structure. The structure I propose to account for (71) is represented as follows:

¹⁵² Specifically, Ramchand (2008) argues that *ragged* forms the head of an SC which is selected by RES and that the object DP is base-merged in RESULTEE position. So although RES is still structurally present on Ramchand's account, it is left unexpressed. In the present system this account would fail due to the *Exhaustive Lexicalisation Principle* which prevents any structural node from remaining unexpressed (Fábregas 2007a; 2007b) – cf. Chapter 5 for discussion. I suggest such an account also fails to capture the structural and interpretational symmetries between P-based V-particles and adjectival secondary predicates (some of which were discussed in Section 5.4.1 above) which might in fact be considered A-based V-particles. Moreover, the view of SCs taken in this study requires it to have a subject, so such an account of adjectival secondary predicates would effectively make the same predictions regarding shift as with the P-based particles in (12) above.

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(72)



What (72) shows, analogously with the structures underlying non-transparent particle verbs, is that the DP object with adjectival secondary predicates is associated with just one specifier position – rather than with two, as is argued to be the case with transparent P-based particle verbs in VO-Germanic languages. In (71-72) *ragged* is logically the predicate contributing the resultant state so it makes compositional sense that it should lexicalise RES. And following the discussion in Section 6.4.1 above, where the conceptual nature of RES was argued to be such that it actually denotes a *general* STATE (as opposed to necessarily a *resultant* state) it seems completely unproblematic that adjectives like *ragged* are RES (=STATE)-compatible.

What this predicts – since adjectival secondary predicates are claimed to be structurally equivalent to non-transparent P-based V-particles – is that non-transparent particles should not exhibit shift since they too do not afford the object DP two specifier positions (that is, since they are not expressing a P-node, no P-related specifier position is available). As (73) shows, this prediction does not bear out convincingly.

- (73) (a) They beat {^{??}up} John {up}.
 (b) They messed {up} the results {up}.
 (c) They phoned {up} your mother {up}.

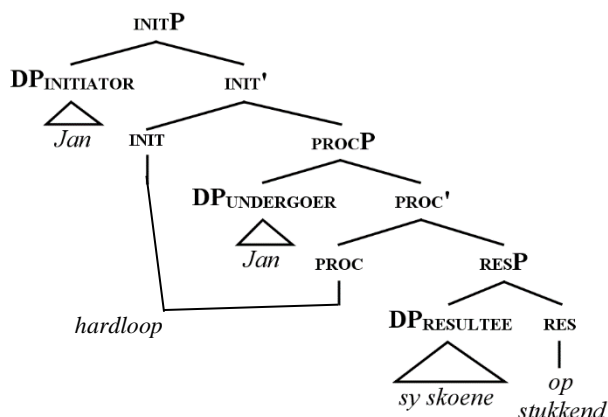
It seems possible, as Ramchand (2008) suggests, that P-based V-particles in English are always associated with an additional P-related node supplying the second specifier position for the object DP. A likely candidate seems to be little-*p*, such that the DP object is always base-merged in spec-little-*p* and subsequently raises to spec-RES. This would account for the fact that particle shift is possible in English, even with non-transparent particles. The presence of little-*p* in particle verb structures in English would have to constitute a crucial parametric split between (languages like) English and (languages like) Afrikaans, since it has been argued extensively that little-*p* is systematically absent in the structure underlying all particle verbs in Afrikaans (cf. especially Chapter 5). Such a parametric difference may in fact converge on several empirical differences between particle verbs in English-like languages and Afrikaans-like languages. For example, with reference to *Landmark flexibility* – a phenomenon that occurs in Afrikaans-like languages but not in English-like languages – Svenonius (2003) does in fact suggest that little-*p* might be obligatorily present in the structures underlying particle verbs in English but optionally missing from, for instance, Norwegian. This, therefore, is a topic requiring further investigation. For now, I conclude that the lack of particle shift in Afrikaans (and related OV-languages) must be a consequence of the fact that little-*p* is absent from particle verb structures, but may be present in languages exhibiting particle shift.

Returning to the analysis of adjectival secondary predicates, I suggest that the Afrikaans expressions in (74), which are interpretationally equivalent should receive the same basic structural analysis (75).

- (74) (a) Jan het sy skoene op gehardloop.
 Jan has his shoes up ran
- (b) Jan het sy skoene stukkend gehardloop.
 Jan has his shoes broken ran
- “Jan ran his shoes ragged.”

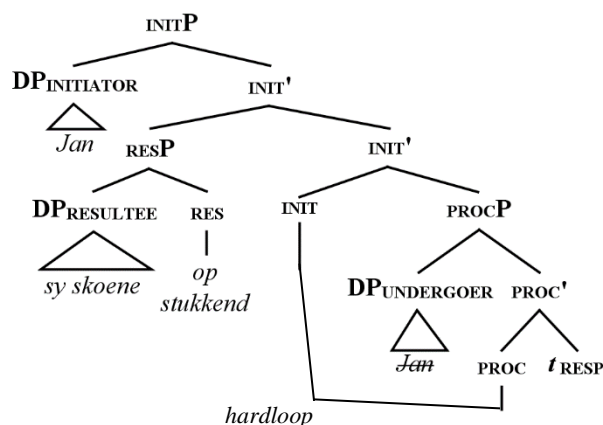
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(75)



That *op* and *stukkend* are each predicated of the DP object *sy skoene* can be verified on the basis of the predication test: *Sy skoene is op/stukkend* (“his shoes are up/broken”). As discussed in Section 6.3, when SD_{VP} (=the Spellout Domain delineated by VP) is spelled out, insertion of *hardloop* to express PROC-INIT will be followed by comp-to-spec movement of RESP to spec-INIT, to satisfy the head-finality of this SD. This produces the base order consistent with OV-Germanic, as illustrated in (76).

- (76) ...dat Jan sy skoene op/stukkend hardloop.
 that Jan his shoes up broken runs
 “...that Jan is running his shoes ragged.”



An analysis deriving the base order of Afrikaans particle verbs as represented in (76) implies that the operation producing preverbal placement of the particle is not (foremost) head-movement/incorporation but phrasal/roll-up movement. Furthermore, movement of RESP to spec-INIT effectively dislocates the V-internal structural sequence, so that the verb can be targeted for V⁰ movement under V2, legally stranding the particle (which is obligatory – cf. (77)) without invoking excorporation.

- (77) Jan {*op-} hardloop sy skoene {op}.
 Jan up runs his shoes up
 “Jan is running his shoes ragged.”

6.7 Summary

In a syncretism-driven approach, this chapter has characterised V-particles as essentially RES-expressing lexical items. Interpretive evidence was drawn from the observation that V-particles render the verb-internal aspect telic, and structural evidence was drawn from a comparison of V-particles to T-state (adjectival) passives and adverbial modification.

Furthermore, the (non-)transparency of a particle verb was dissociated from the (non-) predicative status of the V-particle. It was argued that the particles of transparent particle verbs lexicalise P_{DIR} in combination with RES, whereas the particles of non-transparent particle verbs lexicalise only RES. In contrast, it was argued that predicative particles accommodate RESULTEE arguments in their specifiers whereas the themes associated with non-predicative particles saturate the RES-complement position, which is the structural position of rhemes/incremental themes.

Pre-verbal particle placement in OV languages like Afrikaans was derived through roll-up movement of RESP (= the constituent containing the particle and the Theme argument of the particle verb) to spec-INIT (creating a self-contained constituent of

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INIT-PROC, which is lexicalised by the verb). This has the desirable effect of deriving pre-verbal particle order, and OV word order, without forming a complex V^0 from which the verb could not escape without assuming additional theoretical devices like excorporation during V2 movement.

CHAPTER 7

Summary & Recommendations for Further Research

7.0 In Closing

A main insight motivating this study has been that elements in the spatial P domain of Afrikaans – and indeed, elements of language more generally – are subject to constant, systematic (micro-)categorial “shifts” (=syncretism). This dissertation argued at length that the right model of syncretism provides a powerful tool for analysing fine-grained structure, gaining insight into the incontestably fuzzy nature of syntactic categories, and teasing apart various syntax interface processes relating to Spellout. The system developed to account for syncretism in the P domain of Afrikaans recognises it as an interface phenomenon that is instructive for (core) syntax, a theory of the syntax-lexicon interface, the procedure matching lexical entries to syntactic structure, the syntactic boundaries demarcating spellout cycles, and circumstances that give rise to (a-)typical spellout and insertion scenarios. The dissertation has put forward a working model of a system in which syntactic categories are not ontologically primitive: lexical entries are not encoded with conventional syntactic categories, nor are categories “created” by primitive categorisers. Instead, *category effects* are an epiphenomenon of the ordered set of independently motivated formal features an exponent lexicalises at a particular insertion site.

This (mode of) analysis opens up new possibilities for understanding the intuitive connection between P-related phenomena that has hitherto evaded explanation in an

encompassing and unifying account. It also opens up a way of understanding why P elements seem particularly prone to instability over time, and why P elements crosslinguistically frequently appear to be categorially “fuzzy”.

The subsections of the summary in Section 7.1 review the standout findings and developments of the dissertation. In each section, recommendations for further research are made regarding the relevant topics and themes. Section 7.2 offers a final concluding statement.

7.1 Summary

7.1.1 A Substantive Theory of Syncretism: Disbanding P as a Syntactic Primitive

The system developed in this study to account for the (micro-)categorical shifts exhibited by P elements is instructive for syntactic analysis. This is due to the hierarchical model of syncretism put forth in Chapter 2, as it makes strong predictions about the patterns of syncretism that should arise from the data. The P system of Afrikaans meets these predictions almost without exception. The statements capturing these patterns are the **ABA Constraint on Afrikaans Spatial P* and the *Space Contiguity Hypothesis for Afrikaans* given in (21) and (22) in Section 2.2.3 of Chapter 2 (the *Formal Range Potential (FRaP)* chart provided in (9) of Chapter 2 provide a graphic depiction of the same).

This model allows the functions expressed by P elements (i.e. Axial Part, locative and directional Adposition, and V-particle) to be hierarchically arranged, essentially carving out the fine syntactic structure of the P domain. This effectively dispels a notion of “P” as a syntactic or theoretical primitive, showing instead that this category – and by extension other/all categories – are more productively thought of as composite syntactic objects.

This line of thinking emphasises the distinction between the *lexical entry* and the *exponent*. That is, it dissociates the pre-insertion lexical item (which is encoded only with a range of formal potentials) from the post-insertion morpheme embodying *one* such potential. It is the post-insertion exponent that exhibits the appropriate *category effects* associated with the formal features it actively expresses at the relevant insertion site. In Chapter 2, the formal potentials of a lexical entry was designated the lexical item's *Formal Range Potential* (FRaP), and it was argued that an item's FRaP embodies the lexical item's formal component.

The Afrikaans P inventory was divided into six FRaP Classes A-F. A relaxed matching condition (i.e. the Superset Principle) regulates the insertion of the same lexical item into more than one formal context. The fact that the same lexical item is valid for more than a single insertion site gives rise to systematic multifunctionality and category effects. This effectively offers a transparent view of the material contained in the (post-syntactic) Lexicon, and an economical and explanatory account of how that material finds its way into the structure.

7.1.2 Axial Parts and Complex Adpositions

Although a (micro-) category Axial Part has been identified for various languages (cf. Svenonius (2006) on English, but also e.g. Pantcheva (2006) on Persian and Muriungi (2006) on Kĩĩtharaka, and Svenonius (2006) on Korean and various other languages), a class of elements capable of expressing the Axial Part category has never been explicitly identified for Afrikaans or – to the best of my knowledge – any non-English West Germanic counterpart. So, while it is unsurprising that this micro-category should exist in Afrikaans, one focus of Chapter 4 was isolating that class. It was found that elements from FRaP Class B, e.g. *binne* (“inside”), *buite* (“outside”), *bo* (“top”), *onder* (“under”), *voor* (“front”), *agter* (“back”) provide the language with its inventory of axial parts, and it was argued that the same class of P elements in Dutch (at least) also express this function.

This means that axial parts in Afrikaans and Dutch are P elements, i.e. they are syncretic with adpositions and not with nouns, as they are in other languages (cf. the *light noun* approach to axial-like elements as discussed in Section 4.2 of Chapter 4). That axial parts in some languages should be P-syncretic whereas they are N-syncretic in other languages is unsurprising, given that AXPART was shown to be located “on the cusp” between the non-discreet P and N syntactic zones. That is, when categories are viewed as epiphenomena of the range of formal features exponents realise, then variation between how different categories function in different languages comes down to how languages choose to partition the structure with their lexical material.

We also expect languages to vary *internally* with regard to classes of elements that are specified for varying sets of formal features – and which are therefore able to exhibit varying category effects. This is most “obvious”/striking when a particular item is specified for features that lie on both sides of a conventional category boundary, because the exponents derived from that entry will appear to shift between marco-categories, and we are conditioned/prime by our own conventional category labels to pay particular attention to these. However, in this system, such a scenario does not differ at all from one in which an item is specified only for features that happen to lie in a syntactic zone that is conventionally associated with just a single category (such an element will undergo “micro-category shifts” of the kind used in Chapter 2 to tease apart the fine structure of the P domain). It was, for instance, argued that many of the elements comprising Afrikaans’ axial part inventory are also specified for features in the nominal domain and *can* function as locative nouns – a function that is distinct from the axial part one.

An immediate consequence of identifying a function like Axial Part for Afrikaans (and Dutch), along with a class of elements typically associated with this function, is the emergence of a novel analysis for complex adpositions. On the analysis presented in Section 4.4 of Chapter 4, the morphologically initial element of complex adpositions is always an Axial Part, and the morphologically final element is either a locative or directional Adposition. Prior to recognising Axial Part as a distinct

function in the P domain of these languages, the analysis of the complex adpositions presented an unresolved challenge in the literature on West Germanic.

7.1.3 Dir(ectionality)

The system put forward in this dissertation makes use of a single syntactic node in the hierarchy corresponding to direction(ality) – P_{DIR}. This node is located above the locative spatial node and beneath the non-discreet “V domain”. In many respects, P_{DIR} constitutes another example of a node that is “on the cusp” between the non-discreet P and V syntactic zones. In the spirit of the overall approach, Section 4.3 of Chapter 4 was specially concerned with arguing – as we might expect – that P_{DIR} can be expressed by lexical material that is typically associated either with the category V or with the category P. In particular, it was shown that both (manner of) motion verbs and adpositions can lexicalise P_{DIR}. In case of the former, the result is a directional reading on non-inherently directional motion predicates like *loop* (“walk”) or *spring* (“jump”); in case of the latter, the result is a directional adposition like *om* (“around”) or *deur* (“through”).

7.1.4 Circumpositions

The analysis of circum-PPs capitalises on the idea that various adposition classes are specified for giving expression to varying subsets of formal features. Given that circum-PPs in Afrikaans are directional, and Afrikaans has a more economical way of lexicalising directional structures (i.e. through directional prepositional phrases), the question was why a maximally economical system would derive *both* circumpositional *and* prepositional structures. In the spirit of the overall system, the presence of two P elements in circum-PPs (as opposed to just one in pre-PPs) was argued to follow from how lexical items partition/lexicalise the same underlying structure. Specifically, the postpositional components of circum-PPs (FRaP Class C)

were argued to be deficient in their formal lexical specification and therefore unable to lexicalise all the requisite structure underlying directional expressions. A last resort operation called *Spellout Repair* was proposed in which a “spellout auxiliary” P element (the prepositional component) is inserted to allow the structure to be exhaustively lexicalised.

Evidence for a general mechanism like *Spellout Repair* that was proposed to account for the presence of two elements in Afrikaans circum-PPs should be uncoverable by further comparative work, doing analyses of the type done in this study in relation to other West Germanic circumpositional structures that seem to be of the same type. The (style of) analysis could then be extended to non-Germanic languages that have circumpositions (the Indo-Iranian language family seems a promising subject of further investigation), to see if they are of the same type and whether predictions about their behaviour bear out based on the findings of studies on Germanic.

In Section 5.4.3 of Chapter 5, word order was analysed as the result of how lexical material maps onto structure with respect to designated points of lexical access. Each spellout domain (SD) was taken to have a fundamental headedness property, with $P_{Loc}P$ defining a head-initial SD, and $pP/P_{Dir}P$ and v/VP head-final SDs. Exponents that map “neatly” into an SD are linearised according to the headedness property of that domain; however, when an exponent spans across an SD boundary, the lower domain absorbs the higher one. The idea, basically, is that SD boundary “straddling” elements produce weak/deficient phases. Examples of exponents that span SD boundaries are locative nouns, R-pronouns, and *home*-class nouns (Section 4.6), manner of motion verbs that become directional (Section 4.3), V-particles (Chapter 6), and inherently directional adpositions (i.e. FRaP Class E; Section 5.2). Only the latter, however, spans the boundary between two SDs whose headedness properties differ. So, although domain appropriation is argued to take place as a result of inserting each abovementioned exponent, the effects are only observable in the case of directional adpositions vs. the two components of circumpositions. That is, although both directional adpositions and circumpositions lexicalise the same underlying structure, the fact that the directional adposition spans the $P_{Loc}P$ boundary means it causes the SD defined by $P_{Dir}P$ to be

absorbed into $P_{\text{LOC}}P$ and become head-initial. In the case of circumpositions, no single exponent spans the $P_{\text{LOC}}P$ boundary and each SD retains its headedness property.

As flagged in note 108 in Chapter 5, if P_{LOC} and p/P_{DIR} are considered heads belonging to the same macro-category (such that they belong to the same extended projection), this proposal accounting for word order violates the (restricted) *Final-over-Final Condition*:

FOFC – restricted version (Biberauer et al. 2014:171):

A head-final phrase αP cannot dominate a head-initial phrase βP where α and β are heads in the same Extended Projection.

Given that FOFC is essentially proposed to be a linguistic universal (cf. Sheehan et al. Forthcoming), such a violation would be problematic for the proposed analysis. Future research should thus determine whether this is a deep FOFC violation, or only an apparent violation. Across domains and languages, Biberauer (Forthcoming) observes that particles frequently participate in apparently FOFC-violating structures which, upon closer inspection turn out to be FOFC-compliant – typically, in one of five ways. Two of these are (i) that the (structurally higher) final particle belongs to a category that is distinct from that of the head-initial one, and (ii) that the particle lacks categorial specification. Given the fluid approach to category taken in this study (essentially, that structural nodes are a-categorial and category effects arise as an epiphenomenon to the combination of nodes expressed by a given lexical item), these seem particularly promising avenues to pursue in determining whether the proposed analysis really is a problem for FOFC.

The fact that the head-final SD_{pP} is evidently less “stable” than the head-initial $SD_{P_{\text{LOC}}P}$ beneath it does suggest the need for closer investigation of the head-finality of this upper SD. Biberauer (Forthcoming) argues that apparently final-over-initial structures of the kind proposed here typically involve a defective higher final head, which in this case would be little- p , and Biberauer (2016b) argues for precisely this in relation to the postpositional element of circum-PPs in Afrikaans.

7.1.5 (Non-) Predicative PPs, Little-*p*, and Doubling

With Jackendoff (1983) and Zwarts (2014), adpositional phrases were argued in Sections 5.1 and 5.2 of Chapter 5 not to be inherently predicative (where a *predicative PP* is a Place or a Path that is predicated of a Figure). Thus, the merger of P_{LOC} with a DP_{GROUND} yields a referential but non-predicative Place, and the merger of $P_{\text{DIR-P}_{\text{LOC}}}$ with a DP_{GROUND} yields a referential but non-predicative Path. For a PP to be predicative, the $P + \text{Ground}$ combination must be merged with a Figure-introducing head which was argued to be the little-*p* projection. Thus, little-*p* was taken to be roughly equivalent (to varying degrees) with a Pred head (Bowers 1993), a small clause head (e.g. Hoekstra 1991), and with a silent predicate instantiating one of three “flavours” (Zwarts 2014, following Jackendoff 1983): BE with locatives, and EXT(end) and GO with directionals. The effects of BE, GO, and EXT were argued to fall out from the various possible combinations of independently motivated structural components: [p [P_{LOC} [DP]]] for predicative locative PPs, and [p [P_{DIR} [P_{LOC} [DP]]]] for directional predicative PPs, with the effects of GO vs. EXT being contingent upon whether the structure [p [P_{DIR} [P_{LOC} [DP]]]] is selected by a motion verb (= GO) or not (= EXT).

It was shown furthermore that both locative and directional PPs can be either predicative or non-predicative, and that there is a positive correlation between a PP’s status as non-predicative and its extraposition (an equivalent correlation is established in Biberauer 2016b). A restriction emerged, however, regarding directional PPs’ status as predicative and their ability to co-occur with PROC(ess)-verbs: as verified by extraposition, predicative directional PPs only co-occur with RES(ult) verbs and never with PROC verbs. By contrast, non-predicative directional PPs may co-occur with PROC verbs.

When these insights were applied to doubling PPs in Section 5.5 of Chapter 5, it was found that such PPs only occur with PROC-verbs and are systematically extrapositionable, which means that doubling PPs are never predicated of a Figure, and instead constitute event modifiers. In a comparison with Den Dikken’s (2010a) system on Section 5.5.3, a structural correlation was established between Dutch post-PPs and Afrikaans

doubling PPs, which arise under formally equivalent conditions and produce interpretationally similar results in the respective languages. The scope of the study did not, however, permit a thorough and systematic investigation of this correlation or the development of an account of this variation. It also remains to be ascertained whether the observation might be carried over to doubling dialects of Dutch. This topic therefore seems a particularly promising avenue for further research.

It was established furthermore that Afrikaans doubling PPs only surface with FRaP Class E elements, which in the literature are referred to as non-inherently directional (or neutral) adpositions (e.g. Biberauer & Folli (2004), Den Dikken (2010)).

The account of doubling put forward in this dissertation assumes a particular interpretation of what it means to be “inherently directional” (= FRaP Class D) vs. “non-inherently directional” (= FRaP Class E): it was argued that these classes are formally identical (i.e. both featurally specified for giving expression to the span P_{DIR} - P_{LOC}), and that they are distinguished by the roots associated with the lexical entries of the respective classes. Particularly, the roots of FRaP Class D elements were argued to incorporate conceptual information associated with directionality, whereas those associated with FRaP Class E incorporate no such information. Derivations of directional expressions involving Class D elements thus differ crucially from those involving Class E elements in that, at the point of lexical access defined by P_{LOC} , the system has access to information conveying directionality when Class D elements are at stake, whereas the same is not true with Class E elements. In other words, the system is supplied with the right type of information to know that a directional expression is being derived when a root associated with the Class D element merged at the bottom of a structure, and is hence able to predict that P_{DIR} will next be merged into the structure when it returns to syntax. By contrast, the system can make no such prediction about directionality based on a root associated with a Class E element. Since the system can anticipate the merging of P_{DIR} in the former case based on information supplied by the root, it was argued that lexical insertion is delayed until the next point of lexical access when a more economical insertion can be made – one that targets P_{DIR} and P_{LOC} together – and that this results in a directional pre-PP. In the

latter instance, the system cannot anticipate the merging of P_{DIR} at the point of lexical access defined by $P_{LOC}P$. Insertion thus cannot be delayed as in the former case since such a delay runs the risk that P_{DIR} might not be merged (as in derivations of locative spatial expressions involving Class E elements), in which case the derivation would crash for containing non-exhaustively lexicalised structure. On this basis, it was argued that doubling arises due to a forced double insertion of the same lexical item on either side of the spellout domain boundary $P_{LOC}P$ with Class E elements.

It has to be acknowledged that this analysis faces the same potential problems with FOFC as the analysis of circum-PPs. The same conditions on further research thus apply here as stated in Section 7.1.4 above.

7.1.6 Verbal Particles

The model of syncretism adhered to in this dissertation predicts that the function expressed by P-based V-particles is located on a structurally contiguous position to the highest function expressed by directional Adpositions. Instead of postulating a unique functional projection for V-particles above the known “P” nodes and below the known “V” nodes, it was argued instead that such particles are characterised by expressing RES(ult), the lowest “V” node on Ramchand’s (2008) system.

It was argued in Section 6.4.2 of Chapter 6 that the interpretational predictions associated with having the particle lexicalise RES bear out, namely that V-particles render an event denoted by the expression telic. Structural evidence that V-particles lexicalise RES emerged in Section 6.4.1 from comparison of the (active) particle verb with the T(arget)- and R(esultant)-state passive participle forms, which have been independently argued to comprise RES and PROC-RES structures respectively (Caha 2007, Lundquist 2009). It was found firstly that the morphological nesting patterns observed with the T- vs. R-state forms point to structural nesting in the particle verb where the verbal morpheme corresponds to the PROC node and the particle to RES. It was shown furthermore that P-based particles accept modification by the same

adverbs as T-states that are not P-based (e.g. underived adjectives), and reject modification by adverbs associated with adpositions.

It was also shown, contrary to what has often been argued, that idiomaticity in particle verbs is not correlated to the particle being non-predicative; likewise compositionality is not correlated with the particle having predicative status. These properties were shown to be distinct and argued to arise from independent structural properties. The distinction between predicative and non-predicative particles was captured in a theme-rheme distinction where the DP associated with a predicative particle (=theme) was analysed in specifier position of RES, and the DP associated with a non-predicative particle (=rheme) was analysed as a structural complement to RES. Landmark flexibility was shown to follow from this structural theme/rheme distinction. Particles in transparent particle verbs were analysed as giving morphological expression to P_{DIR} in addition to RES, whereas non-transparent particles were argued to lexicalise only RES.

The fact that V-particles simultaneously lexicalise nodes that fall on both sides of the conventional V vs. P category boundary accounts for the “hybrid” categorial properties of these elements. It does so, however, without constituting a unique case at all, in the context of the system developed here.

7.2 Concluding Statement

The aim of this dissertation has been developing a model of the unitary core computational and peripheral operations giving rise to the divergent surface characteristics of Afrikaans expressions of space involving elements of the (now no longer ontologically primitive) category P. Some minor comparisons with other languages tentatively suggests that this system can be usefully applied in other “P” systems. Its ultimate usefulness will be determined by how effectively it can be applied similar phenomena in other (micro-, marco-, and cross-) categorial domains.

Bibliography

- Aarts, B., 1989. *Verb-preposition Constructions and Small Clauses*. *Journal of Linguistics*, 25, pp.277–290.
- Ackema, P. & Neeleman, A., 2001. Competition between Syntax and Morphology. In G. Legendre, J. Grimshaw, & S. Vikner, eds. *Optimality-Theoretic Syntax*. Cambridge, Ma.: MIT Press, pp. 29–60.
- Ackema, P., Neeleman, A. & Weerman, F., 1993. Deriving functional projections. In *Proceedings of NELS 23*. pp. 17–31.
- Ackerman, F. & Malouf, R., 2013. Morphological Organization: The Low Conditional Entropy Conjecture. *Language*, 69(3), pp.429–464.
- Adger, D. & Svenonius, P., 2010. *Features in Minimalist Syntax*. Online: lingbuzz/000825, pp.1–53.
- Aelbrecht, L. & Den Dikken, M., 2013. Preposition doubling in Flemish and its implications for the syntax of Dutch PPs. *Journal of Comparative Germanic Linguistics*, 16(1), pp.33–68.
- Áfarli, T.A. & Eide, K.M., 2001. Predication at the Interface. Syntax of predication: Proceedings of the workshop on Syntax of Predication, *ZAS Papers in Linguistics*, 26, pp.1–25.
- Asbury, A. Dotlacil, J., Gehrke, B., Nouwen, R. eds., 2008. *Syntax and Semantics of Spatial P*, Amsterdam: John Benjamins.
- Asbury, A., 2008. *The Morphosyntax of Case and Adpositions*. Utrecht: LOT.
- Asbury, A., Gehrke, B. & Hegeđús, V., 2006. One Size Fits All : Prefixes, Particles, Adpositions and Cases as Members of the Category P. In C. Keskin, ed. *UiL-OTS Yearbook 2006*. Utrecht, pp. 1–17.
- Backhouse, R., 2014. *An Analysis of the Grammatical Structure of Small Clauses in Afrikaans: A Minimalist Approach*. MA Thesis, Stellenbosch University.
- Baerman, M., Brown, D. & Corbett, G.G., 2005. *The Syntax-Morphology Interface: A Study in Syncretism*, Cambridge: Cambridge University Press.

- Baker, M.C., 1985. The Mirror Principle and Morphosyntactic Explanation. *Linguistic Inquiry*, 16, pp.373–415.
- Baker, M.C., 1988. *Incorporation. A Theory of Grammatical Function Changing*, Chicago: Chicago University Press.
- Baker, M.C., 1989. Object Sharing and Projection in Serial Verb Constructions. *Linguistic Inquiry*, 20(4), pp.513–553. Available at: <http://www.jstor.org/stable/10.2307/4178644>.
- Béjar, S. & Rezac, M., 2003. Person Licensing and the Derivation of PCC Effects. In A.-T. Pérez-Leroux & Y. Roberge, eds. *Romance Linguistics: Theory and Acquisition*. Amsterdam: John Benjamins, pp. 49–62.
- De Belder, M. & Van Craenenbroeck, J., 2013. How to Merge a Root. *Linguistic Inquiry*, 44(1), pp.625–655. Available at: <http://ling.auf.net/lingbuzz/001371/v1.pdf>.
- Beliën, M., 2008. Constructions, Constraints, and Construal. Amsterdam: LOT.
- Bennis, H., Corver, N. & Den Dikken, M., 1998. Predication in Nominal Phrases. *Journal of Comparative Germanic Linguistics*, 1, pp.85–117.
- Den Besten, H., 2010. Is There “Preposition Stranding in COMP” in Afrikaans? No Way! In J.-W. Zwart & M. De Vries, eds. *Structure Preserved: Studies in Syntax for Jan Koster*. Amsterdam: John Benjamins, pp. 57–64.
- Biberauer, T., 2008. Doubling vs. Omission: Insights from Afrikaans Negation. In S. Barbiers et al., eds. *Microvariations in Syntactic Doubling (Syntax and Semantics)*. Bingley: Emerald, pp. 103–140.
- Biberauer, T., 2016a. Going Beyond the Input (and UG): An Emergentist Generative Perspective on Syntactic Variation, Stability and Change. Talk given at the Koninklijke Nederlandse Akademie van Wetenschappen Academy Colloquium “Language Variation in Action”. 17 - 19 February.
- Biberauer, T., 2016b. Probing the Nature of the Final-over-Final Condition: The Perspective from Adpositions. In B. L. & M. Sheehan, eds. *Structure and Order*. Berlin: Language Science Press.
- Biberauer, T., Forthcoming. Particles and the Final-over-Final Condition. In M. Sheehan et al., eds. *The Final-over-Final Condition*. Cambridge, Ma.: MIT Press.
- Biberauer, T. & Folli, R., 2004. Goals of Motion in Afrikaans. In O. Courzet, H. Demirdache, & S. Wauquier-Gravelines, eds. *Journées d’Etudes Linguistiques*. pp. 19–27.
- Biberauer, T., Holmberg, A. & Roberts, I., 2014. A Syntactic Universal and its Consequences. *Linguistic Inquiry*, 45(2), pp.169–225.

- Biberauer, T. & Oosthuizen, J., 2011. More Unbearably Light Elements? Silent Verbs Demanding Overt Complementizers in Afrikaans. *Snippets*, 24, pp.5–6.
- Biberauer, T. & Roberts, I., 2010. Subjects, Tense and Verb-Movement. In T. Biberauer et al., eds. *Parametric Variation: Null Subjects in Minimalist Theory*. Cambridge: Cambridge University Press, pp. 263–303.
- Biberauer, T. & Roberts, I., 2015. Rethinking Formal Hierarchies: A Proposed Unification. *Cambridge Occasional Papers in Linguistics*, 7, pp.1–31.
- Bierwisch, M., 1988. On the Grammar of Local Prepositions. In M. Bierwisch, W. Motsch, & I. Zimmermann, eds. *Syntax, Semantik und Lexikon, Studia Grammatica XXIX*. pp. 1–65.
- Biggs, A., 2014. *Dissociating Case from Theta-roles: A Comparative Investigation*. PhD Dissertation, Cambridge University.
- Blake, B.J., 1977. *Case Marking in Australian Languages*, Canberra: Australian Institute of Aboriginal Studies.
- Blake, B.J., 1994. *Case*, Cambridge: Cambridge University Press.
- Blevins, J., 1995. Syncretism and Paradigmatic Opposition. *Linguistics and Philosophy*, 18(2), pp.113–152.
- Bobaljik, J.D., 2002. A-Chains at the PF-Interface: Copies and “Covert” Movement. *Natural Language and Linguistic Theory*, 20(2), pp.197–267.
- Bobaljik, J.D., 2012. *Universals in Comparative Morphology: Suppletion, Superlatives, and the Structure of Words*, Cambridge, Ma.: MIT Press.
- Bobaljik, J.D., 2015. Suppletion: Some Theoretical Implications. *Annual Review of Linguistics*, 1, pp.1–18. Available at: <http://dx.doi.org/10.1146/annurev-linguist-030514-125157>.
- Bobaljik, J.D. & Sauerland, U., 2017. *ABA and The Combinatorics of Morphological Features. *Lingbuzz*, pp.1–40. Available at: <https://ling.auf.net/lingbuzz/003320>.
- Bolinger, D., 1971. *The Phrasal Verb in English*, Cambridge, Ma.: Harvard University Press.
- Bonet, E., 1991. *Morphology After Syntax: Pronominal Clitics in Romance*. PhD Dissertation, MIT.
- Booij, G., 1990. The Boundary Between Morphology and Syntax: Separable Complex Verbs in Dutch. *Yearbook of Morphology*, 3, pp.45–63.
- Boone, E., 2009. *The IPP-Effect as a Repair Strategy*. MA Thesis, University of Utrecht.

- Borer, H., 1998. Deriving Passive Without Theta Roles. In S. Lapointe, D. Brentari, & P. M. Farrell, eds. *Morphology and its Relation to Phonology and Syntax*. Stanford, Ca: CSLI Publications, pp. 60–99.
- Borer, H., 2005a. *In Name Only*, Oxford: Oxford University Press.
- Borer, H., 2005b. *Structuring Sense: An Exo-Skeletal Trilogy*, New York: Oxford University Press.
- Bošković, Ž., 2014. Now I'm a Phase, Now I'm not a Phase: On the Variability of Phases with Extraction and Ellipsis. *Linguistic Inquiry*, 45(1), pp.27–89.
- Botwinik-Rotem, I., 2004. *The Category P: Features, Projections, Interpretation*. PhD Dissertation. Tel-Aviv University.
- Bowers, J., 1993. The Syntax of Predication. *Linguistic Inquiry*, 24, pp.591–656.
- Brinton, L.J., 1988. *The Development of English Aspectual Systems*, Cambridge: Cambridge University Press.
- Brinton, L.J., 1985. Verb Particles in English: Aspect or Aktionsart? *Studia Linguistica*, 39(2), pp.157–168.
- Brody, M., 2000a. Mirror Theory: Syntactic Representation in Perfect Syntax. *Linguistic Inquiry*, 31(1), pp.29–56.
- Brody, M., 2000b. Word Order, Restructuring, and Mirror Theory. In P. Svenonius, ed. *The Derivation of VO and OV*. Amsterdam: John Benjamins, pp. 27–43.
- Broekhuis, H., 2013. *Syntax of Dutch Adpositions and Adpositional Phrases*. H. Van Riemsdijk & I. Kenesei, eds., Amsterdam: Amsterdam University Press.
- Brown, D. & Hippisley, A., 2012. *Network Morphology: A Defaults-based Theory of Word Structure*, Cambridge: Cambridge University Press.
- Bury, D., 2003. *Phrase Structure and Derived Heads*. PhD Dissertation, University College of London.
- Butt, M., 2006. *Theories of Case*, Cambridge: Cambridge University Press.
- Caha, P., 2014. Nanosyntax: An Advanced Introduction. In Class taught at GLOW Spring School 1. Brussels.
- Caha, P., 2009. *The Nanosyntax of Case*. PhD Dissertation, University of Tromsø.
- Caha, P., 2010. The Parameters of Case Marking and Spellout Driven Movement. In J. Van Craenenbroeck, ed. *Linguistic Variation Yearbook 2010*. John Benjamins, pp. 32–77. Available at: <http://openurl.ingenta.com/content/xref?genre=article&issn=1568-1483&volume=10&issue=1&spage=32>.
- Caha, P., 2007. *The Superset Principle*. MA Thesis, University of Tromsø.

- Calabrese, A., 2008. On Absolute and Contextual Syncretism. In A. Bachrach & A. Nevins, eds. *Inflectional Identity*. Oxford: Oxford University Press, pp. 156–205.
- Carstairs-McCarthy, A., 1991. Inflectional Paradigms: Two Questions with One Answer. In F. Plank, ed. *Paradigms: The Economy of Inflection*. Berlin: Mouton de Gruyter, pp. 213–254.
- Carter, R., 1988. Compositionality and Polysemy. In B. Levin & C. Tenny, eds. *On Linking: Papers by Richard Carter*. Cambridge, Ma.: MIT Press, pp. 167–204.
- Chandralal, D., 2010. *Sinhala*, Amsterdam & Philadelphia: John Benjamins.
- Chomsky, N., 1995. *The Minimalist Program*, Cambridge, Ma.: MIT Press.
- Chomsky, N., 1996. Bare Phrase Structure. In *Evolution and Revolution in Linguistic Theory*. Georgetown University Press, pp. 51–109.
- Chomsky, N., 2000. Minimalist Inquiries. In R. Martin, D. Michaels, & J. Uriagereka, eds. *Step by Step: Essays on minimalist syntax in honor of Howard Lasnik*. Cambridge, Ma.: MIT Press, pp. 89–155.
- Chomsky, N., 2001. Derivation by Phase. In M. Kenstowicz, ed. *Ken Hale: A Life in Language*. Cambridge, Ma.: MIT Press, pp. 1–52.
- Chomsky, N., 2013a. Problems of Projection. *Lingua*, 130, pp.33–49. Available at: <http://dx.doi.org/10.1016/j.lingua.2012.12.003>.
- Chomsky, N., 2013b. The Origins of Modern Science and Linguistics. Lecture. Geneva. Available at: <https://www.youtube.com/watch?v=tsA7nld4yd0>.
- Cinque, G., 1999. *Adverbs and Functional Heads: A Cross-linguistic Perspective*, New York: Oxford University Press.
- Cinque, G., 2010. Mapping Spatial PPs: An Introduction. In G. Cinque & L. Rizzi, eds. *Mapping Spatial PPs: The Cartography of Syntactic Structure*. Oxford: Oxford University Press, pp. 3–25.
- Cinque, G. & Rizzi, L., 2008. The Cartography of Syntactic Structure. *CISCL Working Papers in Language and Cognition*, 2(November), pp.43–59.
- Cinque, G. & Rizzi, L. eds., 2010. *Mapping spatial PPs*, Oxford and New York: Oxford University Press.
- Citko, B., 2005. On the Nature of Merge: External Merge, Internal Merge, and Parallel Merge. *Linguistic Inquiry*, 36(4), pp.475–496.
- De Clerq, K., 2013. *A Unified Syntax of Negation*. PhD Dissertation, University of Gent.
- Cole, P., 1985. *Imbabura Quechua*, London: Croom Helm.
- Collins, C., 2007. Home Sweet Home. *MIT Working Papers in Linguistics*, 1, pp.1–37.

- Comrie, B., Polinsky, M. & Rajabov, R., 1998. *Tsezian languages*. In A. Harris & R. Smets, eds. *The languages of the Caucasus*. London: Curzon.
- Corver, N., 2009. Getting the (Syntactic) Measure of Measure Phrases. *Linguistic Review*, 26(1), pp.67–134.
- Creissels, D., 2009. Spatial Cases. In A. Malchukov & A. Spencer, eds. *The Oxford Handbook of Case*. Oxford: Oxford University Press, pp. 609–626.
- Déchainé, R.-M. & Wiltschko, M., 2002. Decomposing Pronouns. *Linguistic Inquiry*, 33(3), pp.409–442.
- Dékány, É.K., 2009. *The Nanosyntax of Hungarian Postpositions*. In P. Svenonius, M. Starke, & K. Taraldsen, eds. *Nordlyd*. Tromsø: CASTL, University of Tromsø, pp. 41–76.
- Dékány, É.K., 2011. *A Profile of the Hungarian DP: The Interaction of Lexicalization, Agreement and Linearization with the Functional Sequence*. PhD Dissertation, Tromsø University.
- Den Dikken, M., 1996. *Particles: On the Syntax of Verb-Particle, Triadic, and Causative Constructions*. R. Kayne, ed., New York and Oxford: Oxford University Press.
- Den Dikken, M., 1998. Predicate inversion in DP. In A. Alexiadou & C. Wilder, eds. *Possessor, predicates and movement in the determiner phrase*. Amsterdam & Philadelphia: John Benjamins, pp. 177–214.
- Den Dikken, M., 2002. Book review: Jochen Zeller (2001), *Particle Verbs and Local Domains*. *Journal of Comparative Germanic Linguistics*, 4, pp.145–169.
- Den Dikken, M., 2006. *Relators and Linkers: The syntax of predication, predicate inversion, and copulas*, Cambridge, Ma.: MIT Press.
- Den Dikken, M., 2007. *Phase Extension: Contours of a Theory of the Role of Head Movement in Phrasal Extraction*. *Theoretical Linguistics*, 33, pp.1–41.
- Den Dikken, M., 2010a. Directions from the GET-GO. On the syntax of manner-of-motion verbs in directional constructions. *Catalan Journal of Linguistics*, 9, pp.23–53.
- Den Dikken, M., 2010b. On the Functional Structure of Locative and Directional PPs. In G. Cinque & L. Rizzi, eds. *Mapping Spatial PPs*. Oxford and New York: Oxford University Press, pp. 74–126.
- De Vos, M., 2003. Past Participles in Afrikaans Dialects and Dutch. In G. Harding & M. Tsujimura, eds. *Proceedings of the 22nd West Coast Conference on Formal Linguistics*. Somerville, MA: Cascadilla Press, pp. 519–532.
- De Vos, M., 2013. Afrikaans Mixed Adposition Orders as a PF-linearization effect. In T. Biberauer & M. Sheehan, eds. *Theoretical Approaches to Disharmonic Word Orders Conference*. Oxford: Oxford University Press, pp. 333–357.

- De Vos, M., 2014. Head Movement is an Artefact of Optimal Solutions to Linearization. *Stellenbosch Papers in Linguistics Plus*, 44, pp.23–48.
- Djamouri, R., Paul, W. & Whitman, J., 2013. Postpositions vs. prepositions in Mandarin Chinese: The articulation of disharmony. In T. Biberauer & M. Sheehan, eds. *Theoretical Approaches to Disharmonic Word Order*. Oxford: Oxford University Press, pp. 74–105.
- Embick, D., 2003. Locality, Listedness, and Morphological Identity. *Studia Linguistica*, 57(3), pp.143–169.
- Embick, D., 2004. On the Structure of Resultative Participles in English. *Linguistic Inquiry*, 35(3), pp.355–392.
- Embick, D. & Marantz, A., 2008. Architecture and Blocking. *Linguistic Inquiry*, 75, pp.1–53.
- Embick, D. & Noyer, R., 2007. Distributed Morphology and the Syntax-Morphology Interface. In G. Ramchand & C. Reiss, eds. *The Oxford Handbook of Linguistic Interfaces*. Oxford & New York: Oxford University Press, pp. 289–324.
- Emonds, J., 1976. *A Transformational Approach to English Syntax: Root, Structure-preserving, and Local Transformations*, New York: Academic Press.
- Emonds, J., 1970. *Root and Structure Preserving Transformations*. Cambridge, Ma.: MIT.
- Emonds, J., 1972. Evidence that Indirect Object Moving is a Structure Preserving Rule. *Foundations of Language*, 8, pp.546–561.
- Emonds, J., 1985. *A Unified Theory of Syntactic Categories*, Dordrecht: Foris Publications.
- Fábregas, A., 2007a. An Exhaustive Lexicalisation Account of Directional Complements. *Nordlyd*, 34(2), pp.165–199.
- Fábregas, A., 2007b. The Exhaustive Lexicalization Principle. *Nordlyd*, 34(2), pp.165–199. Available at: <http://www.ub.uit.no/baser/nordlyd/>.
- Fillmore, C., 1967. The Case for Case. In Bach & Harms, eds. *Universals in Linguistic Theory*. Chicago: Holt Rinehart and Winston, pp. 1–136.
- Forker, D., 2014. A Canonical Approach to the Argument/Adjunct Distinction. *Linguistic Discovery*, 12(2), pp.27–40. Available at: <http://journals.dartmouth.edu/cgi-bin/WebObjects/Journals.woa/1/xmlpage/1/article/444>.
- Fox, D. & Pesetsky, D., 2005. Cyclic Linearization of Syntactic Structure. *Theoretical Linguistics*, 31(1), pp.1–45.
- Fraser, B., 1976. *The Verb-particle Combination in English*, New York: Academic Press.

- Gavruseva, E., 2003. Aktionsart, Aspect, and the Acquisition of Finiteness in Early Child Grammar. *Linguistics*, 41(4), pp.723–755. Available at: <http://www.degruyter.com/view/j/ling.2003.41.issue-4/ling.2003.023/ling.2003.023.xml>.
- Gazdar, G. et al., 1985. *Generalized Phrase Structure Grammar*, Cambridge, Ma.: Harvard University Press.
- Gehrke, B., 2008. *Ps in Motion*. Utrecht: LOT
- Georgi, D. & Müller, G., 2010. Noun-Phrase Structure by Reprojection. *Syntax*, 13(1).
- Gordon, E. V., 1956. *An introduction to Old Norse*. A. R. Taylor, ed., Oxford: Oxford University Press.
- Grimshaw, J., 1991. *Extended Projections*, Unpublished Manuscript.
- Guéron, J., 1990. Particles, Prepositions, and Verbs. In J. Nespors & M. Mascaro, eds. *Grammar in Progress*. Dordrecht: Foris, pp. 153–166.
- Gvozdanovic, J., 1991. Syncretism and the Paradigmatic Patterning of Grammatical Meaning. In F. Plank, ed. *Paradigms: The Economy of Inflection*. Berlin: Mouton de Gruyter, pp. 133–160.
- Halle, M. & Marantz, A., 1993. Distributed Morphology and the Pieces of Inflection. In K. Halle & S. J. Keyser, eds. *The View from Building 20*. MIT Press, pp. 111–176.
- Halle, M. & Marantz, A., 1994. Some Key Features of Distributed Morphology. *MIT Working Papers in Linguistics*, 21, pp.275–288.
- Harley, H., 1995. *Subjects, Events, and Licensing*. PhD Dissertation, MIT.
- Harley, H. & Noyer, R., 1999. Distributed Morphology. *GLOT International: State of the Article*, 4(4), pp.3–9.
- Harley, H. & Ritter, E., 2002. Person and Number in Pronouns : A Feature-Geometric Analysis. *Language*, 78(3), pp.482–526.
- Haspelmath, M., 1993. *A Grammar of Lezgian*. Berlin: Mouton de Gruyter.
- Helmantel, M., 2002. *Interactions in the Dutch Adpositional Domain*. Leiden: LOT.
- Hendrick, R., 1976. Prepositions and the X'-theory. *UCLA Papers in Syntax*, 7, pp.95–122.
- Her, O. & Tsai, H., 2015. On Silent Elements: A Case Study of Grand and its Silent. *Natural Language & Linguistic Theory* 33, pp.575–605. Available at: <http://dx.doi.org/10.1007/s11049-014-9266-4>.
- Hinterhölzl, R., 1998. The Syntax of IPP Constructions and the Structure of the Lower Middlefield in West Germanic. *UPenn Working Papers in Linguistics* 5(1), pp. 59–70.

- Hinterhölzl, R., 2006. The Phase Condition and Cyclic Spell-out: Evidence from VP-topicalisation. In M. Frascarelli, ed. *Phases of Interpretation*. Berlin: Mouton de Gruyter, pp. 237–259.
- Hoekstra, T., 1984. *Transitivity: Grammatical Relations in Government and Binding Theory*, Dordrecht: Foris Publications.
- Hoekstra, T., 1988. Small Clause Results. *Lingua*, 74, pp.101–139.
- Hoekstra, T., 1991. *Small Clauses Everywhere*. Ms.
- Hoekstra, T., 1999. Auxiliary Selection in Dutch. *Natural Language & Linguistic Theory*, 17, pp.67–84.
- Hole, D., 2015. Arguments and Adjuncts. In T. Kiss & A. Alexiadou, eds. *Syntax: Theory and Analysis*. Berlin: De Gruyter Mouton, pp. 1284–1320.
- Jackendoff, R., 1973. *The Base Rules for Prepositional Phrases*. S. Anderson & P. Kiparsky, eds., New York: Holt, Rinehart and Winston.
- Jackendoff, R., 1977. *X'-Syntax*, Cambridge, Ma.: MIT Press.
- Jackendoff, R., 1983. *Semantics and Cognition*, Cambridge, Ma.: MIT Press.
- Jackendoff, R., 1990. *Semantic Structures*, Cambridge, Ma.: MIT Press.
- Jackendoff, R., 1996. The Architecture of the Linguistic-spatial Interface. In P. Bloom et al., eds. *Language and Space*. Cambridge, Ma.: MIT Press, pp. 1–30.
- Jake, J.L., 1985. *Grammatical Relationships in Imbabura Quechua*, New York: Garland Publishing.
- Johnson, K., 1991. Object Positions. *Natural Language & Linguistic Theory*, 9, pp.577–636.
- Johnston, J. & Slobin, D., 1979. The Development of Locative Expressions in English, Italian, Serbo-Croatian and Turkish. *Journal of Child Language*, 6, pp.529–545.
- Kaplan, R.M. & Bresnan, J., 1982. Lexical-Functional Grammar: A Formal System for Grammatical Representation. In J. Bresnan, ed. *The Mental Representaiton of Grammatical Relations*. Cambridge, Ma.: MIT Press, pp. 173–281.
- Katz, J.J. & Postal, P.M., 1964. *An Integrated Theory of Linguistic Descriptions*, Cambridge, Ma.: MIT Press.
- Kay, M., 1979. Functional Grammar. In *Proceedings of the Fifth Annual Meeting of the Berkeley Linguistics Society*. Berkeley: Berkeley Linguistics Society.
- Kayne, R., 1984. *Connectedness and Binary Branching*, Dordrecht: Foris Publications.

- Kayne, R., 1985. Principles of Particle Constructions. In J. Gueron, H.-G. Obenauer, & J.-Y. Pollock, eds. *Grammatical Representation*. Dordrecht: Foris, pp. 101–140.
- Kayne, R., 1994. *Antisymmetry in Syntax*, Cambridge, Ma.: MIT Press.
- Kayne, R., 2004. Here and there. In Christian Leclère et al., eds. *Lexique Syntaxe, et Lexique-Grammaire: Papers in Honor of Maurice Gross*. Amsterdam: John Benjamins, pp. 253–275.
- Kayne, R., 2005. *Movement and Silence*, Oxford & New York: Oxford University Press.
- Kayne, R., 2010. A Short Note on “Where” vs. “Place.” In R. Kayne, ed. *Comparisons and Contrasts*. Oxford: Oxford University Press, pp. 82–94.
- Kayne, R., 2012. A Note on Grand and its Silent Entourage. *Studies in Chinese Linguistics*, 33(2), pp.71–85.
- Kearns, K., 2000. *Semantics*, Hampshire: Palgrave Macmillan.
- Keresztes, L., 1998. Mansi. In D. Abondolo, ed. *The Uralic Languages*. London and New York: Routledge, pp. 387–427.
- Kiparsky, P., 1973. “Elsewhere” in Phonology. In S. Anderson & P. Kiparsky, eds. *A Festschrift for Morris Halle*. New York: Holt, Rinehart and Winston, pp. 93–106.
- Kiparsky, P., 1998. Partitive Case and Aspect. In W. Geuder & M. Butt, eds. *The Projection of Arguments: Lexical and Compositional Factors*. Stanford, Ca: CSLI Publications, pp. 265–307.
- Koenenman, O., 2000. *The Flexible Nature of Verb Movement*. Utrecht: LOT.
- Koopman, H., 1993. *The Structure of Dutch PPs*, Unpublished manuscript.
- Koopman, H., 2000. Prepositions, Postpositions, Circumpositions, and Particles: The Structure of Dutch PPs. In *The Syntax of Specifiers and Heads: Collected Essays of Hilda J. Koopman*. London: Routledge, pp. 204–260.
- Kracht, M., 2002. On the Semantics of Locatives. *Linguistics and Philosophy*, 25(2), pp.157–232. Available at: <http://arxiv.org/abs/cs/0003015>.
- Kracht, M., 2008. The Fine Structure of Spatial Expressions. In A. Asbury et al., eds. *Syntax and Semantics of Spatial P*. Amsterdam: John Benjamins, pp. 35–62.
- Kratzer, A., 1996. Severing the External Argument from its Verb. In J. Rooryck & L. Zaring, eds. *Phrase Structure and the Lexicon*. Dordrecht: Kluwer, pp. 109–137.
- Kratzer, A., 2000. Building Statives. In L. Conathan et al., eds. *The 26th Berkeley Linguistics Society*. Berkeley: Berkeley University of California, pp. 385–399.

- Kratzer, A., 2004. Telicity and the Meaning of Objective Case. In J. Guéron & J. Lecarme, eds. *The Syntax of Time*. Cambridge, Ma.: MIT Press, pp. 398–425.
- Krifka, M., 1987. Nominal Reference and Temporal Constitution: Towards a Semantics of Quantity. In J. J. Groenendijk, M. Stokhof, & F. Veltman, eds. *Proceedings of the 6th Amsterdam Colloquium*. Amsterdam: Institute of Linguistics, Logic and Information, University of Amsterdam, pp. 153–173.
- Krifka, M., 1992. Thematic Relations and Links Between Nominal Reference and Temporal Constitution. In I. A. Sag & A. Szabolcs, eds. *Lexical Matters*. Stanford, Ca: CSLI Publications, pp. 29–53.
- Lakoff, G. & Johnson, M., 1980. Conceptual Metaphor in Everyday Language. *The Journal of Philosophy*, 77(8), pp.453–486.
- Lander, E., 2014. *Intraparametric Cyclic and Roll-up Derivations in the Old Norse Reinforced Demonstrative*. Talk given at GLOW 37. Brussels, 2-11 April 2014.
- Lander, E., 2015. *The Nanosyntax of the Northwest Germanic Reinforced Demonstrative*. PhD Dissertation, University of Ghent.
- Lang, E., 1991. A Two-Level Approach to Projective Prepositions. In G. Rauh, ed. *Approaches to Prepositions*. Tübingen: Gunter Narr Verlag, pp. 127–167.
- Lapointe, S., 1985. *A Theory of Grammatical Agreement*, New York and London: Garland Publishing.
- Lestrade, S., De Hoop, H. & De Schepper, K., 2010. Introduction: Spatial Case. *Linguistics*, 48(5), pp.973–981.
- Levin, B. & Rappaport-Hovav, M., 1995. *Unaccusativity: At the Syntax-Lexical Semantics Interface*, Cambridge, Ma.: MIT Press.
- Levinson, S. & Meira, S., 2003. “Natural Concepts” in the Spatial Topological Domain-Adpositional Meanings in Crosslinguistic Perspective: An Exercise in Semantic Typology. *Language*, 79(3), pp.485–516.
- Levinson, S.C., 1994. Vision, Shape, and Linguistic Description: Tzeltal Body-part Terminology and Object Description. *Linguistics*, 32, pp.791–855.
- Live, A., 1965. The Discontinuous Verb in English. *Word*, 21, pp.428–451.
- Longobardi, G., 2001. Formal Syntax, Diachronic Minimalism, and Etymology: The History of French *chez*. *Linguistic Inquiry*, 32(2).
- Longobardi, G., 1980. Remarks on Infinitives: A Case for a Filter. *Journal of Italian Linguistics*, 5, pp.101–155.
- Lundquist, B., 2009. *Nominalizations and Participles in Swedish*. PhD Dissertation, University of Tromsø.
- Magomedbekova, Z., 1971. [*The Karata language: grammar analysis, texts, glossary*], Tbilisi: [Mecniereba].

- Marantz, A., 1988. Clitics, Morphological Merger, and the Mapping to Phonological Structure. In M. Hammond & M. Noonan, eds. *Theoretical Morphology: Approaches in Modern Linguistics*. San Diego: Academic Press, pp. 253–270.
- Marantz, A., 1989. Clitics and Phrase Structure. In M. Baltin & K. Anthony, eds. *Alternative Conceptions of Phrase Structure*. Chicago: The University of Chicago Press, pp. 99–116.
- Marantz, A., 1997. No Escape from Syntax: Don't Try Morphology in the Privacy of Your Own Lexicon. *University of Pennsylvania Working Papers in Linguistics*, 4(2), pp.201–225.
- Marr, D., 1982. *Vision: A Computational Investigation Into the Human Representation and Processing Of Visual Information*, New York: W.H. Freeman.
- Matthews, P., 2007. *Syntactic Relations: A Critical Survey*, Cambridge: Cambridge University Press.
- McCreight, K. & Chvany, C. V., 1991. Geometric Representation of Paradigms in a Modular Theory of Grammar. In F. Plank, ed. *Paradigms: The Economy of Inflection*. Berlin: Mouton de Gruyter, pp. 91–112.
- McIntyre, A., 2001. Argument Blockages Induced by Verb Particles in English and German: Event Modification and Secondary Predication. In N. Dehé & A. Wanner, eds. *Structural Aspects of Semantically Complex Verbs*. Frankfurt & Berlin & New York: Peter Lang, pp. 131–164.
- Müller, G., 2004a. On Decomposing Inflection Class Features. In G. Müller, L. Gunke, & G. Zifonun, eds. *Explorations in Nominal Inflection*. Berlin: Mouton de Gruyter, pp. 189–128.
- Müller, G., 2004b. Phrase Impenetrability and Wh-Intervention. In A. Stepanov, G. Fanselow, & R. Vogel, eds. *Minimality Effects in Syntax*. Berlin: de Gruyter.
- Mulugeta, S., 2008. *A Grammar of Dime*. Utrecht: LOT.
- Muriungi, P., 2006. Categorizing Adpositions in Kĩĩtharaka. *Nordlyd*, 33(1), pp.26–48.
- Nchare, A.L. & Terzi, A., 2014. Licensing Silent Structure: The Spatial Prepositions of Shupamem. *Natural Language & Linguistic Theory*, 32, pp.673–710.
- Neeleman, A., 1994. Complex Predicates. PhD Dissertation, Utrecht University.
- Neeleman, A. & Van de Koot, H., 2002. Bare resultatives. *Journal of Comparative Germanic Linguistics*, 6, pp.1–52.
- Neeleman, A. & Van de Koot, H., 2005. Syntactic Haplology. In M. Everaert & H. Van Riemsdijk, eds. *The Blackwell Companion to Syntax*. Oxford: Blackwell, pp. 685 – 710.

- Nichols, J., 1994. Ingush. In R. Smeets, ed. North East Caucasian Languages, Part 2. Vol 4 in *The Indigenous Languages of the Caucasus*. Delmar, New York: Caravan Books.
- Noonan, M., 2005. R-particles. Talk given at GLOW 28. Geneva, 31 March – 2 April.
- Noyer, R., 1997. Features, Positions and Affixes in Autonomous Morphological Structure. PhD Dissertation, MIT.
- Ogiela, D., Schmitt, C. & Casby, M., 2014. Interpretation of Verb Phrase Telicity: Sensitivity to the Verb Type and Determiner Type. *Journal Of Speech, Language, and Hearing Research*, 57, pp.865–875.
- Oosthuizen, H., 2009. *Prepositions and Verb Particles in Afrikaans: Dialectal Variation and Development Patterns*. Masters thesis, Potsdam University.
- Oosthuizen, J., 2000. Prepositions Left and Right in Afrikaans. *Spil*, 33, pp.67–91.
- Pantcheva, M., 2006. Persian preposition classes. In P. Svenonius, P. Muriungi, & M. Pantcheva, eds. Nordlyd. Special issue on Adpositions. Tromsø: University of Tromsø, pp. 1–25. Available at: <http://www.ub.uit.no/baser/nordlyd/>.
- Pantcheva, M., 2008. The place of PLACE in Persian. In A. Asbury et al., eds. *Syntax and Semantics of Spatial P*. Amsterdam: John Benjamins, pp. 305–331.
- Pantcheva, M., 2009. Directional Expressions Cross-Linguistically : Nanosyntax and Lexicalization. *Nordlyd*, 36(1), pp.7–39.
- Pantcheva, M., 2010. The Syntactic Structure of Locations, Goals, and Sources. *Linguistics*, 48(5), pp.1043–1081. Available at: <http://www.reference-global.com/doi/abs/10.1515/LING.2010.034>.
- Pantcheva, M., 2011. *Decomposing Path: The Nanosyntax of Directional Expressions*. PhD Dissertation, University of Tromsø.
- Pantcheva, M. & Caha, P., 2011. *The Functional Projections of Case and Path: Grammatical and Spatial Cases: A Unified fseq. Ms.*, pp.1–35. Available at: <http://ansatte.uit.no/marina.pantcheva/pres/conf/cahapantcheva Sequence2 HO.pdf>.
- Parsons, T., 1990. *Events in the Semantics of English: A Study in Subatomic Semantics*, Cambridge, Ma.: MIT Press.
- Pashov, P., 1999. [A grammar of Bulgarian], Plovdiv: Hermes.
- Pesetsky, D., 1996. *Zero Syntax: Experiences and Cascades*, Cambridge, Ma.: MIT Press.
- Piaget, J. & Inhelder, B., 1969. *The Child's Conception of Space*, New York: Norton.

- Du Plessis, H.G.W., 1977. Wh Movement in Afrikaans. *Linguistic Inquiry*, 8, pp.723–726.
- Pollard, C. & Sag, I., 1994. *Head-Driven Phrase Structure Grammar*, Chicago: University of Chicago Press.
- Potgieter, J.F., 2016. *In (the) Front of the Bus*. Talk given at the 31st Comparative Germanic Syntax Workshop (CGSW31) Pre-Workshop.
- Pretorius, E., 2015a. *On the Status of Postpositions in Afrikaans*. Paper presented at the 4th Southern African Microlinguistics Workshop (SAMWOP 4).
- Pretorius, E., 2015b. *Towards a Unified Syntax of P: A Syncretism-driven Approach to Analysing Afrikaans Adpositions and V-particles*. Paper presented at the 30th Comparative Germanic Syntax Workshop (CGSW 30), pp.1–25.
- Ramchand, G., 2008. *Verb Meaning and the Lexicon: A First Phase Syntax*, Cambridge: Cambridge University Press.
- Ramchand, G. & Svenonius, P., 2002. The Lexical Syntax and Lexical Semantics of the Verb-Particle Construction. In L. Mikkelsen & C. Potts, eds. *WCCFL 21*. Somerville, MA, pp. 387–400.
- Richards, M., 2004. *Object Shift and Scrambling in North and West Germanic: A Case Study in Symmetrical Syntax*. PhD Dissertation, University of Cambridge.
- Richards, M., 2007. On Phases, Phase Heads, and Functional Categories. *Nanzan Linguistics: Special Issue*, 1(1), pp.105–127.
- Richards, M., 2008. Two Kinds of Variation in a Minimalist System. *Linguistische Arbeitsberichte*, 87, pp.133–162.
- Richards, M., 2009. Desymmetrization: Parametric Variation at the PF-interface. *Catalan Journal of Linguistics*, 8, pp.275–300.
- Ritter, E. & Rosen, S., 1998. Delimiting Events in Syntax. In M. Geuder & W. Butt, eds. *The Projection of Arguments: Lexical and Compositional Factors*. Stanford, Ca: CSLI Publications, pp. 135–164.
- Rizzi, L., 1997. The Fine Structure of the Left Periphery. In L. Haegeman, ed. *Elements of Grammar: Handbook of Generative Syntax*. Dordrecht: Kluwer, pp. 281–337.
- Roberts, I., 2010. *Agreement and Head Movement: Clitics, Incorporation, and Defective Goals*, Cambridge, Ma.: MIT Press.
- Roberts, I., 1991. Excorporation and Minimality. *Linguistic Inquiry*, 22, pp.209–218.
- Roberts, I. & Roussou, A., 2003. *Syntactic Change: A Minimalist Approach to Grammaticalization*, Cambridge: Cambridge University Press.

- Rojina, N., 2004. *English Particles, Russian Prefixes, and Prepositional Phrases*. PhD Dissertation, University of Tromsø.
- Le Roux, C., 1989. On the Interface of Morphology and Syntax. *Stellenbosch Papers in Linguistics*, 13.
- Roy, I. & Svenonius, P., 2009. Complex Prepositions. In J. François et al., eds. *Autour de la préposition*. Actes du Colloque Caen: Presses Universitaires de Caen, pp. 105–116. Available at: <http://ling.auf.net/lingbuzz/000850/current.pdf>.
- Sadler, L. & Nordlinger, R., 2006. Case Stacking in Realizational Morphology. *Linguistics*, 44(3), pp.459–487. Available at: <http://www.degruyter.com/view/j/ling.2006.44.issue-3/ling.2006.016/ling.2006.016.xml>.
- Sawyer, J., 1999. *Verb Adverb and Verb Particle Constructions: Their Syntax and Acquisition*. PhD Dissertation, University of Boston.
- Schippers, R., 2012. *The Acquisition of Particle Verbs in Dutch*. Utrecht: LOT.
- Schwarzschild, R., 2002. The Grammar of Measurement. In B. Jackson, ed. *Proceedings of SALT 12*. Ithaca, NY: CLC Publications.
- Schwarzschild, R., 2005. Measure Phrases as Modifiers of Adjectives. *Recherches Linguistiques de Vincennes*, 34, pp.207–228.
- Di Sciullo, A. & Williams, E., 1987. *On the Definition of Word*, Cambridge, Ma.: MIT Press.
- Shardl, A., 2010. *Variable Unaccusativity and Verb Classes*. Handout, pp.1–39. Available at: <https://www.scribd.com/document/232025208/Variable-Unaccusativity>.
- Sheehan, M., 2013. Explaining the Final-over-Final Constraint: Formal and Functional Approaches. In T. Biberauer & M. Sheehan, eds. *Theoretical Approaches to Disharmonic Word Order*. Oxford: Oxford University Press, pp. 407–444.
- Sheehan, M., Biberauer, T., Holmberg, A., Roberts, I. Forthcoming. *The Final-over-Final Condition*, Cambridge, Ma.: MIT Press.
- Sheehan, M. & Van der Wal, J., 2016. Do we need abstract Case? In Kim, K., Umbal, P., Block, T., Chan, Q., Cheng, T., Finney, K., Katz, M., Nickel-Thompson, S., Shorten, L. eds. *Proceedings of WCCFL 33*. Somerville, MA: Cascadilla Press, pp. 351–360.
- Shlonsky, U., 2010. The Cartographic Enterprise in Syntax. *Language and Linguistics Compass*, 4(6), pp.417–429. Available at: <http://doi.wiley.com/10.1111/j.1749-818X.2010.00202.x>.
- Siddiqi, D., 2006. *Minimize Exponence: Economy Effects on the Morphosyntactic Component of the Grammar*. PhD Dissertation, University of Arizona.

- Siddiqi, D., 2009. *Syntax within the Word: Economy, Allomorphy, and Argument Selection in Distributed Morphology*, Amsterdam: John Benjamins.
- Spencer, A., 2003. Periphrastic Paradigms in Bulgarian. In U. Junghanns & L. Szucsich, eds. *Syntactic Structures and Morphological Information*. Berlin and New York: Mouton de Gruyter, pp. 249–282.
- Starke, M., 2001. *Move Dissolves into Merge: A Theory of Locality*. PhD Dissertation, University of Geneva.
- Starke, M., 2009. Nanosyntax: A short primer to a new approach to language. *Nordlyd*, 36(1), pp.1–6.
- Starke, M., 2011a. *Introduction to Nanosyntax*. Seminars taught at the University of Ghent. November.
- Starke, M., 2011b. Towards Elegant Parameters: Variation Reduces to the Size of Lexically Stored Trees. Ms. *Lingbuzz*, pp.1–14. Available at: <http://ling.auf.net/lingbuzz/001183>
- Stowell, T., 1981. *Origins of Phrase Structure*. PhD Dissertation, MIT.
- Streitberg, W., 1891. Perfective und Imperfective Actionsart im Germanischen. *Beiträge zur Geschichte der deutschen Sprache und Literatur*, 15, pp.70–177.
- Stump, G.T., 2001. *Inflectional Morphology: A Theory of Paradigm Structure*, Cambridge: Cambridge University Press.
- Stump, G.T., 1993. On Rules of Referral. *Language*, 69(3), pp.449–479.
- Svenonius, P., 1992. Movement of P⁰ in the English Verb-particle Construction. *Syntax at Santa Cruz*, 1.
- Svenonius, P., 1994a. *Dependent Nexus*. PhD Dissertation, University of California at Santa Cruz.
- Svenonius, P., 1994b. Verb-Particle Constructions. In *Dependent Nexus*. PhD Dissertation, Santa Cruz: University of California, pp. 162–259.
- Svenonius, P., 1996. The Optionality of Particle Shift. *Working Papers in Scandinavian Syntax*, 57(1), pp.47–75. Available at: <http://www.hum.uit.no/a/svenonius/papers/Svenonius96OPS.pdf>.
- Svenonius, P., 2003. Limits on P: Filling in Holes vs. Falling in Holes. *Nordlyd: Proceedings of the 19th Scandinavian Conference of Linguistics*, 31(2), pp.431–445.
- Svenonius, P., 2004. Slavic Prefixes Inside and Outside VP. *Nordlyd*, 32(2), pp.205–253.
- Svenonius, P., 2006a. *Axial Parts*. Class taught at EALing 2006. The Anatomy of the Category P. Available at: <http://www.diffusion.ens.fr/en/index.php?res=cycles&idcycle=304>.

- Svenonius, P., 2006b. Licensing Directional Interpretations. Class taught at EALing 2006. The Anatomy of the Category P. Available at: <http://www.diffusion.ens.fr/en/index.php?res=cycles&idcycle=304>.
- Svenonius, P., 2006c. The Emergence of Axial Parts. *Nordlyd*, 33(1), pp.49–77.
- Svenonius, P., 2006d. *The Extended Projection of P*. Class taught at EALing 2006. The Anatomy of the Category P. Available at: <http://www.diffusion.ens.fr/en/index.php?res=cycles&idcycle=304>.
- Svenonius, P., 2008. Projections of P. In A. Asbury et al., eds. *Syntax and Semantics of Spatial P*. Amsterdam: John Benjamins, pp. 63–80.
- Svenonius, P., 2010. Spatial P in English. In G. Cinque & L. Rizzi, eds. *Mapping Spatial PPs: The Cartography of Syntactic Structure*. Oxford: Oxford University Press, pp. 127–160.
- Svenonius, P., 2012. Spanning. Ms. pp.1–9. *Lingbuzz*. Available at: <http://ling.auf.net/lingbuzz/001501>
- Svenonius, P., 2016. Spans and Words. In D. Siddiqi & H. Harley, eds. *Morphological Metatheory*. Amsterdam: John Benjamins, pp. 201–222.
- Sybesma, R. & Vanden Wyngaerd, G., 1997. Realizing End Points: The Syntax and Semantics of Dutch *ge* and Mandarin *le*. In J. Coerts & H. De Hoop, eds. *Linguistics in the Netherlands*. Amsterdam & Philadelphia: John Benjamins, pp. 207–218.
- Taalkommissie van die Suid-Afrikaanse Akademie vir Wetenskap en Kuns, 2009. *Afrikaanse Woordelys en Spelreëls*. 10th ed., Pretoria: NB Publishers.
- Talmy, L., 1985. Lexicalization Patterns: Semantic Structure in Lexical Forms. *Language Typology and Syntactic Description*, 3(1), pp.36–149.
- Talmy, L., 2000. *Toward a Cognitive Semantics: Concept Structuring Systems*, Cambridge, Ma.: MIT Press.
- Taraldsen, K.T., 2010. The Nanosyntax of Nguni Noun Class Prefixes and ConCORDS. *Lingua*, 120(6), pp.1522–1548. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0024384109002162> [Accessed February 13, 2014].
- Tenny, C., 1987. *Grammaticalising Aspect and Affectedness*. PhD Dissertation, MIT.
- Terzi, A., 2008. Locative Prepositions as Modifiers of an Unpronounced Noun. In *Proceedings of WCCFL 26*. Somerville, MA: Cascadilla Proceedings Project.
- Terzi, A., 2010. Locative Prepositions and Place. In G. Cinque & L. Rizzi, eds. *Mapping spatial PPs: The Cartography of Syntactic Structures*. Amsterdam & New York: John Benjamins, pp. 196–224.
- Travis, L., 2010. *Inner Aspect: The Articulation of VP*, Dordrecht: Springer.

- Uriagereka, J., 1999. Multiple Spell-Out. In S. D. Epstein & N. Hornstein, eds. *Working Minimalism*. Cambridge, Ma.: MIT Press, pp. 251–282.
- Van Craenenbroeck, J. & Van Koppen, M., 2012. *How to Void a Phase: Anti-intervention Effects with Clitic Doubling in Dutch Dialects*. Talk given at Complementizer Agreement Workshop. Ghent: GIST, University of Ghent.
- Van der Merwe, E., 2013. *Landmark Flexibility in Afrikaans*. Talk given at the LSSA-SAALA-SAALT Joint Annual Conference. Stellenbosch, 1-4 July.
- Van Hout, A., 1996. *Event Semantics of Frame Alternations: A Case Study of Dutch and its Acquisition*. PhD Dissertation, Tilburg University.
- Van Hout, A., 2000. Event Semantics in the Lexicon-Syntax Interface. In C. Tenny & J. Pustejovsky, eds. *Events as Grammatical Objects*. Stanford, Ca: CSLI Publications, pp. 239–282.
- Van Riemsdijk, H., 1978. *A Case Study in Syntactic Markedness: The Binding Nature of Prepositional Phrases*. Lisse: Peter de Ridder Press.
- Van Riemsdijk, H., 1988. The Representation of Syntactic Categories. *Proceedings of the Conference on the Basque Language, 2nd Basque World Congress*, pp.104–116.
- Van Riemsdijk, H., 1990. Functional Prepositions. In H. Pinkster & I. Genee, eds. *Unity in diversity. Papers presented to Simon C. Dik on his 50th birthday*. Dordrecht: Foris Publications, pp. 229–241.
- Van Riemsdijk, H., 2002. The Unbearable Lightness of GOing: The Projection Parameter as a Pure Parameter Governing the Distribution of Elliptic Motion Verbs in Germanic. *Journal of Comparative Germanic Linguistics*, 5, pp.143–196.
- Van Riemsdijk, H., 2016. *Attraction and Repulsion in Grammar: Towards a Privative Representational System* (Abstract).
- Van Riemsdijk, H. & Huybregts, R., 2002. Location and Locality. In M. van Oostendorp & E. Anagnostopoulou, eds. *Progress in Grammar: Articles at the 20th Anniversary of the Comparison of Grammatical Models Group in Tilburg*. Amsterdam: Meertens Instituut, pp. 1–23.
- Vellard, J.A., 1967. *Contribución al estudio de la lengua Uru*. PhD Dissertation, Universidad de Buenos Aires.
- Vendler, Z., 1957. Verbs and Times. *Philosophical Review*, 56, pp.143–160.
- Vergnaud, J.-R., 2006. Letter to Noam Chomsky and Howard Lasnik (1977). In R. Freidin & H. Lasnik, eds. *Syntax: Critical Concepts in Linguistics*. London: Routledge, pp. 21–34.
- Verkuyl, H., 1972. *On the Compositional Nature of the Aspects*, Dordrecht: Foundations of Language Supplement Series 15.

- Verkuyl, H. & Zwarts, J., 1992. Time and Space in Conceptual and Logical Semantics: The Notion of Path. *Linguistics*, 30, pp.483–511.
- Vikner, S., 1987. Case Assignment Differences between Danish and Swedish. In R. Allan & M. Barnes, eds. *Proceedings of the Seventh Conference of Scandinavian Studies in Great Britain*. London: University College of London, pp. 262–281.
- Vikner, S., 2013. *Verb Particles in Germanic SVO- and SOV-languages: Yiddish Compared to Danish and German*. Talk given at SyntaxLab, Cambridge. pp.1–28.
- Williams, E., 1981. On the Notions “Lexically Related” and “Head of a Word.” *Linguistic Inquiry*, 12, pp.245–274.
- Williams, E., 2003. *Representation Theory*, Cambridge, Ma.: MIT Press.
- Wiltschko, M., 2015. *The Universal Structure of Categories*, Cambridge: Cambridge University Press.
- Wurmbrand, S., 2000. *The Structure(s) of Particle Verbs*. Ms., pp.1–36. Available at: <http://web.mit.edu/susi/www/research/>.
- Vanden Wyngaerd, G., 1994. IPP and the structure of participles. *Groninger Arbeiten zur germanistischen Linguistik*, (37), pp.265–276.
- Vanden Wyngaerd, G., 1996. Participles and bare argument structure. In W. Abraham et al., eds. *Minimal ideas: Syntactic Studies in the Minimalist Framework*. Amsterdam: John Benjamins, pp. 283–304.
- Zeller, J., 2001. *Particle Verbs and Local Domains*, Amsterdam & Philadelphia: John Benjamins.
- Zwarts, J., 1997. Vectors as Relative Positions: A Compositional Semantics of Modified PPs. *Journal of Semantics*, 14, pp.57–86.
- Zwarts, J., 2005. Prepositional Aspect and the Algebra of Paths. *Linguistics and Philosophy*, 28(6), pp.739–779.
- Zwarts, J., 2006. *Case Marking Direction: The Accusative in German PPs*. Talk given at the 42rd meeting of the Chicago Linguistic Society, 7 April. Chicago.
- Zwarts, J., 2010. A Hierarchy of Locations: Evidence from the Encoding of Direction in Adpositions. *Linguistics*, 48(5), pp.983–1009.
- Zwarts, J., 2014. Directionele PPs Als Predikaten (of niet). *Nederlandse Taalkunde/Dutch Linguistics*, 19(2), pp.255–275.
- Zwarts, J. & Winter, Y., 2000. Vector Space Semantics: A Model-Theoretic Analysis of Locative Prepositions. *Journal of Logic, Language, and Information*, 9(2), pp.169–211. Available at: <http://www.jstor.org/stable/40180207>.

APPENDIX: FRaP Chart of Afrikaans P Elements

AXIAL PART		ADPOSITION		V-PARTICLE
AXPART	P _{LOC}	P _{DIR}	RES	
Class A				
<i>na</i> ₂	<i>near</i>			
Class B				
<i>agter</i>	<i>back</i>	<i>behind</i>		
<i>binne</i>	<i>"interior"</i>	<i>inside</i>		
<i>bo</i>	<i>"top"</i>	<i>above</i>		
<i>buite</i>	<i>"exterior"</i>	<i>outside</i>		
<i>onder</i>	<i>under</i>	<i>beneath</i>		
<i>tussen</i>	<i>in.between</i>	<i>between</i>		
<i>van</i>	<i>of</i>	<i>"origin"</i>		
<i>voor</i>	<i>"face"</i>	<i>front</i>		
<i>langs</i>	<i>beside</i>	<i>next.to</i>	<i>along/via</i> [†]	
Class C				
<i>af</i>			<i>down/off</i>	<i>down/off</i>
<i>toe</i>			<i>to</i>	<i>to</i>
Class D				
<i>deur</i>			<i>through</i>	<i>through</i>
<i>na</i> ₁			<i>to</i>	<i>to</i>
<i>om</i>			<i>around</i>	<i>around</i>
<i>verby</i>			<i>past</i>	<i>past</i>
Class E				
<i>aan</i>		<i>"contact"</i>	<i>(on)to</i>	<i>to.vicinity</i>
<i>by</i>		<i>at</i>	<i>past</i>	<i>to.with</i>
<i>in</i>		<i>in</i>	<i>into</i>	<i>into</i>
<i>op</i>		<i>on</i>	<i>onto</i>	<i>up</i>
<i>oor</i>		<i>above</i>	<i>over</i>	<i>over</i>
<i>uit</i>			<i>out</i>	<i>out</i>
Class F				
<i>rond</i>	<i>"perimeter"</i>	<i>"region"</i>	<i>around</i>	<i>around</i>
<i>teen</i>	<i>against</i>	<i>against</i>	<i>to.against</i>	<i>"opposite"</i>

[†] *Langs* constitutes an exceptional case since it forms the postpositional element of route-denoting circum-PPs (cf. (i)), in which respect it is functionally similar to *toe* and *af* comprising Class C. It does not, however, function as a V-particle as the Class C elements do; neither does Class C express the AxPart or the locative Adposition functions as Class B does. It may therefore prove necessary to distinguish an additional FRaP Class, of which *langs* forms the only member, although this is not at present a crucial matter.

- (i) Jan draf met die pad langs.
 Jan jogs with the road along
 "Jan is jogging along the road."